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# 2nd International Congress on Oncological Sciences

**20 - 23 September 2018**

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# 2nd International Congress on Oncological Sciences

**20 - 23 September 2018**

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**Dear Colleague,**

On behalf of the Turkish Medical Oncology Society, it is our pleasure to invite you to join the '2nd International Congress on Oncological Sciences – ICONS" which will be held on 20 – 23 of September 2018 in Antalya, Turkey.

ICONS aims to increase the collaboration and educational activities for all parties involved in the treatment of cancer. We hope these efforts will increase the collaborative scientific production in the region. Moreover, the format of the meeting is designed to ensure not only a highly educational experience but also provide ample networking and experience exchange opportunities.

This congress will be an invaluable opportunity for all the attending oncologists to contribute on scientific projects and also develop future ties for collaboration in the region. From this perspective the participation of oncologists from our neighbouring countries is of utmost importance.

We are looking forward to welcoming you to the "2nd International Congress on Oncological Sciences" in Turkey.

Kindly regards,

Serdar Turhal, MD.
Congress President

TURKISH SOCIETY OF MEDICAL ONCOLOGY

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# ORAL ABSTRACTS

S01

# BREAST RADIOTHERAPY IN BREAST PROTECTIVE SURGERY USED BY COMOLETE BLOCK AND REDUCING V5 VALUE OF LUNG

Mehmet Hakan Doğan[1] , Mehmet Ali Kaya[1], Fatma Teke[1]

[1] *Dicle University, Radiation Oncology Department, Diyarbakir*

**Introduction and Purpose :** Introduction: Critical organ doses of radiotherapy performed by tomotherapy are below critical values. Tomotherapy treatment planning systems, 2 and 3 dimensional, IMRT and Directed treatment planning. Patient data, anatomical modeling, Internal bundle planning, dose volume histograms, helical treatment planning, It Is formed. Objective: The aIm of this study was to evaluate the efficacy of breast cancer patients treated with tomotherapy to evaluate the average critical organ doses.

**Method :** Material and Method: Radiotherapy was applied In our study because of breast tumor 17 (9 left chest and 8 right chest) were reviewed retrospectively for the patient's helical tomotherapy plans. patients The treatment was 50 Gy In 25 fractions fed. Simulation CT Images of patients with breast tumors fixed with breast condulT were sent to the treatment planning station. Target volumes and critical organ contours were drawn and CT and contour data were transferred to the planning system. In the planning system, dose volume histograms were generated for each critical organ and target volume. In the treatment mode, all target volume scanning was achieved by selecting a modulus of 5 cm (Jaws width) 3, a pitch of 0.287 and moving the patient table at a constant speed.

**Result :** Conclusion: The average duration of treatment Is 4.4 minutes. the

mean dose of critical organs were calculated as follows: Dt = 50.9 Gy, Dmin 25.72 Gy, Dmax 57.45 Gy, V95 = 95.55, V107 = 4.13, D95 = 47.92 Gy for the ptv, Dort = 4.89 Gy for the side lung, V5 = 22.55, V20 = 3.93 , for the heart, Dort = 6.04 Gy, V5 = 38.26, V20 = 1.24, V30 = 0.77 for the sipinal cord, Dmin = 0.51 Gy, Dmax = 9.95 Gy, D2 = 7.27, 24.37, Dose for esophagus = 5.30 Gy.

**Discussion and Conclusion :** Comment: With Helical Thomoterapy, homogenous distribution of target volumes and acceptable critical organ doses can be achieved In breast

**Keywords :** Meme, IMRT, Heltatik Thomotherapy

S02

# EFFECT OF EXERCISE DURING ADJUVANT RADIOTHERAPY ON FATIGUE AND AEROBIC CAPACITY IN BREAST CANCER PATIENTS

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**Introduction and Purpose :** We almed to examine the effects of a 6-week aerobic and strengthening exercise program applied during radiotherapy on fatigue and maxImum oxygen Intake (VO2 max) In breast cancer patients who underwent adjuvant treatment.

**Method :** Ten breast carcinoma patients who had completed chemotherapy then receIved adjuvant radiotherapy In our clinic between November 2017 and June 2018 were enrolled In this study. All the patients were Investigated In terms of demographic features Surgery: Breast conserving surgery such as quadranectomy or lumpectomy was applied to 9 patients where 1 patient had mastectomy due to dermal Invasion. AxIllary lymph nodes were nonmetastatic In 6 patients who were evaluated with only SLNB. The 4 patients who had axIllary lymph node metastasis underwent axIllary dissection. Radiotherapy: Whole breast was given 50 Gy In 25 fractions with an additional 10 Gy boost In 5 fractions to operative bed. Chest wall was treated to 50 Gy In 25 fractions In patients who had mastectomy. AxIllary region and supraclaviculary fossa receIved 50 Gy In 25 fractions If any metastatic lymph nodes was detected pathologically Cardiopulmonary exercise program: A submaxImal aerobic, and strengthening exercise program was applied to patients In 3 days a week for 6 weeks. Fatigue severity scale (FSS) was used to determine theIr level of fatigue.

VO2 max and maxImal work rate (WR max) were determined via maxImal cardiopulmonary exercise test (CPET) test. The outcomes were measured at the beginning and the end of exercise program.

**Result :** Ten patients completed the exercise program. Median age was 42.10 ±9.06 years. None of them receIved chemotherapy during the exercise program. FSS score before and after the exercise program was found 4.90±0.98 and 3.07±1.79 respectively which was statistically significant (p=0.023). WR max and VO2 max values were also significantly Improved after exercise program (WR: 81.90±14.85, vs 102.70±13.80 p=0.005, VO2 max 17.70±2.05, vs 29.20±24.64, p=0.011).

**Discussion and Conclusion :** Exercise program during adjuvant radiotherapy In breast cancer patients decrease fatigue and Improve the cardiopulmonary endurance.

**Keywords :** breast cancer. aerobic exercise, strengthening exercise, cardiopulmonary function, fatigue, radiotherapy,

S03

# DO THE LIVER DOSES DECREASE WITH BREATHING TECHNIQUE AT DEEP INSPIRATION?

Bora Aslan[1], Muzaffer Bedri Altundag[1], Gizem Kavak[1], Busra Cakir[2], Behiye Askin Cesmeci[2], Bektas Kaya[1], Ali Riza Ucer[1], Yasemin Guzle Adas[1], Tamer Calikoglu[1], Hayati Abanuz[1], Kenan Ozbagi[1], Serab Uyar[1], Erdal Demir[1], Atila Demirkasimoglu[1], Sema Durmus Duzgun[1], Gulcin Ertas[1], Ebru Karakaya[1]

[1] *Dr. A.Y. Ankara Oncology Training and Research Hospital, Radiation Oncology Department*
[2] *Dr. A.Y. Ankara Oncology Traninig and Research Hospital, Radiation Oncology Department, Physics Engineering*

**Introduction and Purpose :** Hepatic doses are Important In patients with liver disease (cirrhosis, chronichepatitis, etc.), although the liver volume In the treatment area In breast cancer radiotherapy Is very low. We wanted to show that deep breathing techniques (using real time position management=RPM) can be effective to reduce liver doses.

**Method :** Ten patients with left breast cancer and having breast conservary surgery were treated with RT using RPM technique. For the purpose of this study the right breast (PTV right breast) and liver volumes were contoured for both free breathing (RPM -) and deep breath holding (RPM+) CT simulation Images. 50 Gy In 25 fractions was planned using tangential field-In-field (FiF) technique. From RPM- (n = 10 patients) and RPM + (n = 10 patients) plans; (cc), liver mean, maxImum doses (cGy), average V5 (liver volume as percentage receIving at least 5 Gy), V10 percent (%) and volumes (cc)( liver volume as cc receIving at least 5 Gy and 10 Gy) were recorded and compared with the Wilcoxon test.

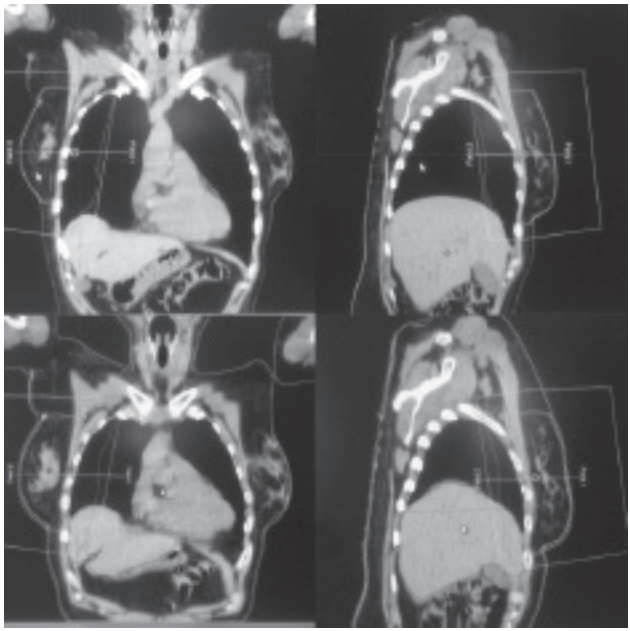
**Result :** Mean liver volume: 1409cc (982-1842cc), liver mean dose for RPM +

116 cGy (16-544 cGy);for RPM- 270 cGy (68-922 cGy). Liver maxImum dose: for RPM+: 2765 cGy (30-5317 cGy); for RPM-: 4578 cGy (1740-5267 cGy). Values for liver doses are: for RPM+ V5: 2.26 (0-15), V10: 1.5 (0-11); for RPM- V5: 6.7 (0.4-27), V10: 4.9 (0.3-22).Mean cc values according to the dose receIved by the liver: for RPM+ V5: 39.7 (0-286), V10: 28 (0-218); for RPM- V5: 59.2 (5-146), V10: 42 (0.5-123).The liver mean doses In RPM + plans were reducedby 58% compared to RPM- plans (p: 0.005). MaxImum liver doses at RPM+ decreased 40% compared to at RPM- (p: 0.009).The decrease In V5cc and V10cc was 33% (p: 0.005). The decrease In V5 (%) and V10 (%) was about 70% (p: 0.005).

**Discussion and Conclusion :** This study showed that the RPM technique Is very effective In reducing the liver dose.

**Keywords :** Breast Cancer, Radiotherapy, Liver Doses, Real Time Position Management

Liver Doses of RPM+(above) and RPM- (under) Patients



S04

# DEFINITIVE CHEMORADIOTHERAPY OR RADIOTHERAPY RESULTS FOR ESOPHAGIAL CANCER

Hasan Cem Misirlioglu[1], Vahide Isil Ugur[1], Taciser Demirkasimoglu[1], Ebru Karakaya[1]

[1] *Dr. Abdurrahman Yurtaslan Ankara Oncology Hospital*

**Introduction and Purpose :** Surgical resection Is still the maInstone of the treatment for esophagial carcinoma. In addition chemoradiotherapy followed by surgery leads to Improved survival. However, meaningful number of patients remaIn unoperated due to different reasons like comorbidities, low performance, patient's decision and extensive disease at the time of surgery. So, our purpose In this study Is to evaluate the esophagial cancer patients treated with chemoradiotherapy (CRT) or radiotherapy (RT) alone without surgery In our center.

**Method :** Between January 2010 and june 2015, 72 patients with esophagial cancer planned to receIve CRT or RT as a sole treatment In our center. Except 2 patients who leave the treatment at the beginning of RT. So this 70 patients were analysed. At the beginning the purpose of the treatment was definitive CRT for 55 ( 79.2%) patients, preoperative CRT for 11 ( 15.3 %) patients and only RT for 4 (5.6%) patients.This 4 patients underwent only RT, due to renal function Insufficiency, age and low performance status. Surgery was cancelled for 11 patients for whom the purpose was preoperative CRT . MaIn reasons for cancelling surgery were patient's decision and low performance status. Out of 70 patients, the pathological types of tumors were squamous cell carcinoma for 85.7% ; adenocarcinoma for 9.5 %. Radiotherapy techniques were Intensity modulated radiotherapy (IMRT) for 22 (31.4 %); conformal radiotherapy

for 31 (44.3%); and 2 dimensional technique for 17 (24.3%) patients. For IMRT planning volumetric arc therapy (VMAT) or helical IMRT techniques were used. Median radiotherapy dose was 50.4 Gy (between, 45-50.4 Gy)

**Result :** Median and mean follow-up times after biopsy were 14.5 months and 24.6 months (between 3 and 99 months), respectively. At the end of follow up period, 14 (20%) patients were alive. Median and mean overall survival times were 14.0 and 32.1 months,respectively. 1,2 and 3 years overall survival rates were 58.6%, 35.7%, and 19.8%, respectively. Pathological type of tumor (squamous cell carcinoma,adenocarcinoma,malignant epitelial tumor and neuroendocrin type tumor), anatomic localization ( cervical, upper thoracic, midthoracic and GEJ) ,purpose of the treatment at the beginning (definitive CRT, preoperative CRT, RT alone) and RT techniques (2-dimensional, conformal planning , IMRT) were Investigated as the variables In univariate analysis. Only RT technique was found to have a trend for survival difference (p=.087) In univariate analysis. Median overall survival times were 11,16 and 23 months with 2-dimensional , conformal and IMRT treatments, as an Increasing order (p= .038) 1, 2 and 3 years disease free survival rates were 55.7%, 34.3% and 23.9% , respectively. Same factors used for overall survival were Investigated and nothing was to be statistically significant for disease free survival I,n univariate analysis. Multivariate analysis both for overall survival and disease free survival also revealed that nothing statistically significant for these survivals

**Discussion and Conclusion :** Although primary chemoradiotherapy Is not the first choIce of treatment for esophagial cancer, for the patients who Is not sultable for surgery or for patients rejecting surgery, It Is a reasonable and effective treatment modality.Furthermore, emerging radiotherapy modalities like IMRT and Image guIded RT can contribute to the survival

**Keywords :** Esophagial cancer , Chemoradiotherapy, Treatment, Radiotherapy, Surgery

S05

# RESULTS OF AVERAGE CRITIC ORGAN MEDULLA SPINALIS DOSE IN RENAL TUMOR RADIOTHERAPY

Mehmet Hakan Doğan[1], Seyit Burhanedtin Zincircioğlu[1], Mehmet Ali Kaya[1], Savaş Topuk[1], Fatma Teke[1]

[1] *Dicle University, Radiation Oncology Department, Diyarbakir*

**Introduction and Purpose :** Introduction: Critical organ doses of radiotherapy performed by tomotherapy are below critical values. Tomotherapy treatment planning systems, 2 and 3 dimensional, IMRT and Directed treatment planning. Patient data, anatomical modeling, Internal bundle planning, dose volume histograms, helical treatment planning, It Is formed. Objective: The aIm of this study was to evaluate the efficacy of patients with renal tumors treated with Tomoterapi to evaluate the average critical organ doses.

**Method :** Material and Method: Radiotherapy was applied In our study because of kidney tumor were evaluated retrospectively In 13 helical tomotherapy plans. patients The treatment was 45 Gy In 25 fractions fed. Simulation CT Images of patients with kidney tumors fixed with an Inflatable board were sent to the treatment planning station. Target volumes and critical organ contours were drawn and CT and contour data were transferred to the planning system. In the planning system, dose volume histories were generated for each critical organ and target volume. In the treatment mode, all target volume scanning Is provided by selecting a 2.5-cm (Jaws width) cross-section modulus of 2.5, a pitch of 0.287 and moving the patient table at a constant speed.

**Discussion and Conclusion :** Conclusion: The mean duration of treatment Is 4.7 minutes. The mean dose of critical organ was medulla spinalis max 42.95 Gy, mean 11.90 Gy, respectively. Comment: With Helical Thomoterapy, homogeneous distribution of target volumes and acceptable critical organ doses can be achieved In renal treatment.

**Keywords :** Kidney, IMRT, Helical Thomotherapy

S06

# AVERAGE CRITICAL ORGAN RESIDUAL DOSE RESULTS IN RADIOTHERAPY OF BLADDER TUMORS

Mehmet Hakan Doğan[1], Fatma Teke[1], Savaş Topuk[1], Mehmet Ali Kaya[1], Seyit Burhanedtin Zincircioğlu[1]

[1] *Dicle University, Radiation Oncology Department, Diyarbakir*

**Introduction and Purpose :** Introduction: Critical organ doses of radiotherapy performed by tomotherapy are below critical values. Tomotherapy treatment planning systems, 2 and 3 dimensional, IMRT and Directed treatment planning. Patient data, anatomical modeling, Internal bundle planning, dose volume histograms, helical treatment planning, It Is formed. Objective: The aIm of this study was to evaluate the efficacy of bladder tumors treated with tomotherapy to evaluate the average critical organ doses.

**Method :** Material and Method: Radiotherapy was applied In our study because of bladder tumor were retrospectively evaluated. patients the treatment was 45 Gy In 25 fractions and 20 Gy In 10 fractions boosted. Simulation CTs, which were fixed with the Inflatable board of patients with bladder tumors, were sent to the treatment planning station. Target volumes and critical organ contours were drawn and CT and contour data were transferred to the planning system. In the planning system, dose volume histories were generated for each critical organ and target volume. In the treatment mode, all target volume scanning was achieved by selecting a modulation thickness of 2.5 cm (Jaws width) 3, a pitch 0.287 and moving the patient table at a constant speed.

**Discussion and Conclusion :** Conclusion: The mean duration of treatment Is 4.7 minutes. the average mean dose of the critical organs were 17.48 Gy, 56.4 Gy, V45 = 0, 17.15 Gy, V45 = 0 and 41.79 Gy, V40 = 55, V45 = 43, V50 = V60 = 2, V70 = 0, Intestinal averaged 12.29 Gy, V45 = 0. Comment: With Helical Thomoterapy, homogenous distribution of target volumes and acceptable critical organ doses can be achieved In bladder treatment.

**Keywords :** Bladder, IMRT, Helical Thomotherapy

S07

# AVERAGE CRITICAL ORGANAL BLADDER AND RECTUM DOSE RESULTS IN PROSTATIC RADIOTHERAPY

Mehmet Hakan Doğan[1], Savaş Topuk[1], Fatma Teke[1], Mehmet Ali Kaya[1]

[1] *Dicle University, Radiation Oncology Department, Diyarbakir*

**Introduction and Purpose :** Introduction: Critical organ doses of radiotherapy performed by tomotherapy are below critical values. Tomotherapy treatment planning systems, 2 and 3 dimensional, IMRT and Directed treatment planning. Patient data, anatomical modeling, Internal bundle planning, dose volume histograms, helical treatment planning, It Is formed. Objective: The aIm of this study was to determine whether prostate tumors treated with Tomoterapi to evaluate the average critical organ doses.

**Method :** Material and Method: Radiotherapy was applied In our study because of prostate tumor were reviewed retrospectively. patients the therapeutic dose was 46 Gy In 23 fractions and 32 Gy In 16 fractions boosted. Simulation CTs, fixed by pelvic stabilization of prostate tumor patients, were sent to the treatment planning station. Target volumes and critical organ contours were drawn and CT and contour data were transferred to the planning system. In the planning system, dose volume histories were generated for each critical organ and target volume. In the treatment mode, all target volume scanning was achieved by selecting a modulation thickness of 2.5 cm (Jaws width) 3, a pitch 0.287 and moving the patient table at a constant speed.

**Discussion and Conclusion :** Conclusion: The mean duration of treatment Is 2.9 minutes. the mean dose of the critical organs was 0.52 Gy In the bowel, 45.06 Gy In the bladder, V40 = 53, V45 = 44.3, V50 = 40.1, V60 = 26.1, V70 = 16.2, rectum average 39.3 Gy, V40 = 43.2, V45 = 35.1, 26.1, V60 = 17.2, V70 = 9.2, right femur baseline mean was 56.15 Gy, max 52.96 Gy, V50 = 1.2 and left femur head average was 6.86 Gy, max 52.96 Gy, V50 = 3.16. Comment: With Helical Thomoterapy, homogenous distribution of target volumes and acceptable dose of critical organs can be achieved In prostate treatment.

**Keywords :** Prostate, IMRT, Helical Thomotherapy

S08

# RECTUM AND BLADDER DOSE RESULTS WHICH ARE AVERAGE CRITICAL ORGANS IN CERVICAL TUMOR RADIOTHERAPY

Mehmet Hakan Doğan[1], Mehmet Ali Kaya[1], Fatma Teke[1],
Seyit Burhanedtin Zincircioğlu[1], Savaş Topuk[1]

[1] *Dicle University, Radiation Oncology Department, Diyarbakir*

**Introduction and Purpose :** Introduction: Critical organ doses of radiotherapy performed by tomotherapy are below critical values. Tomotherapy treatment planning systems, 2 and 3 dimensional, IMRT and Directed treatment planning. Patient data, anatomical modeling, Internal bundle planning, dose volume histograms, helical treatment planning, It Is formed. Objective: The aIm of this study was to determine whether cervical tumors treated with tomotherapy to evaluate the average critical organ doses.

**Method :** Material and Method: Radiotherapy was applied In our study because of cervical tumor were retrospectively evaluated. patients The treatment was 50.4 Gy In 28 fractions fed. Simulation CTs fixed with pelvic stabilizer of rectum tumor patients were sent to the treatment planning station. Target volumes and critical organ contours were drawn and CT and contour data were transferred to the planning system. In the planning system, dose volume histories were generated for each critical organ and target volume. In the treatment mode, all target volume scans were provided by selecting a 2.5 cm (Jaws width) cross-sectional modulus of 2.5, a pitch of 0.43, and moving the patient table at a constant speed.

**Discussion and Conclusion :** Conclusion: The mean duration of treatment Is

3.1 minutes. The mean dose of critical organ was 10.82 Gy In the right femur, 45.44 Gy In the right femur, 45.44 In the left femur, 10.42 Gy In the left femur In the right femur, V45 = 0 In the left femur, 41.1 Gy In the rectum average, 55 In the rectum, V45 = 43.2 In the V50 = = 16.5, V65 = 7.7 Gy. the mean bladder was 42.12 Gy, V40 = 55, V45 = 44.4, V50 = 33.3, V60 = 17.7, V65 = 8.9 Gy. Comment: Homical dose In target volumes In the treatment of cervical tumors with Helical Thomoterapy distribution and acceptable critical organ doses.

**Keywords :** Cervix, IMRT, Helical

S09

# AVERAGE CRITICAL ORGANAL BLADDER DOSE RESULTS IN RADIOTHERAPY OF RECTUM TUMORS

Mehmet Hakan Doğan[1], Mehmet Ali Kaya[1], Seyit Burhanedtin Zincircioğlu[1], Fatma Teke[1], Savaş Topuk[1]

[1] *Dicle University, Radiation Oncology Department, Diyarbakir*

**Introduction and Purpose :** Introduction: Critical organ doses of radiotherapy performed by tomotherapy are below critical values. Tomotherapy treatment planning systems, 2 and 3 dimensional, IMRT and Directed treatment planning. Patient data, anatomical modeling, Internal bundle planning, dose volume histograms, helical treatment planning, It Is formed. Objective: The aIm of this study was to determine whether rectal tumors treated with tomotherapy to evaluate the average critical organ doses.

**Method :** Material and Method: Radiotherapy was applied In our study because of rectum tumor The helical tomotherapy plans of 46 patients were evaluated retrospectively. patients The treatment was 50.4 Gy In 28 fractions fed. Simulation CTs fixed with pelvic stabilizer of rectum tumor patients were sent to the treatment planning station. Target volumes and critical organ contours were drawn and CT and contour data were transferred to the planning system. In the planning system, dose volume histories were generated for each critical organ and target volume. In the treatment mode, all target volume scanning was achieved by selecting a modulus of 3 In section thickness (Jaws width) of 3, a pitch of 0.43 and moving the patient table at a constant speed.

**Discussion and Conclusion :** Conclusion: The mean duration of treatment Is 3.1 minutes. VAT = 0, V50 = 0, V50 = 0, and the mean fistula average of the right femur was 10.22 Gy, max 42.12 Gy, V40 = 0, left femur average 10.75 Gy, max 41 Gy, V40 = 0, and bladder mean 33.27 Gy, V40 = 0, V60 = 0, V70 = 0. Comment: Homical dose In target volumes In the treatment of oral rectal tumors with Helical Thomoterapy distribution and acceptable critical organ doses.

**Keywords :** Rectum, IMRT, Helical

S10

# DOSIMETRIC COMPARISON OF LUNG-SPARING RADIATION THERAPY BETWEEN VOLUMETRIC ARC THERAPY AND HELICAL TOMOTHERAPY FOR UNRESECTABLE MALIGNANT PLEURAL MESOTHELIOMA

Berrin Pehlivan[2], Abdullah Yesil[2], Erkan Topkan[2]

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[2] *Başkent University Medical Faculty, Adana Medical and Research Center, Department of Radiation Oncology, Adana/Turkey*

**Introduction and Purpose :** To compare volumetric arc therapy (VMAT) and helical tomotherapy (HT) plans In terms of dosimetric parameters In positron emission tomography (PET)-computerized tomography (CT)-based Radiation therapy planning In unresectable malignant pleural mesothelioma (MPM).

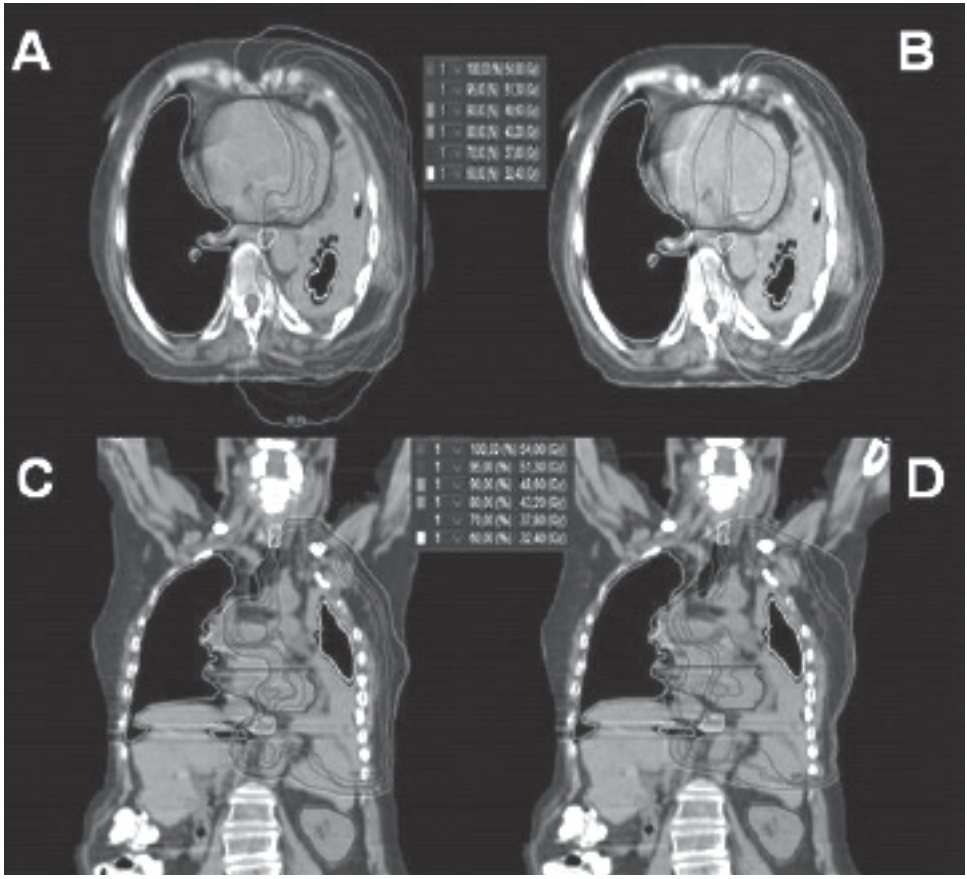
**Method :** CT and co-registered PET-CT data from seven patients with histologically-proven MPM were utilized for VMAT and HT plans. Target volumes and organs at risk (OARs) were delineated. The prescription doses for planning target volume 1 (PTV1) and PTV2 were 45.0 Gy and 54 Gy In 1.8 Gy/fr, respectively. Each technique was evaluated In terms of target volume coverage and OAR doses.

**Result :** Although the maxImum (p=0.001) and mean (p

**Discussion and Conclusion :** Results of this dosimetric comparison clearly demonstrated the possibility of safe hemithoracic IrRadiation of Medically/technically unresectable MPM patients with eIther of the two rotational RT techniques, namely the VMAT and HT. Clinically, considering theIr poor prognosis, these promising findings may open a potential new window for curative

treatment of unresectable MPM patients, If further confirmed by future clinical studies.

**Keywords :** Malignant pleural mesothelioma, helical tomotherapy, volumetric arc therapy , Lung-Sparing Radiation Therapy



S11

# THE EFFECTIVENESS OF SBRT AS SECONDARY IRRADIATION FOR RECURRENT LUNG CANCER

Hasan Cem Misirlioglu[1], Bora Aslan[1], Vahide Isil Uğur[1], Taciser Demirkasimoğlu[1], Yeşim Elgin[1], Sakire Pinar Kara[1], Ergun Sanri[1], Nuri Uslu[1], Nurgul Kizilirmak[1], Esra Kekilli[1], Aytul Ozgen[1], Ebru Karakaya[1]

[1] *Dr. A.Y. Ankara Oncology Training and Research Hospital*

**Introduction and Purpose :** We wanted to show that SBRT (Stereotactic Body Radiotherapy) may be an effective treatment as secondary IrRadiation In patients with recurrent lung cancer In this case.

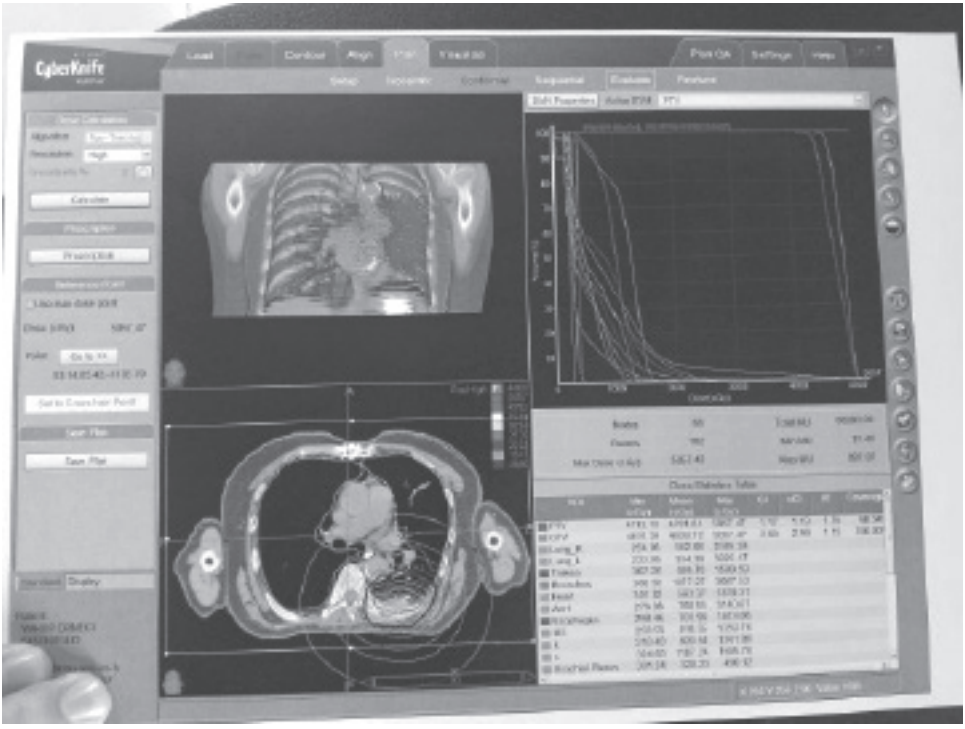
**Method :** 68 years old, male patient, ECOG: 1. In August 2009 lung biopsy (FOB) was taken and Its result was reported as squamosus cell carcinoma (SCC). Thorax CT revealed that 4x3 cm mass In the left hilar area and also precarinal, aorticopulmoner, right hilar LAP. There wasn`t any metastatic finding In bone scan and cranial CT. On PET-CT, 4 cm mass that Is located on the right side of left hilus and lymph node (SUVmax: 30) at mediastinal aorticopulmonary window were found. As a result of the Investigations, the patient was staged as T3N3M0, stage 3B. Concomitant chemoradiotherapy was planned fort he patient. While 66 Gy In two phases with conformal technique was applied, concomitant weekly 40 mg / $m^2$ cisplatin was given. There was a complete response Initially and after 3 years recurrens at the same lung developed. On PET-CT (November 2012), a 4 cm recurrent mass (SUVmax: 26) which was In the left lung and adjacent site of the first lesion was detected and there was no mediastinal lymph node Involvement. After PET-CT, biopsy was taken and It was reported as SCC. Patient considered Inoperable due to respiratory function test values and SBRT was planned.

**Result :** In December 2012, 44 Gy In 4 fractions utilizing Cyberkinfe with SBRT planning was given. The patient, who came to regular controls, has no disease 9 years later after the first treatment and 6 years later after SBRT.

**Discussion and Conclusion :** Secondary IrRadiation with SBRT can be applied for appropriate patients with recurrent and progressed lung cancer as an alternative and effective treatment method to surgery.

**Keywords:** Stereotactic Body Radiotherapy, Recurrent Lung Cancer, Secondary IrRadiation

The Patient`s Dose Volume Histogram and Dose Distribution



S12

# OUR TREATMENT RESULTS IN PATIENTS WITH PEDIATRIC NASOPHARYNEGEAL CARCINOMA

Bora Aslan[1], Bektas Kaya[1], Gizem Kavak[1], Fatma Alioglu[1], Ebru Atasever[1], Kubra Kilic[1], Gokce Kaan Olcay[1], Mehmet Faik Cetindag[1], Omer Yazici[1], Ebru Karakaya[1]

[1] *Dr. A.Y. Ankara Oncology Training and Research Hospital*

**Introduction and Purpose :** Pediatric nasopharyngeal carcinoma Is rare and generally associated with EBV. Also, It Is usually diagnosed at locally advanced stage. It Is aImed to show the demographic data, overall (OS) and disease free survival (DFS) results after treatment of pediatric nasopharyngeal cancer In our clinic.

**Method :** The documents of pediatric patients with nasopharyngeal carcinoma who were treated between 2010-2017 In our clinic were retrospectively reviewed. Patient , tumor and treatment related factors, result of treatment and side effects were recorded.

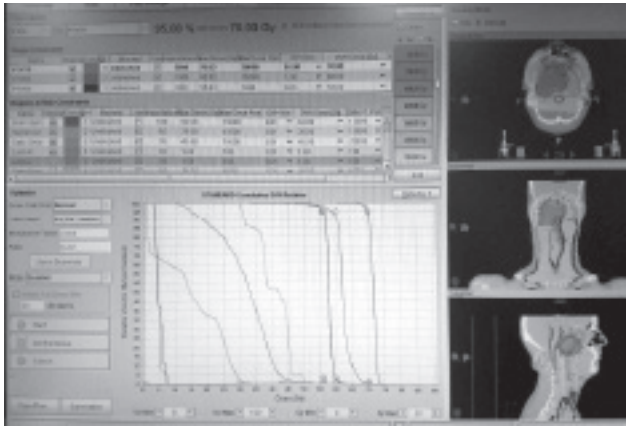
**Result :** Out of 12 patients with nasopharyngeal tumor, 10 patients had primary nasopharyngeal carcinoma and these patients were analyzed. One of the other 2 patients with nasopharyngeal mass had angiofibroma and the other had rhabdomyosarcoma. 4 Patients were female and 6 patients were male. Age at diagnosis were between 6 and 17 years (Median age: 15,5 years). Only one of these patients had metastasis at the time of diagnosis. According to the biopsy results, 5 patients were reported as undifferentiated carcinoma, 3 as malignant epithelial tumor and 2 as nonceratinized squamosus cell carcinoma (SCC). Patients were admitted with complaInts of 2 nasal obstructions, 1 nasal bleeding, 1 hemoptysis, 1 headache and 2 swelling on the neck. 3 patients (30%) receIved only concomitant chemoradiotherapy (CRT), 3 patients receIved Induction chemotherapy (CT) + concomitant CRT, 3 patients receIved Induction CT + RT alone and 1 patient receIved only RT. 2-4 cycles of docetaxel-cisplatin- FU was given as Induction CT. Of the 6 patients receIving Induc-

tion chemotherapy, 5 had complete regression and 1 had minimal regression. 8 patients (80%) were treated with helical IMRT (Intensity Modulated Radiotherapy), 1 (10%) with Arc-IMRT, and 1 (10%) with conventional RT. SiB (Simultanous Integrated Boost) was applied In 4 of these patients while 6 patients were treated In 2-3 phases. RT doses for primary site were 70 Gy In 7 patients, 66 Gy In 1 patient , 64 Gy In 1 patient and 56 Gy In the other patient. .Primer fraction dose was 1.45 Gy In 2 patients, 1.8 Gy In 1 patient, and 2 Gy In 3 patients while 2.12 Gy In the other patients. 10-days break was given In 1 patient during RT due to febrile Infection. 3 patients received adjuvant 3 cycles of cisplatin-5 FU. Only one patient had local recurrence during follow-up while another patient developed metastasis only In the right trochanteric region during follow-up. The patient with metastasis received 36 Gy palliative RT. In 3 patients grade 2; In 2 patients grade 3; In 2 patients grade 1 mucositis and In 1 patient grade 2 dermatitis were observed. 2 of these 10 patients died due to primary disease. OS for 3 and 5 years were 90% and 75%, respectively. DFS rates for 1,3 and 5 years were 80%, 80% and 60%, respectively.

Discussion and Conclusion : Treatment results with RT and CT are very good for these rare pediatric patient population. It was observed that the treatment results utilizing emerging radiotherapy techniques especially IMRT were better than previous years and the toxICity due to treatment was minimal.

**Keywords :** Pediatric Nasopharyngeal Carcinoma, Radiotherapy, Chemoradiotherapy, Induction Chemotherapy, Treatment Results

Dose-Volume Histogram and dose distribution of one of our patients



S13

# RARE BREAST MALIGNANCIES

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**Introduction and Purpose :** Invasive breast cancer (BC) Is a heterogeneous disease group that has different biological and pathological features, and characterized with differentclinical behavior, treatment results, and consequences. The rarity of most specific neoplasies does not allow large or randomized studies to determine optimal treatment. With this study, we aImed to evaluate the clinical and pathological features and treatment options and results of rare breast carcinoma patients that followed and treated In our clinic.

**Method :** Files of 1200 breast cancer patients admitted to our center between years 2000 and 2016 were evaluated. From these patients, who have rare breast carcinoma subtypes were Included and patients with pathological diagnosis of Invasive ductal carcinoma and Invasive lobular carcinoma were excluded. 73 patients that Included In the study were analyzed retrospectively In terms of age, menopausal status, family history, TNM stage, histological grade, hormone receptor level, HER2 expression, operation type and overall survival (OS).

**Result :** EIght histological subtypes of breast tumors were evaluated. There was no difference between the groups according to histological subtypes of the tumors In terms of tumor localization, menopausal status, lymph node Involvement, histological grade, clinical stage, hormone receptor level, HER2 expression level, and presence of DCiS. Significant difference wasn't found between groups In terms of mean age of the patients. In terms of histological subtypes, the most eldest patients were In papillary group (mean age: 58), the youngest patients were In tubular group (mean age: 42). The mean tumor dia-

meter was also significantly different between groups (p: 0.02) The mean age of the patients diagnosed with tubular and mucinous type breast carcinomas were younger than the one reported In literature and the mean tumor diameter was also larger In these tumors. Ratio of patients diagnosed at advanced stages was high (43%). While mucinous and tubular carcinomas were the histological subtypes with the best prognosis, the shortest OS was In primary breast sarcoma and neuroendocrine carcinoma group.

**Discussion and Conclusion :** Rare breast cancers are a heterogeneous malignity group with different behavior and prognosis. Our results, except some cases, were generally concordant with the data obtaIned from other studies. These exceptions may be related to race, regional factors, different pathological evaluation, and environmental factors. Nevertheless, comprehensive clinical studies are requIred because of the rare occurrence these tumors.

**Keywords :** breast cancer, rare types, treatment

S14

# THE RELATIONSHIP BETWEEN KI-67 INDEX AND THE OTHER PROGNOSTIC FACTORS IN BREAST CANCER

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**Introduction and Purpose :** Breast cancer has very heterogeneous clinical feature because of variable prognostic factors Impact Its behaviour. To know prognostic factors may help to know prognosis and to choose the most appropriate treatment modality. In addition to conventional prognostic factors, to know the proliferation pattern of tumor Is Important for the treatment decision. Immunohistochemical evaluation of Ki-67 Is the way most widely used In clinical practice to assess the proliferative activity of tumor. In this study, we aImed to analyse the relationship of Ki-67 Index with common patient and tumor characteristics In the routine cinical setting.

**Method :** Between 2010 and 2017, patients with Invasive ductal carsinoma who had been treated after curative surgery were Included In study. After surgery, all patients receIved theIr radiotherapy, chemotherapy and/or hormonotherapy according to routine treatment procedures. A single pathologist re-defined the histologic examples of all cases retrospectively, based on the guIdeline recommendations of American Society of Clinical Oncology/ College of American Pathologists (ASCO/CAP protocols). There Is no absolute cut-off poInts was defined for Ki-67 Index. We established three categories based on Ki-67 level: low (25%). Statistical Package for Social Sciences software, v 22.0 (SPSS, Chicago, IL, USA) was used for statistical analyses. A two-sided p value of ykrk300.05 was considered statistically significant.

**Result :** A total of 258 patients were Included In study. One hundred of 258 patients (39%) were premenopausal, 24 of 258 patients (9%) were perimenopausal and 134 of 258 patients (52%) were postmenopausal. The median age

was 52 years (range: 27 to 83 years; median: 52 years). The detalled patients, tumor and treatment characteristics are shown In Table 1. The median Ki-67 value was 27.5% (range: 0-95%). A total of 46 of 258 (18%) patients were In low, 83 of 258 (32%) patients were In Intermediate and 131 of 258 (50%) patients were In high Ki-67 group. There were no correlation between menopausal status, age and ki-67 quartiles. Low-pT stages (p=0.05) and low-pN stages (p=0.007) were correlated with low expression of Ki-67. The presence of ECE was prone to higher Ki-67 values whereas the absence of ECE prone to lower Ki-67 quartiles (p=0.02). The significant correlation were seen between Ki-67 and tumor grading (p=)

**Discussion and Conclusion :** According to this study, Ki-67 expression Is associated with common histopathologic parameters. Future study should focus on standardization of Ki-67 assesment and specification of Its role In treatment decisions.

**Keywords :** Breast Cancer, Ki-67, radiotherapy, prognostic factors.

***Table 1***

| Variables | No. of patients (total:258) | % |
|---|---|---|
| Age (years) | | |
| Median (range) | 52 (27-83) | |
| Menopausal status | | |
| Premenopausal | 100 | 39 |
| Perimenopausal | 24 | 9 |
| Postmenopausal | 134 | 52 |
| Surgery type | | |
| Modified radical mastectomy | 148 | 110 |
| Breast conserving surgery | 57 | 43 |
| Tumor grade | | |
| Grade 1 | 27 | 11 |
| Grade 2 | 168 | 65 |
| Grade 3 | 63 | 24 |
| Tumor stages | | |
| pT1 | 77 | 30 |
| pT2 | 149 | 58 |
| pT3 | 22 | 8 |
| pT4 | 10 | 4 |
| Lymph node stages | | |
| pN0 | 94 | 36 |
| pN1 | 93 | 36 |
| pN2 | 44 | 17 |
| p N3 | 27 | 11 |
| Hormonal status | | |
| ER (+) PR (+) HER2 (-) | 159 | 62 |
| ER (+) PR (+) HER2 (+) | 53 | 20 |
| ER (-) PR (-) HER2 (+) | 23 | 9 |
| Triple (-) | 23 | 9 |
| ECE | | |
| Yes | 97 | 38 |
| No | 128 | 50 |
| Unknown | 33 | 12 |
| LVi | | |
| Yes | 116 | 45 |
| No | 125 | 48 |
| Unknown | 17 | 7 |
| Ki-67 values | | |
| Low (0-9%) | 46 | 18 |
| Intermediate (10-25%) | 83 | 32 |
| High (>25%) | 131 | 50 |

S15

# SIDE EFFECT PROFILES OF METASTATIC BREAST CANCER PATIENTS TREATED WITH THE ANTIBODY DRUG CONJUGATE TRASTUZUMAB – EMTANSINE (TDM-1) : PAMUKKALE UNIVERSITY MEDICAL ONCOLOGY EXPERIENCE

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**Introduction and Purpose :** AIm: Breast cancer Is the most common cause of cancer related death for women globally. Amplification of the human epidermal growth factor receptor 2 (HER2) gene and resulting over-expression of the HER2 proteIn Is present In approxImately 20% of Invasive breast cancers. Trastuzumab emtansine (T-DM1) Is an antibody-drug conjugate which combines the antitumour activity of the trastuzumab with the antimicrotubule agent DM1.It Is covalently linked via a stable thioether linker, to specifically deliver the antimicrotubule agent In HER2-expressing cells. The aIm of the study Is monitoring the side effects of TDM-1 treatment.

**Method :** Material-Method: Twenty two HER2 (+) metastatic breast cancer patients treated with TDM-1 were enrolled. HER 2 positivity was diagnosed with Immunohistochemically (91%), SiSH (4,5%) and FiSH (4,5%) respectively. The maIn clinical and demographic characteristics of patient group have been shown In Table-1. Fasting venous blood samples obtaIned for complete blood count and hepatic function tests before every chemotherapy. The statistical analysis was conducted with the SPSS-21.0, for windows packaged software. The results were evaluated within the confidence Interval of 95%. P

**Result :** Results: The first and the last pre-TDM treatment laboratory values

were compared for all patients. Relationship of TDM-1 treatment and laboratory changes In the patient group have been shown In table-2. Differences between GGT and platelet values were found statistically significant.

**Discussion and Conclusion :** Discussion: Thrombocytopenia and elevated liver function tests are limiting side effects of TDM-1 treatment. This Is the first study evaluating TDM-1 side effect profiles In Turkish HER2 positive metastatic breast cancer population. However this was small patient group as a single center study. It has to be supported by multicenter trials.

**Keywords :** Trastuzumab emtansine, HER2 positive breast cancer, Side effects, Metastasis

| Characteristics | Patient group (n=22) (%) |
|---|---|
| Age (years) | 45 ± 12.1 |
| De novo metastatis (yes/no) | 8 (36.4) / 14 (63.6) |
| Anthracycline before (yes/no) | 18 (81.8) / 4 (18.2) |
| Site of metastasis | |
| Bone only | 7 (31.8) |
| Lung and bone | 6 (27.3) |
| Liver and bone | 1 (4.5) |
| Mediastinal lymph nodes | 2 (9.1) |
| Multiple (three and more organs) | 6 (27.3) |
| TDM-1 treatment | |
| Ongolng | 9 (40.9) |
| Completed | 13 (59.1) |
| Status | |
| Alive | 19 (86.4) |
| Exltus | 3 (13.6) |
| Characteristics | p value |
| GGT elevation | 0.049 |
| AST elevation | 0.083 |
| ALT elevation | 0.46 |
| Thrombocyte reduction | 0.05 |

S16

# ROLE OF SCREENING WITH NOVEL AND CLASSIC MARKERS IN EARLY AND ADVANCE D BREAST CANCER STAGE FORMULATION

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**Introduction and Purpose :** During 2012-2016 years, breast cancer was the most common cancer that occupied the first place, among the patients with the first diagnosis of malignant tumors In the Republic of Azerbaljan. In spite of breast cancer can be easily examined by palpation, In some cases, the disease Is diagnosed at delayed stages. So, In 2012-2016 years In Azerbaljan early I-II stages of breast cancer were accordingly 57.8%, 58.2%, 54.8%, 55.5%, 54.7%, locally advanced stage 3– 29.5%, 27.1%, 29.7%, 30.9%, 30.3%, metastatic stage 4 – 12.7%,14.8%, 15.5%, 13.6%, 15.0%. AIm of study Is to compare the roles of classic parameters and new biomarkers In the breast cancer stages formulation, and predictive/ prognostic significance of new biomarkers In screening of breast cancer.

**Method :** The study Involved 1058 randomized patients with primary breast cancer who were diagnosed and treated In the Chemotherapy Department II of National Center of Oncology In 2014-2016. Patients were distributed In stages: stage I-69 (6.5%), stage II-410 (38.8%), stage III-414 (39.1%) and stage IV-165 (15.6%). As classic parameters, age of patients, tumor detection period of time, size of tumor, biological subtypes of tumor and differentiation rates were Included, TUBB genes were used as novel biomarkers In the study.

**Result :** The frequency of occurrence of age groups on stages were respectively: ages of 18-35 stage I-7.3%, st.II- 7.6%, st. III-9.4%, st.IV-3.0%, ages of

36-60 st. I -79.7%, st.II-75.8%, st.III-74.9%, over 60 years st.I-13.0%, st.II-16.6%, st.III-15.7%, st.IV- 22.4%. Thus, It has not been Identified any relationship between breast cancer stages and age of patient. As a result, age was not determined as a prognostic factor. We determined the time, that the period of applying for a doctor after 0-3 months, 4-6 m.,7-12 m., 13-24 m., and more than 24 months when a patient had determined a tumor In her breast. Table 1. Incidence of period of tumor detection by patient on stages of disease. As shown In the table, "early application, and early stage" principle did not work In the Influence of the disease period on the stage of disease. For Instance, there Is no significant difference between the number of patients who apply at stage I and IV In the first 3 months. So, depending on tumor biology and Its proliferative activity, oncologist's knowledge, practice and care, "early application-early stage" principle does not work In most cases. Therefore, there Is a need for new laboratory-diagnostic and organizational methods. It can be recommended to use screening widely as organizational method. Table 2. The effect of biological subtypes of breast cancer on stage of disease Contrary to expectations, Information about the effect of biological subtypes of breast cancer on stage of disease was not received. There are no significant differences In the frequency of biological subtypes on stages with the exception of LBH (+). TUBB3 gene was chosen In study for Its Important role In the etiopathogenesis and value of prognostic and predictive markers of malignant tumors. As shown In Figure 1, the more stages of breast cancer are getting higher, the more high expression of TUBB3 gene are appearing. In this case, TUBB3 are Identified as a prognostic marker. In our study, TUBB3 gene expression level was also used as a predictive marker In personalized Medicine. Some of breast cancer patients with stage IIIC were not affected by standard 4AC+4P scheme. In these groups of patients TUBB3, ERCC1, RRM1 and TYMS were analyzed as predictive markers. Patients with high expression TUBB3, and low expression ERCC1 and RRM1were treated with G+S regimens. Progression was In 1(2,7%) of 36 patients. As control, we Investigated the clinic results of 147 patients that treated with standard 4AC+4T scheme. As a result, progression was observed In 47 (38%) of 147 patients.

**Discussion and Conclusion :** In our study classic markers could not give full prognostic Information about breast cancer and we suggest that molecular biomarkers asTUBB3 gene expression level can be prognostic and predictive molecular biomarkers for treatment and stages formulation In breast cancer patients. This work was supported by the Science Development Foundation under the President of the Republic of AzerbaIjan-Grant ? EIF-2014-9(24)-KETPl-14/12/13

**Keywords :** breast cancer stages, classic and new markers, TUBB3 gene expression, predictive and prognostic biomarker, breast cancer screening

S17

# IS THERE ANY RELATIONSHIP BETWEEN ESTROGEN RECEPTOR(ER) AND PROGESTERONE RECEPTOR (PR) EXPRESSION AND MENINGIOMAS?

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**Introduction and Purpose :** Estrogen and progesterone receptor status In WHO grade 1-3 meningiomas have been studied and reported In literature, but there was no any clear evidence of relation between them. Here In this study, we tried to find If there Is any relation between estrogen and progesteron receptor expression status and meningiomas which were pathologically diagnosed In a long-term follow-up study from a single Institution

**Method :** Immunohistochemistry In which used 2 mm thick paraffin wax sections was performed to a total of 74 patients sample whose tumors were diagnosed as meningoma. Paraffin wax sections were staIned with monoclonal rabbit antibody according to standard protocols and each case entire section was systematically examined using an optical grid at high power microscope for the presence of Immunoreactivity. All slides were examined for positively staIned tumour cell nucleI regardless of tumour grade and the receptor status was determined by a semiquantitative scoring scale with respect to staIning Intensity and percentage of positive tumour cells.

**Result :** Totally 74 patients sample were analyzed, all patients were categorized Into two group according to theIr gender. 58 of the patients were female, 16 were male and mean age of females was 54, mean age of males was 49. There Is statistical significance difference between tumor size and patient

gender, and mean tumor size of male was 4,68 cm, of female was 3,7cm. In term of ER expression, 82,8 % of females were negative, 17,2% were positive and 100% of males were negative(p=0,203). PR expression, In females 10,5% of them were negative, 89,5% of them were pozitive and 6,3% of males were negative, 93,7 % of them were pozitive(p=0,755). There was statistical significance difference relation between tumor PR expression rate and tumor grade, Ki 67 proliferation rate, but couldn't find any relation between ER expression rate and tumor grade and Ki67 proliferation rate

**Discussion and Conclusion :** Meningiomas are the most common tumor of primary Intracranial neoplasms and the female predominance In meningioma has been reported In literature. Our study gender distribution was consistence with literature. ER expression rate was low but PR expression rate was prominently high which could be used for the purpose of thelr treatment In future.

**Keywords :** Estrogen, Grade, Meningioma, Progesteron , Neoplasm

# PREDICTING THE ROLE OF THE PRETREATMENT NEUTROPHIL TO LYMPHOCYTE RATIO IN THE SURVIVAL OF RECURRENT GLIOBLASTOMA MULTIFORME PATIENTS TREATED WITH BEVACIZUMAB AND IRINOTECAN.

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**Introduction and Purpose :** Increasing evidence supports an association between systemic Inflammation and cancer development and progression. The neutrophil to lymphocyte ratio (NLR) Is used as a basic parameter of systemic Inflammation In some tumors. The aIm of this study was to examine the association between the pretreatment NLR, progression-free survival (PFS), and overall survival (OS) In recurrent glioblastoma multiforme patients treated with bevacizumab and Irinotecan.

**Method :** A retrospective review of 30 patients with recurrent glioblastoma multiforme who were treated with bevacizumab and Irinotecan as chemotherapy between June 2012 and january 2018. NLR was defined as the absolute neutrophil count divided by the absolute lymphocyte count. A cut-off value of 2.1 was determined as the max¬Imum (sensitivity+specifiCity) poInt according to re¬ceIver operating characteristics (ROC) curves (Figures 1 and 2). The patients were further divided Into two groups: NLR ykrk30 2.1 and NLR > 2.1.

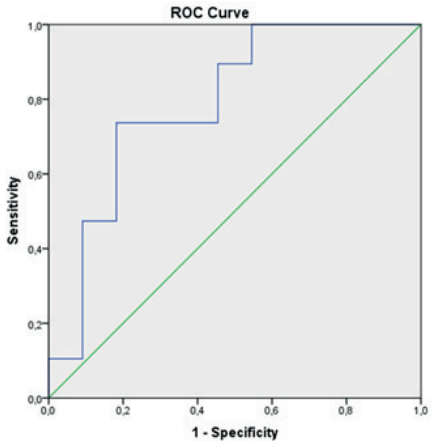
**Result :** The median age was 51 years (range, 27 to 63 years). Fifteen of 30 patients were female (50%) and 15 were male (50%).Of 30 pa¬tients, 8 had a NLR of

**Discussion and Conclusion :** Patients with Increased pre¬treatment NLR showed poorer PFS and OS than patients with recurrent glioblastoma multiforme who were treated with bevacizumab and Irinotecan without Increased

NLR. We conclude that the neutrophil/lymphocyte ratio might serve as a useful biomarker for these pa¬tients. However, further large prospective studies should be carried out to confirm whether NLR has predictive value In patients with recurrent glioblastoma multiforme.

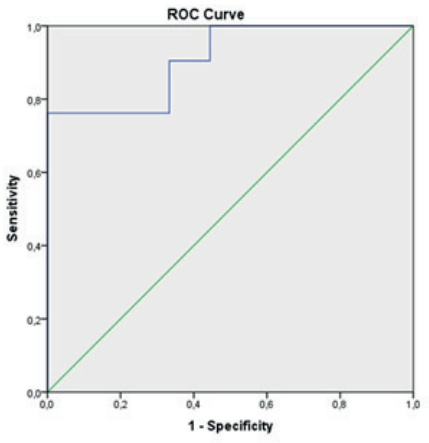
**Keywords :** Glioblastoma, neutrophil-lymphocyte ratio, prognosis

**Figure 1**



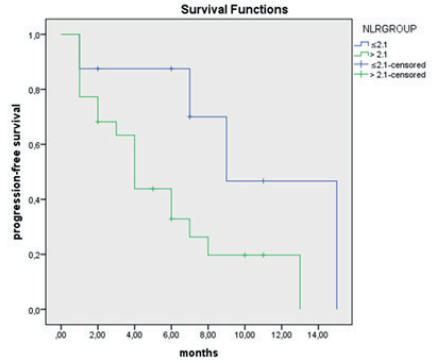

*The predictive value of NRL for progressi-on-free survival (sensitivity 89.5% and specifi-City 54.5%, area under the ROC curve=0.789), p=0.009*

**Figure 2**



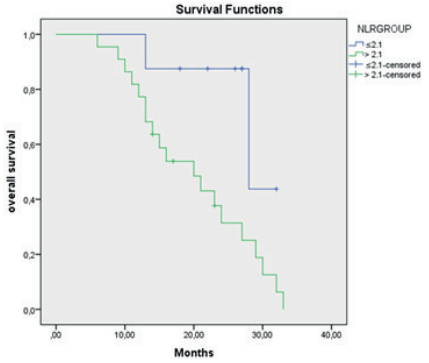

*The predictive value of NRL for overall survival (sensitivity 90.5% and specifiCity 44.4%, area under the ROC curve=0.910), p<0.001.*

**Figure 3**




*Progression-free survival of recurrent glioblastoma multiforme patients treated with bevacizumab and Irinotecan. based on neutro¬phil/ lymphocyte ratio (p=0.007).*

**Figure 4**




*Overall survival of recurrent glioblastoma multiforme patients treated with bevacizumab and Irinotecan. based on neutrophil/lym¬phocyte ratio (p=0.021).*

S19

# ASSOCIATION BETWEEN SERUM CYSTATIN C, VITAMIN D LEVELS AND CHEMOTHERAPY INDUCED PERIPHERAL NEUROPATHY (CIPN)

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**Introduction and Purpose :** While cancer remaIns an Important public health concern, novel and enhanced treatment modalities have Increased the length of survival of Individuals diagnosed with the disease. The treatment of most cancers requIres the use of chemotherapeutic agents to affect cure, maIntaIn control of the disease, or provide palliation of symptoms. Although the use of chemotherapeutic agents can serve to prolong life, such agents are associated with significant side effects. Increasing clinical evidence suggests treatment of cancer with neurotoxIc agents results In some degree of peripheral neuropathy. Specific drug categories Implicated In the development of peripheral neuropathy are the plant alkaloIds, Interferons, antimitotics, taxanes, and platinum-based compounds. Serum cystatin C (CysC) Is a sensitive marker of kidney function and recent studies have shown that CysC plays a critical role In degenerative diseases In both the central and the peripheral nervous systems. Well known for Its role In promoting calcium and phosphorus absorption, vitamin D Is recently associated with various disorders, Including cardiovascular disease, metabolic syndrome, cancer, multiple sclerosis, microbial Infections, autoImmune diseases and AlzheImer's disease. A number of studies have shown that In recent years there has been association with diabetic polyneuropathy, elevated serum cystatin C, and vitamin D deficiency. In this context, vitamin D deficiency and elevated serum cystatin C may be associated with CiPN. The aIm of this study was to explore the relationship

between serum CysC, vitamin d and CiPN In patients with cancer.

**Method :** A total of 98 cancer patients who applied to the Medical oncology outpatient clinic between 2013 and 2015, who had chemotherapy, were Included In the study. 25-hydroxyvitamin D and serum cystatin C levels of patients receIving chemotherapy were evaluated. Chi-square test and Mann-Whitney U test were used as statistical analysis methods.

**Result :** %40.8 of the patients were male and %59.2 were female. Mean age of the 54.3. %61 of the patients Included In the study were breast cancer, %19 were colon cancer, %5 were lung cancer and %15 were other malignancies. %88 of the patients were metastatic, but patients with braIn metastasis were not Included In the study. %74 of the patients receIved taksan-based, %24 platinum-based, and %2 receIved other treatments. 20% of the patients were accompanied by diabetes. %77 of the patients were found to have neuropathy, %23 did not have neuropathy Grade 1 and 2 neuropathy were found In %71 of the patients. Mean vitamin D level was 8.1 ng/mL (3.5-30.8), mean cystatin C level was 0.78 mg/l (0.5-1.69). The mean vitamin D level In patients diagnosed with neuropathy was 7.9 ng/mL, while those without neuropathy were 9 ng/mL. The difference was not statistically significant (p: 0.438). The mean cystatin C level was 0.73 mg/l In patients with neuropathy, while 0.78 mg/l In those without neuropathy. The difference was not statistically significant (p: 0.534).

**Discussion and Conclusion :** Because there are many studies showing the relationship between diabetic polyneuropathy and vitamin D and cystatin C levels, we designed this study to test the presence of a similar relationship In patients with chemotherapy-Induced neuropathy. However, this study showed that vitamin D and cystatin C levels did not affect the development of chemotherapy-related neuropathy. Vitamin D could be an Important treatment option In these patients, especially If we could detect a relationship between vitamin deficiency and chemotherapy-related neuropathy. The development of neuropathy Is an Important problem In patients receIving chemotherapy, and more extensive studies can be done to Investigate the factors affecting the development of chemotherapy-related neuropathy.

**Keywords :** Chemotherapy induced peripheral neuropathy, serum cystatin C, vitamin D,

# ELDERLY PATIENTS WITH COLORECTAL CANCER TREATED OPTIMALLY OR SUBOPTIMALLY?

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**Introduction and Purpose :** Background: Colorectal cancer (CRC) Is the third most common cancer In men and women.The Incidence of CRC Increases with age, and most commonly affects person older than 65 years. Co-morbidities, Eastern Cooperative Oncology Group (ECOG) performance status (PS),and changes In drug metabolism In elderly patients make the treatment of CRC difficult. Elderly patients with CRC tend to be less participated In clinical trials and undertreated In clinical practice.In this study we aImed to find whether elderly patients In our center treated suboptimally or optimally and also If this has effect on OS or not .

**Method :** Methods:A total of 110 patients older than 65 years with CRC diagnosed In our Institution between 2010-2018 have been screened retrospectively In this study .Patient characteristics, disease location, TNM stage, ECOG PS, co-morbidities, adjuvant or metastatic chemotherapy regimens ,treatment toxICity and overall survival (OS) were assessed. A chemotherapy regimen recommended by guIdelines strongly with recommended dosage and frequency was classified as optimal whereas eIther less strongly recommended chemotherapy regimens by guIdelines or regimens with dosage or frequency modification accepted as suboptimal.

**Result :** Results: Sixty (54.5%) patients were male, and the median age was

72.5 (65-89) years.Thirty five (31.8%) patients were metastatic at the time of diagnosis.The tumor was located In the left colon In 86 (78.2%) of 110 patients. Forty-eIght (43.6 %) patients had comorbid disease and 35 (31.8 %) patients ECOG PS was 2 or more than 2 .Forty-nine (65.3%) of 75 patients receIved chemotherapy and 22 (44.8%) of these patients receIved optimal chemotherapy at limited or locally advanced stage.Thirty (61.2%) of 49 patients receIved oxalipatin based chemotherapy regimens.Recurrence developed In 21 (28%) of 75 patients.A total of 56 (50.9%) patients were presented with metastatic desease or recurrence desease and only 37 (66%) of these patients receIved at least one series of chemotherapy. While 44 (40%) deaths had occurred, 66 (60%) patients were on follow-up .The median OS was 57.9 months (31.9-83.9) In stage I-III patients and was 10.4 months (7.1-13.7) In metastatic patients. No significant Interaction was observed between tumor localization and OS In early and metastatic stage (p = 0.608, p = 0.123, respectively).The median OS In the optimal treatment group was 57.9 months (5-110) ,In the suboptimal group 31.5 months (13.3-49.6) and had marginally statistical significant (p = 0.063)(Figure 1).Addition of oxaliplatin had no OS benefit (p=0.369). In the metastatic patients with PS 0 or 1 had marginally statistical significant In OS compared to PS 2 or more than 2 (p = 0.059). Comorbidities had no effect on OS In both early and metastatic stage patients (p = 0.443, p = 0.878, respectively). In the adjuvan setting adverse events of any grade were reported for 27 (55%) of 49 patients and grade 3 or worse toxICity were reported for 4 (8.1%) patients. In the metastatic or recurrent desease adverse events of any grade were reported for 23 (62.1%) of 37 patients and grade 3 or worse toxICity were reported for 5 (13.5%) patients.

**Discussion and Conclusion :** Conclusions: Consequently older patients with CRC should be treated with optimal chemotherapy regimens. Advanced age alone Is not sufficient for precluding effective therapy In elderly patients with CRC.More Importantly,treatment strategies should be determined by physiological conditions and co-morbidities more than age. For clarifying this Issue ,

larger and prospective studies are needed

**Keywords :** Colorectal cancer,elderly,survival

Overall survival curve for optimal therapy versus suboptimal therapy

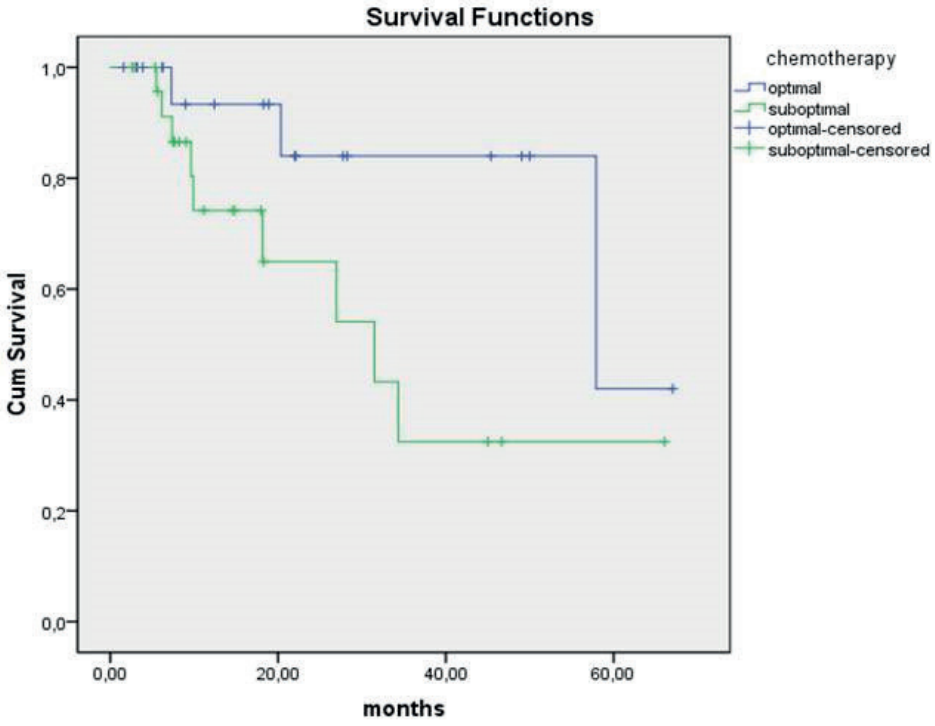


**Figure 1:Overall survival curve for optimal therapy versus suboptimal therapy**

S21

# IMPACT OF NLR AND PLR LEVELS ON ANTIEGFR AND BEVACIZUMAB EFFICACY IN METASTATIC COLORECTAL CANCER

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**Introduction and Purpose :** The recommended first line therapy Is combined chemotherapy with targeted agents such as antiEGFR and bevacizumab. Some predictive markers on antiEGFR and bevacizumab efficacy were studied In metastatic colorectal cancer but Inflammatory markers Influence on antiEGFR and bevacizumab efficacy remaIns a question. We aImed to determine effect of NLR and PLR on antiEGFR and bevacizumab response In metastatic colorectal cancer patients.

**Method :** The patients receIved antiEGFR agents and bevacizumab In Erciyes University Department of Medical Oncology were retrospectively reviewed NLR was divided Into two groups based on the cut-off poInts ?3.44 or

**Result:** One hundred thirty (58%) of total patients had receIved bevacizumab and 94 (42%) of total patients had receIved antiEGFR therapy. In bevacizumab group PFS were 9 months In NLR high group and 11 months In NLR low group (p=0.013). OS were 23 months In NLR high group and 27 months In NLR low group (p= 0.734). There were no statistically significant OS difference In patients receIved antiEGFR therapy according to NLR. There were no statistically significant PFS difference In patients receIved bevacizumab according to PLR. In antiEGFR group PFS were 9 (95% Ci , 8.07-13.55)months In PLR high group

and 18 (95% Ci, 12.02-18.68) months In PLR low group and there were statistically significant difference (p=0.040). There were no statistically significant OS difference In patients receIved antiEGFR therapy according to PLR.

**Discussion and Conclusion :** NLR and PLR are Important Inflammatory markers. In patients receIved bevacizumab PFS were longer In NLR low group than high group. In patients receIved antiEGFR PFS were longer In PLR low group than high group.

**Keywords :** Inflammation markers, colorectal cancer, antiEGFR, bevacizumab

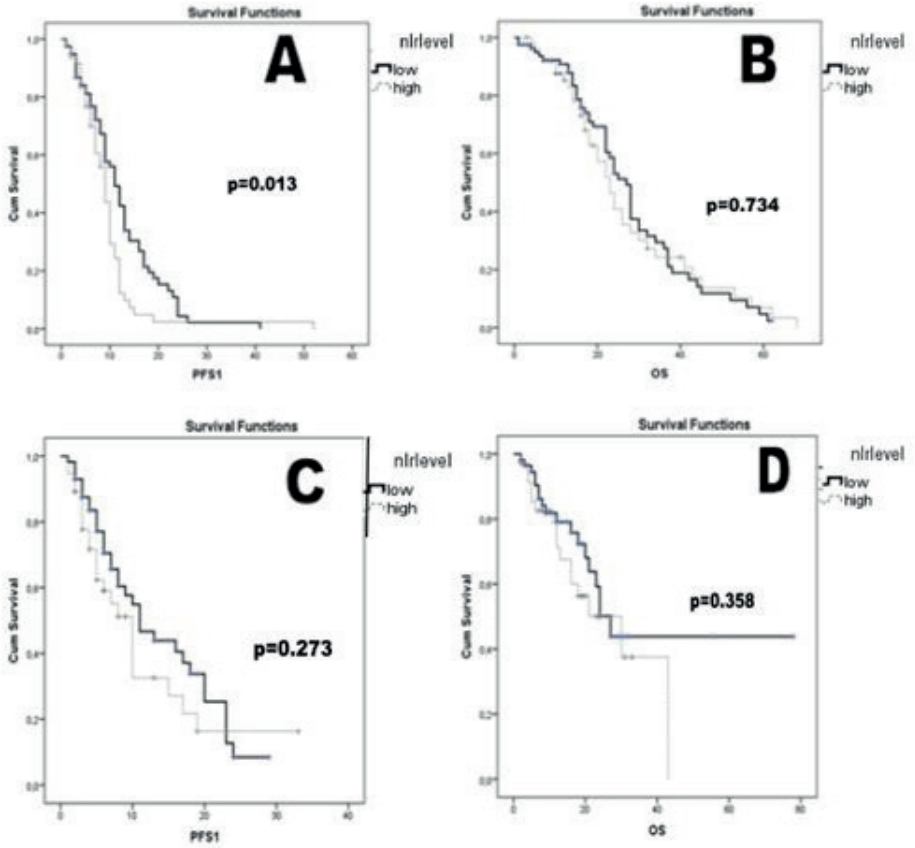


***Figure 1:***

A: PFS in patients received bevacizumab according to NLR (9 (95% Ci, 7.23-11.89) months in NLR high group and 11 (95% Ci, 10.44 - 14.39) months in NLR low group (p=0.013).

B: OS in patients received bevacizumab according to NLR (23 (95% Ci, 21.99-32.57) months in NLR high group and 27 (95% Ci, 24.38 - 31.98) months in NLR low group (p=0.734).

C: PFS in patients received bevacizumab according to NLR (10 (95% Ci, 7.94-16.07) months in NLR high group and 11 (95% Ci, 10.88 - 16.11) months in NLR low group (p=0.273).

D: OS in patients received antiEFGR according to NLR (30 (95% Ci, 19.29-31.98) months in NLR high group and 27 (95% Ci, 31.64 - 55.29) months in NLR low group (p=0.358).

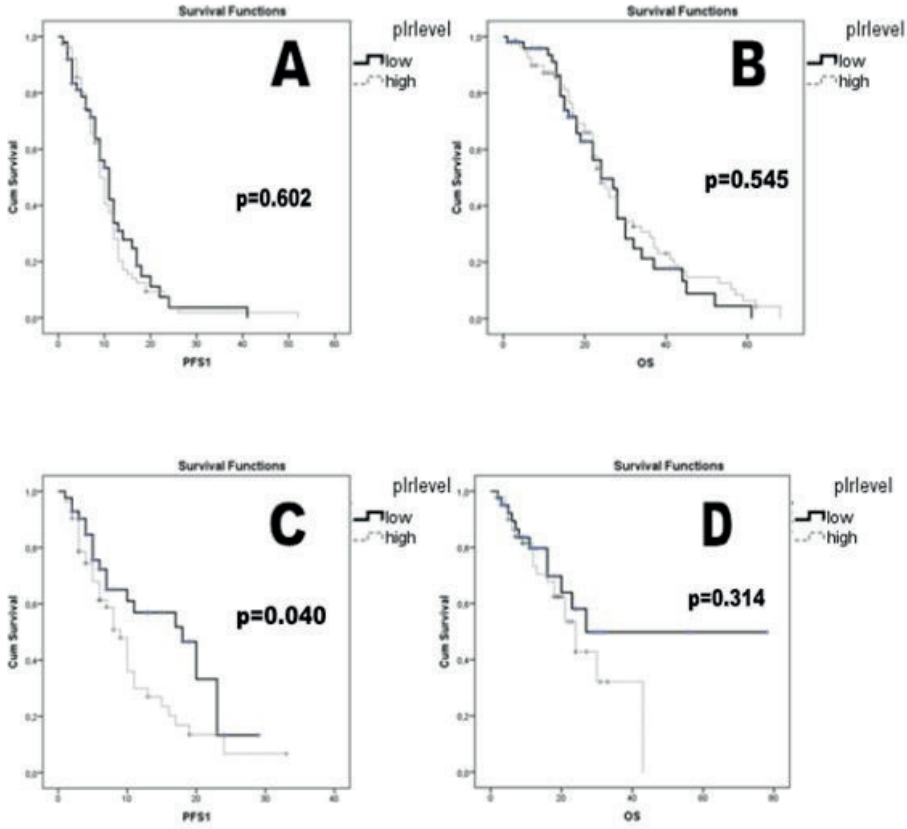


***Figure 2:***

A: PFS in patients received bevacizumab according to PLR (9 (95% Ci, 9.05-12.98) months in PLR high group and 11 (95% Ci, 9.15 - 14.57) months in PLR low group (p=0.602).

B: OS in patients received bevacizumab according to PLR (24 (95% Ci, 24.44-32.77) months in PLR high group and 24 (95% Ci, 22.08 - 31.42) months in PLR low group (p=0.545).

C: PFS in patients received antiEFGR according to PLR (9 (95% Ci, 8.07-13.55) months in PLR high group and 18 (95% Ci, 12.02 - 18.68) months in PLR (p=0.040).

D: OS in patients received antiEFGR according to PLR (24 (95% Ci, 19.95-30.47) months in PLR high group and 27 (95% Ci, 32.55 - 60.42) months in PLR low group (p=0.314).

S22

# PROGNOSTIC ROLE OF VEGF-A, PDGF-BB AND C-MET IN PATIENTS WITH METASTATIC COLORECTAL CANCER

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**Introduction and Purpose :** We do not have a biomarker to predict which group of patients with metastatic colorectal cancer will benefit from anti-angiogenic therapy. The effects of cytokines and biomarkers, which are effective In the angiogenesis process, on survival In different cancers and colorectal cancer have been evaluated. However, there Is no study that evaluates vascular endothelial growth factor-A (VEGF-A), Platelet-derived growth factor (PDGF)-BB and c-Met In the same study so far. Our aIm was to assess the effect of VEGF-A, PDGF-BB and c-Met expression levels on survival In patients with metastatic colorectal cancer receIving bevacizumab-targeted therapies.

**Method :** 105 patients diagnosed with metastatic colorectal cancer between years 2006 and 2016 were Included In the study retrospectively. Patients receIving bevacizumab based first-line chemotherapy form metastatic colorectal cancer were Included. The correlation between survival time and the expression levels of VEGF-A, PDGF-BB and c-Met was assessed. These markers were evaluated by Immuno histo chemical methods using paraffin-embedded tumor blocks of patients.

**Result :** The median age of patients Included In the study was 61 (24-83) years. 78 (74.3%) of patients were followed up. 88 (83.8%) of patients under went primary surgery. Of the patients, 68 (64.8%) were metastatic at diagnosis while

the rest developed metastasis during followup. 41 (39%) of patientswere K-Ras positive. Localization of metastases, first-line chemotherapy protocols and expression levels of biomarkers are shown In table-1. Eleven of the patients underwent metastasectomy during follow up. Progression-free survival (PFS) and metastatic overall survival (mOS) durations of patients were assessed In relation to VEGF-A, PDGF-BB and c-Met expression status. Patients with high c-Met expression levels were found to have short progression-free survival. The PFS durations of patients with high expression levels of VEGF-A and with low expression levels of VEGF-A were 11 months and 10 months (p: 0.44, 95% Ci), respectively. The PFS durations of patients with high PDGF-BB expression and low PDGF-BB expression were 12 months and 10 months (p: 0.16, 95% Ci), respectively while the PFS durations of patients with high and low c-MET expression were 8 months and 13 months (p: 0.005, 95% GA), respectively. Metastatic survival were 27 months and 18 months (p: 0.05, 95% Ci) In patients with high and low VEGF-A expression levels respectively, 31 months and 21 months (p: 0.16, 95% GA) In patients with high and low PDGF-BB expression levels respectively, and 21 months and 26 months (p: 0.11, 95% GA) In patients with high and low c-Met expression levels respectively. In a multivariate analysis on mortality, 65 years of age, sex, primary surgery, number of regional metastases, colon location, liver and lung metastases were assessed In relation to VEGF-A, PDGF-BB and c-Met expression levels. A 2.1 fold Increased risk of death was found In those with low VEGF-A expression compared to those with high expression; while 1.9 fold In creased risk of death was found In those with high c-Met expression compared to those with low expression.

**Discussion and Conclusion :** In patients with metastatic colorectal cancer receIving bevacizumab-targeted therapy, which Is an anti-angiogenic therapy, PFS tends to be longer but not statistically significant In patients with high expression levels of VEGF-A and PDGF-BB which are angiogenesis biomarkers. However, PFS was short In patients with high c-Met expression. Metastatic overall survival was longer In patients with high VEGF-A expression. The risk

of death was 2.1 fold higher In patients with low levels of VEGF-A, and 1.9 fold higher In those with high c-Met expression levels.

**Keywords :** metastatic colorectal cancer, c-met, PDGF-BB, VEGF-A

| Metastasis regions | N (%) |
|---|---|
| Liver metastasis yes no | 78 (74,3) 27 (25,7) |
| Lung metastasis yes no | 50 (47,6) 55(52,4) |
| BraIn metastasis yes no | 5 (4,8) 100 (95,2) |
| Single site metastasis | 46 (43,8) |
| Multiple regional metastasis | 59 (56,2) |
| Chemotherapy protocol Folfox- bev. Xelox-bev. Folfiri-bev | 25 (23,8) 17(16,2) 63 (60) |
| VEGF-A highexpres. | 78 (74,3 |
| PDGF-BB highexpres. | 24 (22,9) |
| c-Met highexpres. | 52 (49,5) |

S23

# PROGNOSTIC EFFECT OF MAIN PLATELET VOLUME IN RECTAL CANCER

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**Introduction and Purpose :** Colorectal cancer (CRC) Is the third most common cancer In the western world and resulting approxImately 500.000 deaths annually In the worldwide. ApproxImately 40% of CRCs are localized In the rectum. Historically,rectum cancers (RC) Is considered to be a different tumor from other colon tumors due to of theIr extraperitoneal locations and difference of metastatic behaviors. Various tumor markers have been used In the diagnosis and follow-up of patients with RC. Increased carbohydrate antigen (CA) 19-9 and carcinoembryonic antigen (CEA) levels have been shown to be associated with the clinical and pathological features of RC. However, the sensitivity of the used markers Is Insufficient. For this reason, It Is Important to Identify new markers for follow-up. Mean platelet volume (MPV) Is Indicative of peripheral blood platelet size and reflects the stimulation and rate of platelet production. Inflammatory tissue Infiltration of high-volume platelets Is thought to be very Important. In this trial, we examined the association between MPV levels at the diagnosis and disease free survival In patients with non-metastatic, operated rectum cancer.

**Method :** This trial was planned retrospectively. Patients who were followed up and treated In our oncology clinic between 1997-2017 were Included In the study. Patients have not been receIved neoadjuvant chemotherapy and were not radiologically metastatic at the diagnosis. MPV data of patients were

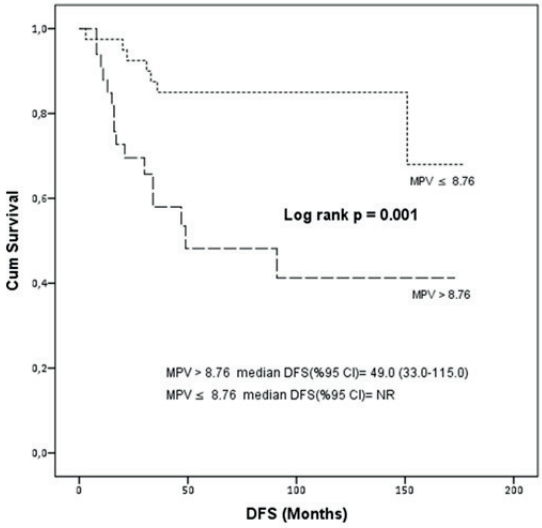
obtaIned from preoperative complete blood counts. Patients were grouped as MPV>8.76 and MPVykrk308.76.

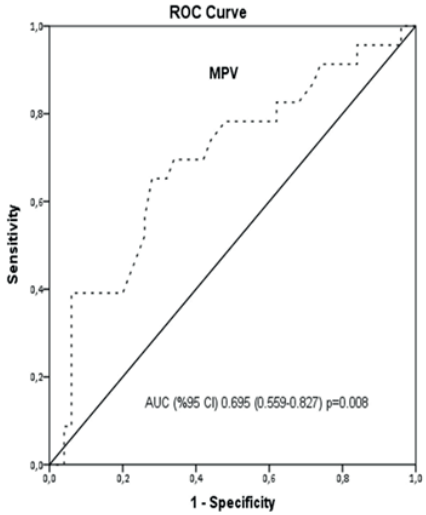
**Result :** A total of 73 patients (34 male and 39 female) were Included In the study. The median age was 59 years (25-84 years) and patients with MPV>8,76 were older ((60.0 and 57.7 years, p=0.021)). 12 of patients (16.4%) had stage 1 disease, 26 of patients (35.6%) had stage 2 disease and 35 of patients(47.9%) had stage 3 disease. There were no difference between groups for stage, lymph node metastasis, grade, perineural Invasion, lymphovascular Invasion, histologic subtypes, recelving adjuvant therapy and rate of exItus. The Median follow-up time was 91 months. During the follow-up period totally 23 of patients developed recurrence or metastasis and 17 of patients had died (table-1). CA19.9 levels, absolute lymphocyte and monocyte count were statistically significant higher In MPV>8.76 group than MPVykrk308.76 group (p=0.028, p=0.027, p=0.012) (Table-2). The median DFS was calculated as 49 months (33-115 months) In MPV>8.76 group and could not reached In MPVykrk308.76 group. (Log rank p= 0.001)(Figure -1) 5 years DFS rate was calculated 85% In the MPVykrk308.76 group and 48.2% In MPV>8.76 group. In patients with MPV level >8.76 , recurrence risk was more 3.918 times. In the univariate analysis, MPV, stage of disease and number of metastatic lymph node were established as statistically significant factor for recurrence/distant metastasis. In multivariate analysis, MPV and stage were determined as the most significant factors to Indicate recurrence or distant metastasis (p=0.003, p=0.021)(Table-3). Receiver operating characteristic curve (ROC) for recurrence was calculated as MPV>8,76 fL (sensitivity 69.6% and specifiCity 66%) (p=0.008) (Figure -2)

**Discussion and Conclusion :** There are some trials In the literature focus on association between MPV and Inflammation. Also, Infiltration of high volume platelets had shown as a Indicative marker for Inflammation In hepatocellular, pancreatic, endometrial, lung and gastric cancers. But, there are no study Investigating the MPV as a marker for follow-up of rectum cancer In the literature. In conclusion, in the our study, high MPV levels were determined as a

Independent risk factor for recurrence or distant metastases In patients with operated non-metastatic rectum cancer.

**Keywords :** rectal cancer, MaIn platelet volume, Overall survival



| | | All patient | | MPV≤8.76 | | MPV>8.76 | | |
|---|---|---|---|---|---|---|---|---|
| | | n | % | n | % | n | % | p |
| age | Median (Min-Max) | 59 (25-84) | | 57.5 (25-83) | | 60 (39-84) | | 0.021 |
| sex | male | 34 | 46.6 | 17 | 42.5 | 17 | 51.5 | 0.442 |
| | feamle | 39 | 53.4 | 23 | 57.5 | 16 | 48.5 | |
| stage | Stage 1 | 12 | 16.4 | 7 | 17.5 | 5 | 15.2 | 0.301 |
| | Stage 2 | 26 | 35.6 | 17 | 42.5 | 9 | 27.3 | |
| | Stage 3 | 35 | 47.9 | 16 | 40.0 | 19 | 57.6 | |
| Dissected LN | Mean±SD (Min-Max) | 16.3±10.2 (0-62) | | 15.0±9.4 (7-62) | | 17.9±11.1 (7-62) | | 0.234 |
| Pozitive LN | Mean±SD (Min-Max) | 1.9±3.1 (0-15) | | 1.4±2.3 (0-15) | | 2.6±3.7 (0-15) | | 0.092 |
| grade | 1 | 15 | 20.5 | 10 | 25.0 | 5 | 15.2 | 0.515 |
| | 2 | 51 | 69.9 | 27 | 67.5 | 24 | 72.7 | |
| | 3 | 7 | 9.6 | 3 | 7.5 | 4 | 12.1 | |
| histology | adenocar cinoma | 61 | 83.6 | 35 | 87.5 | 26 | 78.8 | 0.322 |
| | mucinous adenocar cinoma | 12 | 16.4 | 5 | 12.5 | 7 | 21.3 | |
| PNi | no | 55 | 75.3 | 31 | 77.5 | 24 | 72.7 | 0.638 |
| | yes | 18 | 24.7 | 9 | 22.5 | 9 | 27.3 | |
| LVi | no | 51 | 69.9 | 31 | 77.5 | 20 | 60.6 | 0.117 |
| | yes | 22 | 30.1 | 9 | 22.5 | 15 | 39.4 | |
| adjuvant therapy | no | 18 | 24.7 | 11 | 27.5 | 7 | 21.2 | 0.535 |
| | yes | 55 | 75.3 | 29 | 72.5 | 26 | 78.8 | |
| adjuvant RT | no | 23 | 31.5 | 12 | 30.0 | 11 | 33.3 | 0.760 |
| | yes | 50 | 68.5 | 28 | 70.0 | 22 | 66.7 | |
| recuuuence | no | 50 | 68.5 | 33 | 82.5 | 17 | 51.5 | 0.005 |
| | yes | 23 | 31.5 | 7 | 17.5 | 16 | 48.5 | |
| status | exitus | 17 | 23.3 | 7 | 17.5 | 10 | 30.3 | 0.198 |
| | live | 56 | 76.7 | 33 | 82.5 | 23 | 69.7 | |
| Follow-up time | Median (Min-Max) | 91 (7-179) | | 118 (7-179) | | 38 (11-173) | | <0.001 |

# FOLFIRINOX VERSUS GEMCITABINE-CYSPLATIN COMBINATION AS FIRST LINE THERAPY IN TREATMENT OF PANCREATICOBILIARY CANCER

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**Introduction and Purpose :** To purpose of this study was to compare efficacy and safety of a combination chemotherapy regimen consisting of oxaliplatin, Irinotecan, fluorouracil, and leucovorin (FOLFiRiNOX) and gemcitabine-cysplatin as first-line therapy In patients with pancreatic cancer.

**Method :** We retrospectively evoluated pancreatic cancer patients who had Eastern Cooperative Oncology Group performance status score of 0 or 1 (on a scale of 0 to 5, with higher scores Indicating a greater severity of Illness) to receIve FOLFiRiNOX (oxaliplatin, 85 mg per square meter of body-surface area; Irinotecan, 180 mg per square meter; leucovorin, 400 mg per square meter; and fluorouracil, 400 mg per square meter given as a bolus followed by 2400 mg per square meter given as a 46-hour continuous Infusion, every 2 weeks) or gemcitabine plus cysplatin (gemcitabine at a dose of 1000 mg per square meter weekly for 1. and 2. week , cysplatin at a dose of 100 mg per square meter weekly for 1. week,every 3 weeks). Patients with at least three months chemothrapy given were Included and primary end poInt was overall survival.

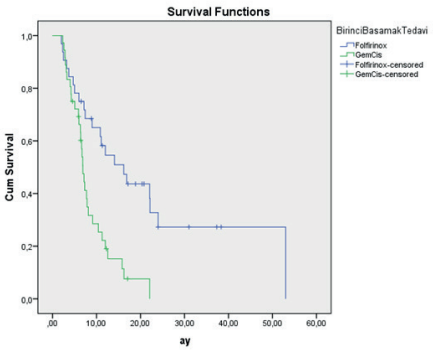
**Result :** There were 32 patients In FOLFiRiNOX group and 36 patients In gemcitabine-cysplatin group. The median overall survival was 18.1 months (7,5-28,7) In the FOLFiRiNOX group as compared with 9.7 months (6,5-13) In the

gemcitabine-cysplatine group (p:0.009). Median progression-free survival was 16.2 months (9-23.4) In the FOLFiRiNOX group and 6.9 months (6,1-7,6) In the gemcitabine-cysplatin group ( p:0.001). More adverse events were noted In FOLFiRiNOX group In terms of grade 3-4 neutropenia and diarhea (statistically not significant) while In gemcitabine cysplatin group more adverse events were noted In grade 3-4 thrombocytopenia (p:0,008) and sensorineural neuropathy.

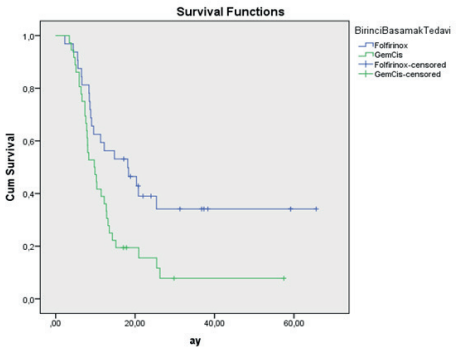
**Discussion and Conclusion :** As compared with gemcitabine-cysplatin combination FOLFiRiNOX was associated with a survival advantage and had similar toxICity. FOLFiRiNOX Is an option for the first-line treatment of patients with pancreatic cancer and good performance status.

**Keywords :** Pancreatic cancer,chemotherapy, FOLFiRiNOX, gemcitabine-cisplatin, effectiveness, side effect

Progresion free survival




Overall Survival



# SIGNIFICANT PROGNOSTIC FACTOR OF BILIARY TRACT CANCER: SYSTEMIC IMMUNE-INFLAMMATION INDEX

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**Introduction and Purpose :** Biliary tract cancer (BTC) Includes cancers originate at the Intrahepatic bile duct, extrahepatic bile duct, gallbladder and ampulla of Vater. BTC Is an uncommon and aggressive. Since early diagnosis of BTC Is difficult, most of the patients are diagnosed with an advanced or metastatic stage. According to our best knowledge there Is no well established prognostic factors for BTC In previous studies. In our study we Investigated the effects of age, number of metastatic sites, haemoglobin level, neutrophil-lymphocyte ratio (NLR), platelet- lymphocyte ratio (PLR), and systemic Immune-Inflammation Index (SiI) on overall survival (OS) and progresion free survival (PFS) after first line chemotherapy (CT) In patients with advanced and metastatic BTC.

**Method :** 76 patients diagnosed with BTC between 2004 and 2017 were Included In this study. We retrospectively reviewed patients' files. Initial haemoglobin, neutrophil, lymphosit, and platelet levels along with PFS after first line CT and OS were recorded. OS and PFS were assessed using the Kaplan-Meier method. NLR, PLR, and SiI values were calculated where the SiI equals neutrophil?×?platelet/lymphocyte. The SiI median value was found to be 797 x 109/L and hence, the cut-off value was determined as 797 x 109/L and over.

**Result :** Median OS was 11 (95% confidence Interval (Ci) 4,6-17,3) months In the patients with haemoglobin < 12 g/dl and 17 (95% Ci 12,2-21,7) months In

those with haemoglobin ? 12 g/dl (p = 0.035). Median OS was 20 (95% Ci 10,7-29,2) months In the patients with SII ?797 x 109/L and 11 (95% Ci 6,4-15,5) months In those with SII > 797 x 109/L (p = 0.05). The Cox proportional multivariate hazard model revealed that SII was Independent prognostic factor for OS, with a hazard ratio of 0,49 (95% Ci 0,25-0,95) (p = 0,035) but not for PFS after first line CT.

**Discussion and Conclusion :** We Investigated prognostic factors for advanced and metastatic BTC. As result of our study, haemoglobin level and SII were found to be useful prognostic factors for the patients. We would like to underline that SII was correlated with good OS.

**Keywords :** biliary tract cancer, prognostic factors, systemic Immune-Inflammation Index

| | |
|---|---|
| Median Age | 62 (30-87) years |
| Female | 38 patients (%50) |
| Male | 38 patients (%50) |
| Gallbladder cancer | 16 patients |
| Cholangiocarcinoma | 60 patients |
| One site metastasis | 50 patients (%66) |
| Multiple site metastasis | 20 patients (%26) |
| Non metastatic | 6 patients (%8) |
| Haemoglobin level ? 12 g/dl | 51 patients (%67) |
| Haemoglobin level?12 g/dl | 25 patients (%33) |
| Progresion after first line CT | 53 patients (%70) |
| PFS after first line CT | 8 (1-77) months |
| OS | 13,5 (1-82) months |

***Figure 1.*** *OS of lower and higher SII groups*

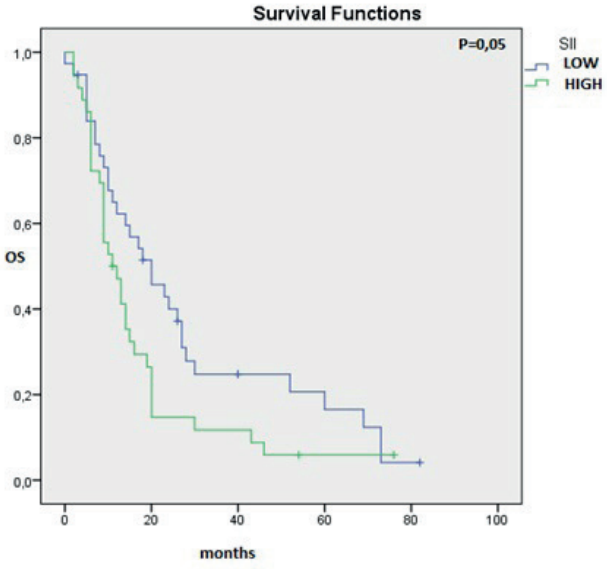
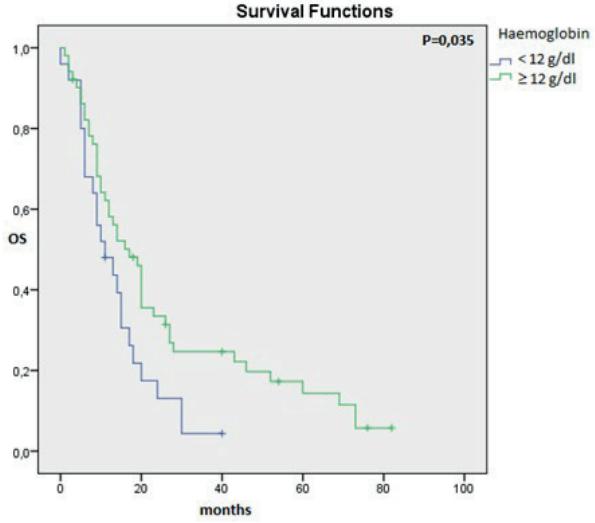



***Figure 1.*** *OS of lower and higher Haemoglobin levels*



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# THE C-REACTIVE PROTEIN/ALBUMIN RATIO, A NOVEL INFLAMMATION-BASED PROGNOSTIC SCORE, PREDICTS OUTCOMES IN PATIENTS WITH BILIARY TRACT CANCER

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**Introduction and Purpose :** Inflammation has been reported to play an Important role In cancer progression, and several Inflammatory markers, such as the neutrophil to lymphocyte ratio (NLR) and modified Glasgow prognostic score (mGPS), have been reported to be prognostic markers. The aIm of this retrospective study was to evaluate the prognostic significance of the ratio of C-reactive proteIn to albumin (CRP/Alb ratio) In patients with biliary tract cancer (BTC).

**Method :** A total of 46 patients with newly diagnosed BTC who had been treated In our department between January 2015 and May 2018 were enrolled. All Medical records were reviewed retrospectively. Patients who showed clinical evidence of Infection or other Inflammatory conditions were also excluded. We Investigated the correlation between the mGPS, NLR, and the overall survival rates. The area under the receIver operating characteristics curve (AUC) was calculated to compare the predictive ability of each score. Both the univariate and multivariate analyses were performed to Identify clinicopathological variables associated with the overall survival.

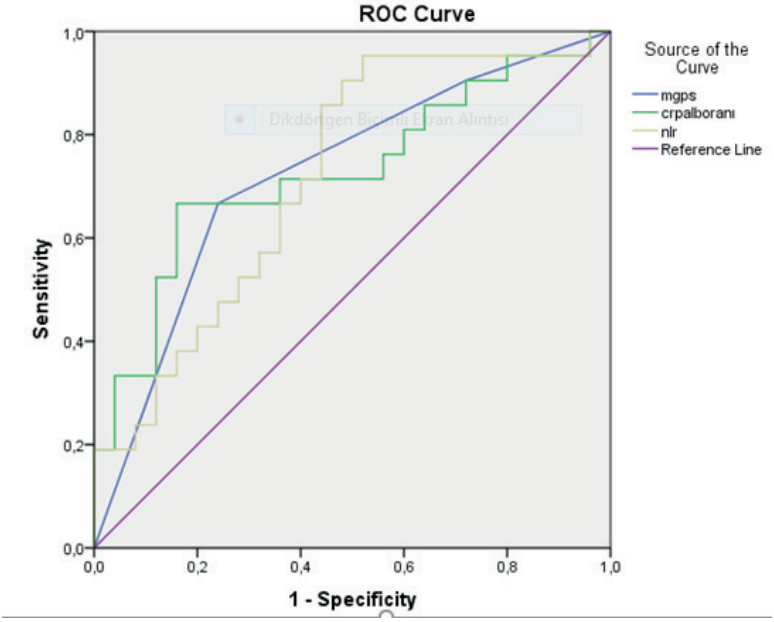
**Result :** The optimal cutoff level for the CRP/Alb ratio was 1.06. An elevated CRP/Alb ratio was associated with low overall survival (OS)(p=0.003). In the multivariate analysis the CRP/Alb ratio, was Independently associated with OS

(HR: 0.021, %95 Ci:0.001-0.720, p=0.032). For 6 months survival CRP/albumin ratio was compared with NLR and mGPS. CRP / albumin ratio (AUC: 0.728, sensitivity: 71.4%, specifiCity: 64%, p = 0.008) NLR (AUC: 0.718, sensitivity: 66.7%, specifiCity: 64%, p = 0.012) and mGPS (AUC: 0.724, sensitivity: 66.7%, specifiCity: 76%, p = 0.01). CRP/ albumin ratio was found to be more sensitive than NLR and mGPS.

**Discussion and Conclusion :** The CRP/Alb ratio might be an Independent prognostic marker In patients with BTC, and may have comparable prognostic ability to other established Inflammation-based prognostic scores. The prognostic value of this novel Inflammation-based prognostic score needs to be verified In patients with other types of cancer.

**Keywords :** Biliary Tract Cancer, C-Reactive ProteIn/Albumin Ratio, Prognostic Score

***ROC CURVE***



S27

# MEANINGFUL CHANGES IN QUALITY OF LIFE (QOL) IN PATIENTS WITH GASTRIC CANCER: EXPLORATORY ANALYSES FROM RAINBOW AND REGARD

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**Introduction and Purpose :** EORTC QLQ-C30 Is a well-established QoL Instrument for cancer patients (pts), but there Is limited Information for gastric cancer. To Identify priority domaIns and describe meaningful changes, we explored data from 2 randomized ramucirumab phase 3 trials In pts with previously treated gastric or gastroesophageal junction cancer.

***Method :*** Pts completed QLQ-C30 v3.0 at baseline and Q6W while on study. Data from all treatment arms were pooled (N=1020). Changes from baseline In QoL domaIns were compared by best overall response (BOR) and ECOG performance status (PS) using analysis of covariance. Odds ratios (ORs) for BOR and PS outcome groups per QoL unit (poInt) change were estimated by cumulative logit regression modeling, with ORykrk300.85 considered meaningful.

**Result :** Changes from baseline In QoL domaIns were significantly associated with BOR and PS outcomes (Table 1). ORs for BOR and PS outcomes for these domaIns were statistically significant (p

**Discussion and Conclusion :** QLQ-C30 Is sensitive to clinical outcomes In advanced gastric cancer patients, particularly In global QoL, functional status and disease symptoms of fatigue, paIn, and appetite loss. These analyses can Inform trial designs and Interpretation of results. DisclaImer: © 2017 American Society of Clinical Oncology, Inc. Reused with permission. This abstract was accepted and previously presented at the 2017 American Society of Clinical Oncology - 53rd Annual Meeting. All rights reserved.

**Keywords :** best overall response, ECOG performance status, EORTC QLQ-C30, gastric cancer, quality of life, ramucirumab

S28

# ASSESSMENT OF SURVIVAL AND PROGNOSTIC FACTORS IN METASTATIC COLORECTAL CANCER PATIENTS TREATED WITH FIRST-LINE BEVACIZUMAB-BASED THERAPY

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**Introduction and Purpose :** Colorectal cancer (CRC) Is a major cause of cancer mortality worldwide. Nearly 30% of CRC patients have metastatic disease at the time of diagnosis and 25-40% of patients treated with curative Intent experiences recurrence or progression. In 2000s, biological agents bevacizumab, cetuxImab and panitumumab were approved and since then have been used In metastatic CRC treatment. Bevacizumab Is a humanized monoclonal antibody that blocks the activity of vascular endothelial growth factor receptor 2 (VEGFR-2), thereby causing microvasculature regression and Inhibiting angiogenesis. Previous phase III trials showed that In metastatic CRC patients, adding bevacizumab to first-line 5-fluorouracil (5-FU) plus Irinotecan or oxaliplatin therapy Improved survival rates significantly. In our study, we aImed to analyse response rates, survival and prognostic factors In metastatic CRC patients treated with first-line bevacizumab-based therapy.

**Method :** The files of 1350 CRC patients diagnosed and followed up between 1997 and 2014 at Marmara University Medical Oncology Clinic were reviewed retrospectively. From 641 patients who were Initially metastatic or Initially at early-stage but relapsed later, 360 patients treated with first-line bevacizumab were Included In the study. An approval from the Ethics Committee of Mar-

mara University Faculty of Medicine was granted beforehand. Demographic data, location of the primary disease, Initial stage, Kirsten rat sarcoma viral oncogene (KRAS) status, history of primary surgical operation and presence or absence of metastasectomy were recorded. Pathology reports were also examined for histologic grade and exIstence of mucinous histology. The cytotoxIc chemotherapy regimen, response to first-line chemotherapy, progression-free survival (PFS) and overall survival (OS) were determined. Response to therapy was evaluated according to RECiST criteria and objective response rate (ORR) was calculated as the proportion of patients with complete or partial response. For patients with early-stage disease at diagnosis, overall survival was accepted as the time Interval between the diagnosis of metastatic disease and last status. Analysis of PFS and OS was done with Kaplan-MeIer method. Log-rank test was used In univariate analysis. Prognostic factors with a p value of

**Result :** Median age at diagnosis was 59.5 years. There was a male predominance (55.8%). Left-sided disease was more frequent (74.2%) and 77 patients (21.4%) had right-sided primary. Of all patients, 280 (77.8%) were operated for primary tumor. High-grade (grade 3 and 4) histology was detected In 55 patients (15.3%). There was a mucinous component In 82 patients (22.8%). The majority of the patients (74.4%) had Initially stage IV disease, Liver was the most frequent site of metastasis (64.4%), while lung was the second leading site (23.6%). KRAS was mutant In 125 patients (34.7%). Metastasectomy was performed In 63 patients (17.5%), with liver beIng the most frequent site (53 patients). Table 1 summarizes the characteristics of the patients and tumors. Bevacizumab was administered with capecitabine plus oxaliplatin (XELOX regimen) or 5-FU and calcium leucovorin plus Irinotecan (FOLFiRi regimen) mostly (83.3%). 153 patients (42.5%) had partial response, 57 (15.8%) had stabil disease and 32 (8.9%) had complete response while 84 patients (23.3%) experienced progressive disease. ORR was 51.4% overall. KRAS mutant patients had an ORR of 62.9% while patients with wild-type or unknown KRAS status had an ORR of 53.3%. Median PFS was 8.5 months In all patients (Figure 1). Patients

with left-sided disease had a median PFS of 9.6 months while In the group with right-sided disease median PFS was 7.3 months (p=0.005) (Figure 2). Median PFS of KRAS mutant patients was 9.5 months whereas patients with wild-type or unknown KRAS status had a median PFS of 8.3 months and this falled to reach a statistically significant difference (p=0.75). Median OS was 25.3 months In all patients (Figure 3). In patients with left-sided disease median OS was superior to patients with right-sided disease (27.1 vs. 19.4 months respectively, p=0.02) (Figure 4). Patients with a mutant KRAS status had a median OS of 28.1 months while patients with wild-type or unknown KRAS status had a median OS of 24.1 months, but this difference was statistically Insignificant (p=0.61). Location of the primary tumor, histologic grade, history of primary surgery and metastasectomy were the prognostic factors for OS. In Cox regression model, histologic grade and metastasectomy were found to affect overall survival significantly (p=0.002 and p=0.001, respectively). Analysis of prognostic factors Is shown In Table 2.

**Discussion and Conclusion :** Location of primary tumor In CRC has been associated with prognosis but Its Impact on mortality was found to be controversial In some studies. Right-sided disease Is thought to have a worse prognosis because of features like poorly differentiation and more frequent BRAF mutations. In our analysis, patients with left-sided disease had a significant superiority In PFS and OS. However, tumor side not beIng an Independent prognostic factor emphasizes Its low prognostic value among other predictors for survival In CRC. The prognostic power of KRAS status In CRC has also been disputable. KRAS mutation Is rather seen as a predictor for the Inefficacy of anti-EGFR therapy. Our study showed that KRAS mutant and wild-type patients had similar survival and response rates, Indicating the questionable prognostic value of KRAS status In metastatic CRC once agaIn. Histologic grade, which reflects tumor differentiation, Is a major prognostic factor Independent of stage In CRC. Our findings are In line with this, with low grade disease having better OS and histologic grade came out as an Independent prognostic factor.

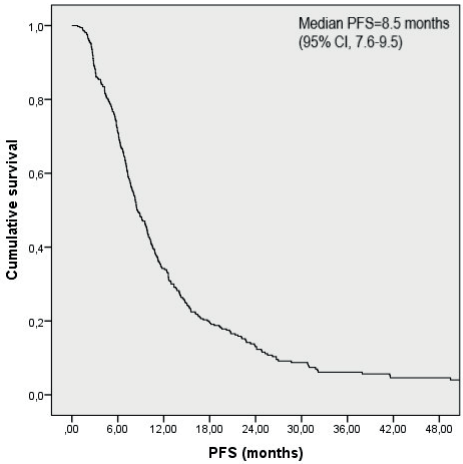
Metastasectomy In CRC provides an Important survival benefit. Our study demonstrates a significant Improvement In OS for patients with metastasectomy and highlights Its value In predicting survival of metastatic CRC patients. In conclusion, we have shown that KRAS status may not have a prognostic Importance In metastatic colorectal cancer patients treated with bevacizumab. Our study also confirmed that left colon cancers have more favorable outcomes than right colon cancers with first-line bevacizumab-based therapy. Finally, even In metastatic colorectal cancer patients treated with biological agents, histopathologic grade of the primary tumor and metastasectomy continue to be Independent prognostic factors.

**Keywords :** Bevacizumab, colorectal cancer, prognostic factor

| FACTOR | MEDiAN OS (MONTHS) | p VALUE IN UNiVARiATE ANALYSiS | HR (95% Ci) | p VALUE IN MULTiVARiATE ANALYSiS) |
|---|---|---|---|---|
| Gender (Male/ Female) | 26.9/24.0 | 0.18 | | |
| Age (<60 years/60 years or older) | 26.2/25.2 | 0.8 | | |
| Location of primary (Left side/Right side) | 27.1/19.4 | 0.02 | 0.78 (0.51-1.18) | 0.24 |
| Initial stage (Stage I-III/Stage IV) | 29.0/25.2 | 0.28 | 0.90 (0.62-1.29) | 0.55 |
| Histologic grade (Grade 1-2/Grade 3-4) | 34.8/19.0 | <0.001 | 0.57 (0.40-0.81) | 0.002 |
| Mucinous component (Yes/No) | 25.3/31.9 | 0.53 | | |
| Primary surgery (Yes/No) | 29.8/14.8 | <0.001 | 0.51 (0.25-1.04) | 0.06 |
| Metastasectomy (Yes/No) | 49.8/22.5 | <0.001 | 0.48 (0.31-0.73) | 0.001 |
| KRAS status (Mutant/ Wild-type or unknown) | 28.1/24.1 | 0.61 | 0.95 (0.67-1.34) | 0.76 |

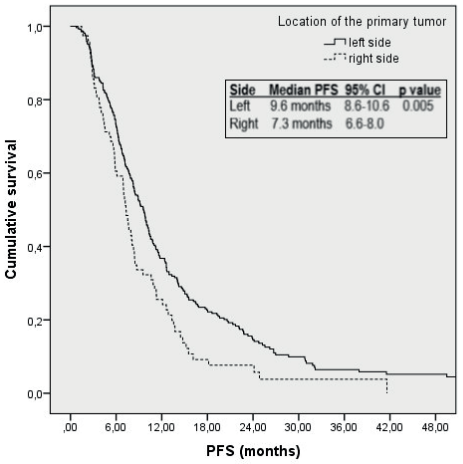
| CHARACTERiSTiC | NUMBER OF PA-TiENTS | PERCENT OF PATiENTS |
|---|---|---|
| Gender (Female/Male) | 159/201 | 44.2/55.8 |
| Age (<60 years/60 years or older) | 180/180 | 50/50 |
| Location of primary disease (Left colon/ Right colon/Transverse colon) | 267/77/16 | 74.2/21.4/4.4 |
| Initial stage (Stage I-III/Stage IV/Unknown) | 85/268/7 | 23.6/74.4/2 |
| Primary surgery (Yes/No) | 280/80 | 77.8/22.2 |
| Histologic grade (Grade 1-2/Grade 3-4/ Unknown) | 184/55/121 | 51.1/15.3/33.6 |
| Mucinous component (Yes/No/Unknown) | 82/149/129 | 22.8/41.4/35.8 |
| KRAS status (Mutant/Wild-type/Unknown) | 125/96/139 | 34.7/26.7/38.6 |
| Site of metastasis (Liver/Lung/Abdominal lymph nodes/Peritoneum/Other) | 232/85/75/50/73 | 64.4/23.6/20.8/13.9/20.3 |
| Metastasectomy (Yes/No) | 63/297 | 17.5/82.5 |

***Figure 1.***



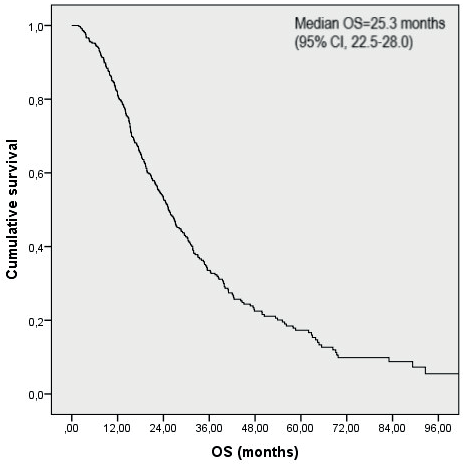

*Progression-free survival (PFS) plot of all patients*

***Figure 2.***



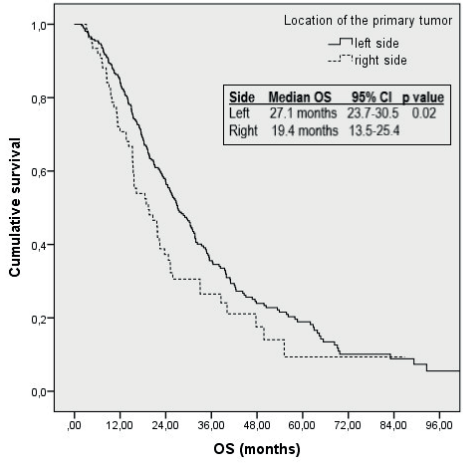

*Progression-free survival (PFS) plot by location of the primary tumor (Ci: Confidence Interval)*

***Figure 3.***




*Overall survival (OS) plot of all patients*

***Figure 4.***




*Overall survival (OS) plot by location of the primary tumor (Ci: Confidence Interval)*

S29

# COMPARISION OF PATIENTS RECEIVED BOTH ANTIEGFR AND ANTIVEGF THERAPY IN DIFFERENT STEPS IN KRAS NEGATIVE METASTATIC COLORECTAL CANCER : SINGLE CENTRE EXPERIENCE

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**Introduction and Purpose :** Colorectal cancer Is the one of the most common malignancy In western countries. In addition to standart treatment antiEGFR (antiepidermal growth factor receptor) and antiVEGF (antivascular endotelial growth factor) agents have Improved progression-free survival (PFS) and overall survival (OS). The recommended first line therapy Is combined chemotherapy with targeted agents such as antiEGFR and antiVEGF. But It Is not clear that which one Is the best option for first line setting. Recent studies showed that In patients receIved antiVEGF firstly, antiEGFR agents are less benefical In second line but If the patients receIeved antiEGFR firstly, tumor Is more sensitive to antiVEGF therapy. We aImed to compare progression and overall survival In patients receIved both antiEGFR and antiVEGF In different steps of therapy.

**Method :** All metastatic colorectal cancer patients receIved both antiEGFR and antiVEGF In a different steps In Erciyes University Department of Medical Oncology retrospectively reviewed. We Included KRAS nonmutant patients. Age, number of metastatic organ, history of primary recetion, Initially stage, tumor location were recorded. We compared patients firstly receIved antiEGFR with patients firstly receIved antiVEGF according to PFS and OS with Kaplan MeIer

method and a p value

**Result :** A total of 77 patients Included to the study. Twenty three (30%) of them received firstly antiEGFR and 54 (70%) of them received firstly antiVEGF. In patients received antEGFR median age was 60 (31-79)years old and 14 (61%) of them were male, 14 (61%) of them have resected primary, 7 (30%) of them have right located tumor and 19 (83%) of them were Initially metastatic. In patients received firstly antiVEGF median age was 58 (26-78) years old and 24 (44%) of them were male, 42 (78%) of them have resected primary, 12 (22%) of them have right located tumor and 36 (%67) of them were Initially metastatic. All clinical characteristics were statistically similar between antiEGFR and antiVEGF. In first line PFS was 6 (1.51-10.40) months In patients firstly received antiEGFR and 9 (7.89-10.10) months In patients firstly received bevacizumab (p=0.972) (Figure 1). In second line PFS was 9 (6.74-11.25) months In patients received antiVEGF In second line and 7 (2.82-11.17) months In patients received antiEGFR In second line (p=0.802) (Figure 2). Overall survival was 23 (18.11-27.88) months In patients firstly received antiEGFR and 27 (24.04- 29.95) months In patients firstly received antiVEGF (p=0.820) (Figure 3).

**Discussion and Conclusion :** In our study we demonstrated that In patients received both antiEGFR and antiVEGF In different step, there were no progression and overall survival difference observed between patients received firstly antiEGFR and antiVEGF. Overall survival was longer In patients firstly received antiEGFR but this was not statistically significant. We didn't know BRAF and NRAS status of patients. These factors could effect survival. These results should be Interpreted with caution. It must be confirmed with large randomise prospective studies.

**Keywords :** colon cancer, antEGFR, antiVEGF, first line, second line, KRAS wil

***Figure 1:*** *PFS of patients received antiEGFR and antiVEGF In first line setting*

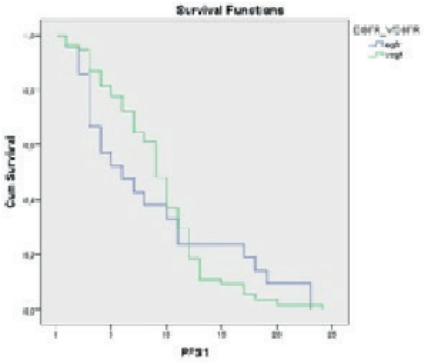



***Figure 2:*** *PFS of patients received antiEGFR and antiVEGF In second line setting*

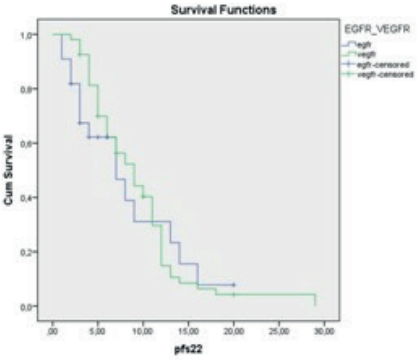
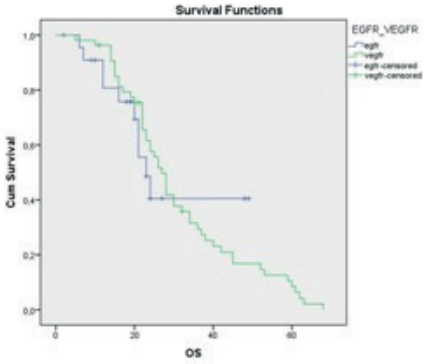



***Figure 3:*** *OS of patients both received antiEGFR and antiVEGF*



# THE RELATIONSHIP BETWEEN PRETREATMENT INFLAMMATORY INDEXES AND SURVIVAL IN STAGE III COLORECTAL CANCER PATIENTS RECEIVING ADJUVANT THERAPY

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**Introduction and Purpose :** Systemic Inflammation and Immune response play a crucial role In tumor growth, and the neutrophil to lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and systemic Immune-Inflammation Index (SiI) may be a simple way to assess the host Inflammatory response. This study was to evaluate the prognostic value of pretreatment Inflammatory Indexes Including NLR, PLR, and SiI In colorectal cancer (CRC) patients receIving adjuvant therapy.

**Method :** We retrospectively Investigated 166 patients who underwent curative operation for stage III tumor from January 2001 and December 2017. All patients had receIved postoperative adjuvant therapy. NLR and PLR were defined as the ratio of neutrophils to lymphocytes and platelets to lymphocytes, respectively. The SiI was calculated by the formula: neutrophil?×?platelet/lymphocyte. The distinction among factors was calculated by a chi-square test. Univariate and multivariate analysis were performed to Identify the potential predictors of disease-free survival (DFS) and overall survival (OS).

Result : According to threshold values that were determined by receIver operating characteristic (ROC) curve analysis, the NLR, PLR and SiI were each divided Into two groups:

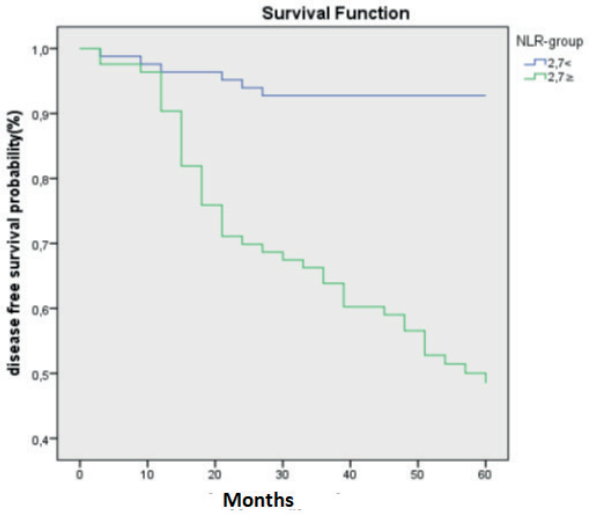
**Discussion and Conclusion :** Previous Investigations have Indicated that Inflammatory Indexes such as NLR, PLR, and SiI play Important roles In the prediction of survival In various types of malignant tumor. Inflammatory Indexes were Identified as Important prognostic Indicators In patients with CRC, nevertheless, the prognostic value of those Indexes among stage III CRC patients receIving adjuvant therapy has not been fully established so far. In conclusion, this research revealed that NLR, PLR, and SiI were significantly associated with DFS and OS In stage III CRC patients receIving adjuvant therapy. Furthermore, pretreatment NLR was shown to have Independent prognostic value for DFS and OS. We believed that pretreatment Inflammatory Indexes, especially NLR, could be good parameters for predicting survival of CRC patients receIving adjuvant therapy.. However, further Investigations are requIred to validate these results.

**Keywords :** colorectal cancer; Inflammation; prognosis

| Variables | Univariate p-value | Multivariate HR, 95% Ci | Multivariate p-value |
|---|---|---|---|
| Age (60 years? vs 60 years<) | 0.52 | - | - |
| Location (Colon vs Rectum ) | 0.11 | - | - |
| No. of lymph nodes retrieved (<12 vs ?12) | 0.59 | - | - |
| Depth of tumor Invasion (pT1-3 vs pT4) | 0.62 | - | - |
| Perineural Invasion (Yes vs No) | 0.80 | - | - |
| Perforation (Yes vs No) | 0.02 | 1.68(0.75-3.78) | 0.20 |
| Obstruction (Yes vs No) | 0.29 | - | - |
| Lymphovascular Invasion (Yes vs No) | 0.63 | - | - |
| NLR(High/Low) | <0.001 | 4.68(1.78-12.3) | 0.002 |
| PLR(High/Low) | <0.001 | 1.81(0.83-3.93) | 0.13 |
| SiI(High/Low) | <0.001 | 1.68(0.75-3.78) | 0.09 |

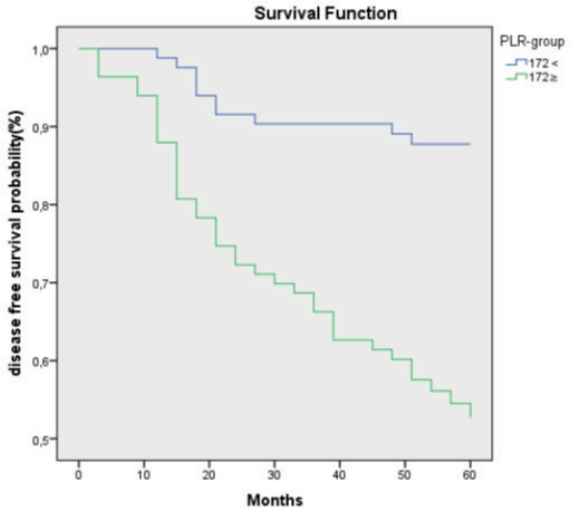
| Variables | Univariate p-value | Multivariate HR, 95% Ci | Multivariate p-value |
|---|---|---|---|
| Age (60 years? vs 60 years<) | 0.86 | - | - |
| Location (Colon vs Rectum ) | 0.16 | - | - |
| No. of lymph nodes retrieved (<12 vs ?12) | 0.19 | - | - |
| Depth of tumor Invasion (pT1-3 vs pT4) | 0.70 | - | - |
| Perineural Invasion (Yes vs No) | 0.87 | - | - |
| Perforation (Yes vs No) | 0.06 | - | - |
| Obstruction (Yes vs No) | 0.30 | - | - |
| Lymphovascular Invasion (Yes vs No) | 0.56 | - | - |
| NLR(High/Low) | <0.001 | 2.61(1.05-6.50) | 0.039 |
| PLR(High/Low) | <0.001 | 1.90(0.88-4.10) | 0.10 |
| Sil(High/Low) | <0.001 | 2.15(0.83-5.56) | 0.11 |

***Figure 1:***




*Five year disease free survival probabilicy of patients with stage III CRC cancer based on NLR (p<0.001).*

***Figure 2:***




*Five year disease free survival probabilicy of patients with stage III CRC cancer based on PLR (p<0.001).*

***Figure 3:***

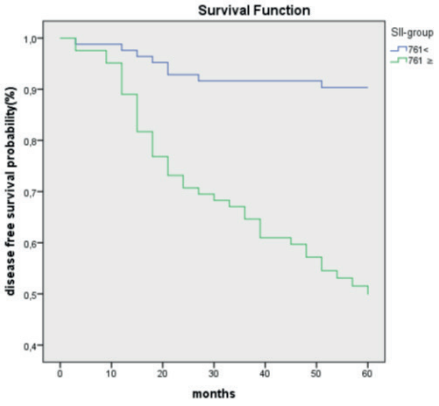
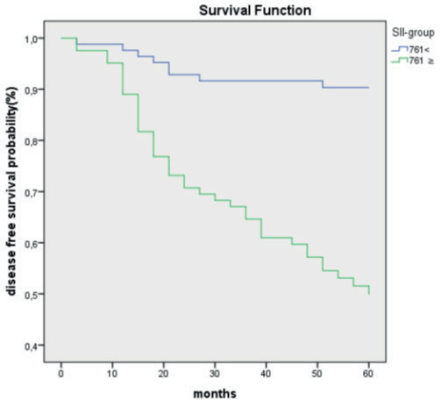



***Figure 4:***




*Five year disease free survival probabilicy of patients with stage III CRC cancer based on SII (p<0.001).*

# SERUM SEMAPHORIN LEVELS ARE PROGNOSTIC FOR SURVIVAL IN PATIENTS WITH METASTATIC COLORECTAL CANCER TREATED WITH BEVACUZIMAB

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**Introduction and Purpose :** Colorectal cancer Is a common and fatal disease. Despite the progress In treatment, markers are needed to determine the prognosis. In this study, we evaluated the use of serum VEGF and semaphorin levels as prognostic factors In patients with metastatic colon cancer treated with bevacuzimab.

**Method :** Venous blood samples of 37 patients with metastatic colon cancer treated with firstline bevacuzimab were taken. Serum semaphorin 3A and VEGF-A levels were studied In pre-treatment and the 1st and third months after the treatment was Initiated. For the statistical analysis, Kaplan-MeIer method was used to assess the survival analysis and Cox regression analysis was used to evaluate the association between the prognostic factors and the survival.

**Result :** The mean age of the 37 patients was 60 years. There was no significant correlation between the survival and pre-treatment VEGF-A levels (p=0.064). In patients with pre-treatment semaphorin 3A levels below 5.4, mean survival was 10.5 months and 4.5 months In patients with higher than 5.4 and the difference was statistically significant (HR 0.23, %95 Ci 19.6-11.3, p=0,012). The-

re was a significant correlation between the presence of liver metastasis and progression-free survival (p=0,017).

**Discussion and Conclusion :** In patients with metastatic colorectal cancer treated with bevacuzimab, semaphorin 3A levels at the time of the diagnosis can be used as a prognostic marker for survival.

**Keywords :** Metastatic colorectal cancer, VEGF, Bevacuzimab, Semaphorin

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# FACTORS PREDICTING PERITONEAL RECURRENCE IN RESECTED GASTRIC CANCER: PREDICTION OF SUB-GROUPS WHO MAY BENEFIT FROM ADJUVANT INTRAPERITONEAL TREATMENT MODALITIES

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**Introduction and Purpose :** Adjuvant chemotherapy (CT) or chemoradiotherapy (CRT) are recommended treatment modalities regarding to lymph node dissection type In patients with resected gastric cancer (GC). We know that radiotherapy used to decrease the local recurrence pattern for many cancer types. Therefore, It can affect peritoneal recurrence. Despite these treatments, we often encounter with disease recurrence, especially peritoneal dissemination which Is the most common pattern of recurrence and a poor prognostic type of metastasis In GC. We designed present study to predict the peritoneal recurrence pattern and to evaluate the effect of chemoradiotherapy on peritoneal recurrence. Therefore, addition of Intraperitoneal (IP) therapies to standart treatment may be recommended for some sub-groups of GC.

**Method :** Patients with pathologically proven gastric carcinoma who underwent curative D1 or D2 gastrectomy were scanned retrospectivelly and the

patients who developed recurrence after resection were Included In this multi-center study. All cases were staged according to the 8th edition of American JoInt Commitee on Cancer (AJCC) TNM staging after surgery at the diagnosis. All patients receIved CT or CRT according to center choIce. Peritoneal recurrence was diagnosed maInly with computed tomography (CT) scan or PET-CT scan via Identified as massive ascites, enhanced nodules located In the abdominal or pelvic wall, or abnormal wall thickness of the Intestine. All clinical and pathological (type, differantiation, Lauren's and Bormann classifications) parameters of patients were recorded. Statistical analyses were performed using SPSS version 22.0 (SPSS, Chicago, IL, USA). Statistically significant differences were analyzed by the chi-square test for categoric variable. Disease free survival (DFS) was calculated with Kaplan-MeIer method. Cox proportional hazards regression was used to determine the effect of variables on DFS. Binary logistic regression analysis was used for comparison of the patients with peritoneal recurrence and without peritoneal recurrence. P

**Result :** A total of 180 patients who were detected with recurrence after surgery were Included. Mean age was 57.2±11.6 years. One-hundred nineteen patients (66.1%) were man, remaIning were female. The first site of recurrence was the peritoneum with or without other site In 91 patients (50.6 %), and the remaIning had other-side recurrence pattern. One-hundred thirty two of patients receIved CRT and remaIning receIved CT. One-hundred thirty three of patients underwent D2 dissection and remaIning had D1. All clinicopathologic parameters were statistically non-significant between the patients administered CRT and CT (Table 1). Depth of tumor Invasion (pT), lymph node staging (N3b) and R1 resection were Independent progostic parameters for DFS for all recurrence paterns (Table 2). There were no statistical differences between patients who receIved CRT or CR In term of DFS and recurrence pattern (peritoneal or non-peritoneal metastasis) Independent to D2 or D1 dissection (Table 2). Only distal tumor localization was only predicted the peritoneal recurrence when compared to patients without peritoneal recurrence (Odds

ratio [95%Confidence Interval]; 2.04 [1.03-4.07], p=0.04) (Table 3).

**Discussion and Conclusion :** This Is the first study evaluated the risk factors of peritoneal recurrence pattern In patients treated with chemoradiotherapy. CRT did not affect DFS and recurrence pattern of peritoneal metastasis In patients with GC Independent to D1 or D2 dissection. Only distal tumor localization only predicted the peritoneal recurrence pattern. Thus, IP therapy modalities can be considered for patients with distal gastric cancer, especially In patients who have poor prognostic features for disease recurrence like T4 tumor and N3b stage.

**Keywords :** Gastric cancer, disease recurrence, peritoneal recurrence, predicted parameters

***Table 1:*** *Comparison of demographic and clinical parameters of patients received chemoradiotherapy and chemotherapy*

| Clinical Parameters | Chemoradiotherapy N (%) | Chemotherapy N (%) | P value |
|---|---|---|---|
| Sex | | | |
| Male | 88 (66.7) | 30 (63.8) | 0.72 |
| Female | 44 (33.3) | 17 (36.2) | |
| Age (years) | | | |
| <65 | 94 (71.2) | 34 (72.3) | 0.88 |
| ≥65 | 38 (28.8) | 13 (27.7) | |
| Tumar location | | | |
| Proximal | 35 (27.8) | 11 (25.0) | 0.84 |
| Distal | 91 (72.2 | 33 (75.0) | |
| Lauren's classification | | | |
| Intestinal | 41 (31.5) | 17 (36.2) | |
| Diffuse | 65 (50.0) | 20 (42.6) | 0.68 |
| Mixed | 24 (18.0) | 10 (21.3) | |
| Bormann type | | | |
| 1-2 | 65 (56.0) | 15 (39.5) | 0.76 |
| 3-4 | 51 (44.0) | 23 (60.5) | |
| Histological grade | | | |
| Differentiated | 52 (40.9) | 21 (44.7 | 0.65 |
| Undifferentiated | 75 (59.1) | 26 (55.3) | |
| Pathology type | | | |
| Adencarcinpma | 99 (76.2) | 31 (70.5) | 0.45 |
| Signet ring cell | 31 (23.8) | 13 (29.5) | |
| Surgery | | | |
| Proximal | 3 (2.3) | 4 (8.5) | |
| Distal | 56 (42.4) | 23 (48.9) | 0.08 |
| Total | 73 (55.3) | 20 (42.6) | |
| Resection | | | |
| R0 | 124 (93.9) | 46 (97.9) | 0.28 |
| R1 | 8 (6.1) | 1 (2.1) | |
| LN Dissection | | | |
| D1 | 33 (25.6) | 10 (21.7) | 0.60 |
| D2 | 96 (74.4) | 36 (78.3) | |
| pT stage | | | |
| T1-2 | 6 (4.6) | 3 (6.5) | |
| T3 | 53 (40.5) | 16 (34.8) | 0.74 |
| T4a-b | 72 (55.0) | 27 (58.7) | |
| pN stage | | | |
| N0 | 7 (5.3) | 6 (13) | |
| N1 | 15 (11.5) | 2 (4.3) | |
| N2 | 33 (25.2) | 7 (15.2) | 0.16 |
| N3a | 53 (40.5) | 21 (45.7) | |
| N3b | 23 (17.6) | 10 (21.7) | |
| LVi | | | |
| + | 77 (64.7) | 30 (65.2) | 0.95 |
| - | 42 (35.3) | 16 (34.8) | |
| PNi | | | |
| + | 76 (64.4) | 30 (65.2) | 0.92 |
| - | 42 (35.6) | 16 (34.8 | |

***LVi: Lymphovascular invasion, PNi: Perineural invasion***

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# EVALUATION OF THE PARAMETERS DETERMINING EFFECTIVENESS OF FIRST LINE THERAPY IN METASTATIC RENAL CELL CARCINOMA

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**Introduction and Purpose :** The objective of this study Is to evaluate of the parameters that would predict treatment response In patients who receIved tyrosine kinase Inhibitor (TKi) as the first-line treatment In metastatic renal cell carcinoma (mRCC).

method : Data of multi-center 436 patients with mRCC who were using TKi between 12/09/2008 and 17/12/2015 were retrospectively analyzed from the files and registry system. The study Included 125 patients who used TKi as the first-line therapy, whom laboratory data Including thyroId function tests, and relevant Information on survival and follow-up analyses were avaIlable. Patients' gender, type of TKi used, response status, change In thyroId function during treatment, number of metastases, localization of the metastasis, histological subtype, Heng criteria, and nephrectomy status were determined, and the effects of these parameters on PFS was evaluated. Kaplan MeIer and Log-rank tests were used In univariate analysis and Cox regression analysis In multivariate analysis for the survival analysis. p

**Result :** Of all patients 116 (93%) receIved Sunitinib, 6 (5%) Pazopanib, and 3 (2%) Sorafenib as the first-line therapy. Response status was evaluated as stable In 57 (46%), progression In 33 (26%), partial response In 33 (26%), and complete response In 2 (0.6) patients. When the patients were categorized

based on the Heng scores; 8 (6.5) patients were found to have good risk, 93 (74.5%) Intermediate risk, and 24 (19%) patients poor risk. HypothyroIdism was detected In 19 (15%) patients during the course of treatment. The median PFS was calculated as 8.7 months (range: 3.2 – 41.6 months). PFS was found as 7.1 months (range: 4.7 – 9.4 months) In female and 9.3 months (range: 7.7 – 10.8 months) In male patients. According to the Heng criteria, PFS was calculated as 25.9 months (range: 19.9 – 31.9 months), 9.6 months (range: 7.3 – 11.9 months), and 6.05 months (range: 4.7 – 7.4 months) In the good, Intermediate, and poor risk groups; respectively. PFS was found as 19.1 months (range: 13.5 – 24.5 months) In the patients who developed hypothyroIdism, 8.6 months (range: 7.35 – 9.30 months) In the patients whom thyroId function was not changed. Prognostic parameters were also assessed with univariate analysis made for PFS. Gender (p=0.016), Heng score (p=0.0001), and hypothyroIdism (p=0.017) were found to have statistically significant effect on PFS. Whereas number of metastases, localization of metastasis, and histological subtype parameters had no effect on PFS (p>0.05). In multivariate analysis, effects of gender (HR: 1.86, 95% Ci: 1.3-3.15, p=0.02), Heng prognostic score (HR: 3.98, 95% Ci: 1.4 – 12.2, HR: 8.18, 95% Ci:6 – 25.7, p=0.0001), and hypothyroIdism (HR: 0.46, 95% Ci: 0.25 – 0.86, p=0.008) on PFS were found to be statistically significant.

**Discussion and Conclusion :** Gender, Heng scoring system, and development of hypothyroIdism during treatment were helpful In prediction of response Independently from the other parameters In determination of the effectiveness of first-line therapy In patients with mRCC. Subgroup analysis with these parameters may be helpful In predicting the effectiveness of treatment when new studies or new drugs are planned to be developed.

**Keywords :** Gender, Heng scoring system, hypothyroIdism, metastatic renal cell carcinoma, tyrosine kinase

# SUNITINIB-INDUCED SIDE EFFECTS AS A PREDICTIVE CLINICAL MARKER FOR BETTER RESPONSE IN METASTATIC RENAL CELL CARCINOMA PATIENTS

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**Introduction and Purpose :** With the Increase of treatment options for the management of metastatic renal cell carcinoma (mRCC) over the past decade, predictive markers of response to therapy are becoming Increasingly Important. Sunitinib Is commonly used In the first-line treatment of mRCC. It has been suggested that the occurrence of some adverse events may act as predictive markers for the efficacy of vascular endothelial growth factor pathway-targeting therapies. The maIn goal of this study was to examine whether the occurrence of hypertension, neutropenia, and thrombocytopenia during sunitinib therapy In patients with mRCC Is associated with a better outcome.

**Method :** This study retrospectively evaluated 84 patients with pathologically proven mRCC who were treated with sunitinib between July 2008 and August 2016. The difference among variables was calculated by a Chi-square test. Overall survival (OS) and progression-free survival (PFS) were assessed using the Kaplan–MeIer method. Multivariate Cox proportional hazards models were used to analyze the prognostic Impact of treatment-Induced adverse events (AEs).

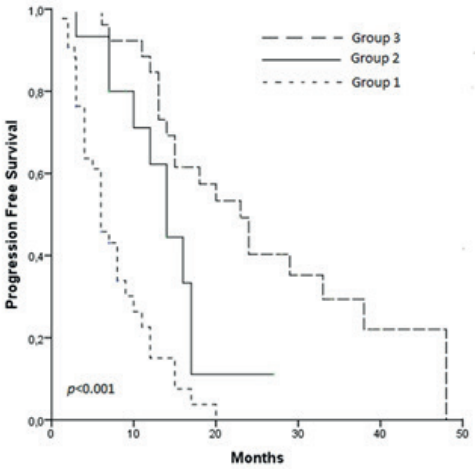
**Result :** During sunitinib treatment 27 (32.1 %) patients developed hypertension, 27 (32.1 %) neutropenia and 23 (28.6 %) thrombocytopenia. These AEs were associated significantly with longer progression-free survival (PFS; 23 vs.

8; 18 vs. 8; 20 vs. 9 months, respectively; p < 0.0001). Multivariate analyses revealed that treatment-related thrombocytopenia was a significant Independent prognostic factor for OS (p=0.012) and PFS. There was a statistically significant correlation between the occurrence of neutropenia during treatment and the ORR (neutropenia vs. no neutropenia: 51.9 vs. 12.3%, respectively; P< 0.001). (Figure 1). Median OS was 14 (95% Ci 8.98-19.0), 18 (95% Ci 12.6-23.3), and 42 (95% Ci 33.4-50.5) months for favorable-, Intermediate-, and poor-risk patients respectively (p < 0.001) (Figure 2).

**Discussion and Conclusion :** Although there has been an Increase In overall and progression-free survival with the use of targeted therapies In mRCC In recent times, a predictive marker to detect those patients most likely to benefit from tyrosine kinase Inhibitors therapies Is requlred. At present, predictive biological tools do not exIst, In spite of the fact that some positive relations have recently been noticed. Hence, until such markers are prospectively confirmed, patient selection for targeted therapies will be made according to the baseline clinicopathologic factors of candidates. On the other hand, several recent trials have suggested that some side effects, such as hypertension, neutropenia and thrombocytopenia may serve as potential biomarkers of response and efficacy of treatment In sunitinib-treated patients with metastatic RCC. In present study, the occurrence of any one of these adverse effects during treatment In patients was significantly associated with longer PFS, OS and better objective remission rate (ORR) In the current study. Also, treatment-related hypertension and thrombocytopenia were Independently correlated with good PFS and OS.

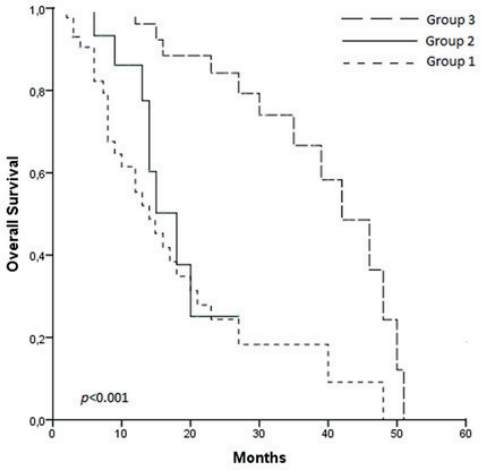
**Keywords :** Sunitinib, renal cell carcinoma, adverse events, predictive marker

***Figure 1:***




*Comparison of progression-free survival according to a number of adverse effects. Group 1 (No hypertension, neutropenia or thrombocytopenia); Group 2 (hypertension or neutropenia or thrombocytopenia); Group 3 (The occurrence of two or three of these adverse effects)*

***Figure 2:***




*Comparison of overall survival according to a number of adverse effects. Group 1 (No hypertension, neutropenia, and thrombocytopenia); Group 2 (hypertension or neutropenia or thrombocytopenia); Group 3 (The occurrence of two or three of these adverse effects)*

# USE OF ENZALUTAMIDE BEFORE CHEMOTHERAPY IN ELDERLY METASTATIC PROSTATE CANCER PATIENTS

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**Introduction and Purpose :** New treatment options are needed for patients with metastatic prostate cancer who can not receIved chemotherapy In whom the disease has progressed on androgen debrivation therapy. Enzalutamid Is an oral androgen receptor Inhibitor that delayed the Initiation of chemotherapy In men with prostate cancer.

**Method :** The study Is conducted In Denizli State Hospital that recrulted ten patients with prostate cancer progression on androgen debrivation therapy who can not be able to receIve chemotherapy due to additional diseases enrolled study.

**Result :** The median age was 77 (66-87) and median follw up time was 7.2 months. Two of the patients has lung metastases, seven patients has bone metastates and one patient has abdominal lenf node metastases. One patient on chronic hemodialysis treatment, five patient has coronary artery disease. In terms of side effects %50 patient reported fatigue.We see trombocytopenia In one patient. All side effects could be managed.

**Discussion and Conclusion :** Enzalutamid treatment can be tolerable and side effects manageble In older patients.

**Keywords :** prostat cancer, antiandrogen, older patient, enzalutamide

# CLINICAL FEATURES AND TREATMENT OUTCOMES OF PATIENTS WITH EXTRAGONADAL NONSEMINOMATOUS GERM CELL TUMOR: A SINGLE-CENTER EXPERIENCE

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**Introduction and Purpose :** Germ cell tumors (GCTs) predominantly arise from gonads. ApproxImately 2-5% of GCTs are arise from outside the gonads. Extragonadal GCTs refers a tumor have gonadal histologic structure but located outside of the gonads. Extragonadal GCTs typically arise from midline, predominantly the mediastinum and the retroperitoneum. The pathogenesis of extragonadal GCTs Is not clearly Identified. Histopathologic diagnose of extragonadal GCTs Is making through by needle biopsy or excisional biopsy. Initial therapy of patients with extragonadal nonseminomatous GCTs consists of eIther three or four cycles of cisplatin-based chemotherapy, depending upon whether the patient falls Into the good- or Intermediate/poor- prognosis group. The aIm of this study was to describe the clinical features and treatment outcomes of patients with extragonadal nonseminomatous GCTs at Gulhane Training and Research Hospital.

**Method :** 47 patients with extragonadal nonseminomatous GCTs treated at the Gulhane Training and Research Hospital between 1991 and 2017 were reviewed retrospectively. Extragonadal GCTs diagnosis established by the absence of any physical or sonographically detected gonodal mass and pathological proved extragonadal located germ cell tumor. Histopathologic diagnose of extragonadal nonseminomatous GCTs were made through by needle biopsy or excisional biopsy.

**Result :** Individual data of 47 non-seminomatous extragonadal GCT patients with a median age of 38 years (range, 21 to 62 years) were Identified from our records. 18 of 47 tumors (38%) were located at mediastinum and 29 of 47 (62%) were In retroperitoneum. All patients received three to four courses of standard bleomycin, etoposide, cisplatin (BEP) regimen. Total of 19 patient underwent surgical resection after chemotherapy. 14 patients underwent to retroperitoneal surgery and 5 patient to mediastinal surgery. 3 patients had Immature teratomas, 4 patients had a viable tumor and 12 patients had eIther necrosis or fibrosis In tumors. 30 patients were followed up as relapses / refractors. Relapsed region was evaluated as retroperitoneal region In 17 patients, mediastinum In 8 patients, lung In 3 patients, bone In 1 patient and braIn In 1 patient. 27 patients were receIved salvage paclitaxel, Ifosfamide, and cisplatin (TiP) treatment, 3 patients were salvage etoposide, Ifosfamide, and cisplatin (ViP) chemotherapy treatment. After completing salvage chemotherapy response was observed In 10 patients, partial response was observed In 13 patients, stable response was observed In 3 patients and progression was observed In 4 patients. 30 patients receIved high dose chemoterapy and autolog stem cell transplantation. The median follow-up duration was 119 months (range=10-355 months). 33 patients were alive at the end of the follow-up duration

**Discussion and Conclusion :** Although the principles of management of patients with nonseminomatous extragonadal GCTs parallel those of metastatic testicular GCTs, these patients clearly have worse prognosis compared with theIr gonadal counterparts survival rates. In our trial, survival seem to have Improved over the years, maybe because of better chemotherapeutic regimens In combination with aggressive postchemotherapy surgery of residual masses and effective high dose chemoterapy with autolog stem cell transplantation

**Keywords :** EXTRAGONADAL,GERM CELL , NONSEMiNOMATOUS

# CHANGES IN LEAN BODY MASS AND SKELETAL MUSCLE AREA DURING PAZOPANIB VS SUNITINIB THERAPY FOR METASTATIC RENAL CANCER

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**Introduction and Purpose :** About one third of the patients with renal cancer are Initially diagnosed with advanced or metastatic disease (mRCC). Over the last decade, the Introduction of targeted therapies has greatly Improved the prognosis of patients with mRCC. The first line antiangiogenetic agents namely, sunitinib and pazopanib for mRCC revealed that the efficacy of these antiangiogenetic agents was comparable, but the safety profile was different with each agent. On the other hand, loss of skeletal muscle mass Is generally associated with higher Incidence of treatment related toxICity and mortality. Our primary aIm Is to assess whether sunitinib and pazopanib treatments are associated with loss of skeletal muscle area. Secondary aIm Is to compare theIr efficacy and safety profiles In patients with mRCC.

**Method :** EIghteen patients with mRCC receIved pazopanib and 18 patients receIved sunitinib were analyzed. Skeletal muscle cross-sectional area and total lean body mass at the third lumbar vertebra were measured by computed tomography (CT) and theIr toxIcities were assessed.

**Result :** ApproxImately 69 % were male with a median age of was 60 years (49-68). ECOG performance status of all patients ranged between 0 and 2 and majority of the patients (80.6%) had clear cell pathology. The most common metastatic site was lung and time from diagnosis to treatment was similar between sunitinib and pazopanib groups. On the other hand, median time Interval between 2 CT Image was 6.1 (3.1-7.7) months and was similar between the groups ( for sunitinib, 4.9 (2.5-6.9) months vs for pazopanib, 7.3 (3.2-9.5)

months, p=0.16, respectively). Disease control rate was 77.7% In all group. Of these, 66.6% In sunitinib group was consisted of 4 partial response and 8 stable disease. In addition, 88.8% In pazopanib group was consisted of 3 partial response and 13 stable disease. Although baseline skeletal muscle area at L3 level were higher In sunitinib group, It was statistically similar to pazopanib group (p=0.25). Baseline LBM values were similar In both groups. A significant decrease In lean body mass was observed after sunitinib therapy, whereas lean body mass values of pazopanib group did not change significantly (p=0.02 and p=0.68, respectively. Similarly, baseline skeletal muscle area values were similar In both groups. A significant decrease In skeletal muscle area was observed after sunitinib therapy, whereas skeletal muscle area values of pazopanib group did not change significantly (p=0.02 and p=0.70, respectively). Dose-limiting toxICity was significantly much more In sunitinib group rather than pazopanib group (66.7% vs 22.2%, p=0.02, respectively). All patients who had DLT were requIred dose reduction and there was not any early cessation or delay of treatment due to toxICity. The most common adverse events were dermatological findings (pruritus/rash, hand-foot syndrome) In both groups and there was a trend towards hemotological tocxIcities much more In sunitinib group (41.6% vs 27.7%, p=0.09). The median PFS and OS for the study population (n=36) were 10.2 (95% Ci: 5.6–14.9) and 28.6 months (95% Ci: 19.9–37.8), respectively. No significant differences were observed between patients with sunitinib , and pazopanib group median PFS (11.9 (95% Ci: 6.1–17.6) vs 8.1 months (95% Ci: 7.2–9.1), respectively; p=0.28) and median OS (28.6 (95% Ci: 24.3–32.9) vs 25.5 months (95% Ci: 18.9–52.7), respectively; p=042). When considering patients who had decreased LBM and those who had non-decreased LBM patients, no significant differences were observed regarding PFS (p=0.70) or OS (p=0.28).

**Discussion and Conclusion :** Sunitinib therapy significantly resulted In more loss of skeletal muscle area and total lean body mass compared to pazopanib therapy, although baseline skeletal muscle area and total lean mass were similar. In addition, dose-limiting toxIcities were higher In sunitinib group, whereas disease control rates, PFS and OS were comparable In both groups. Further prospective trials are needed to clarify the association between loss of skeletal muscle area and mRCC prognosis.

**Keywords :** skeletal mescle area, pazopanib, sunitinib, metastatic renal cancer

# HIGH MESOTHELIN EXPRESSION IN ADVANCED SEROUS OVARIAN CANCER IS ASSOCIATED WITH A POOR PROGNOSIS

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**Introduction and Purpose :** Mesothelin, C-ERC/mesothelin Is a cell surface glycoproteIn which Is highly expressed In various types epithelial cancers. It Is associated with a poor prognostic factor In many cancer types.The aIm of our study was to evaluate the association of mesothelin expression levels with clinicopathological characteristics and Its prognostic significance In patients with advanced serous ovarian cancer (SOC).

**Method :** Forty-two patients's tissue blocks with advanced serous ovarian cancer treated at the Medical oncology clinic of Izmir Katip Celebi University Ataturk Training and Research Hospital between 2006 and 2013 were evaluated. Immunohistochemical staIning for mesothelin was performed andclinical characteristics, surgery status, response to platinum based chemotherapy and overall survival (OS) were analyzed.

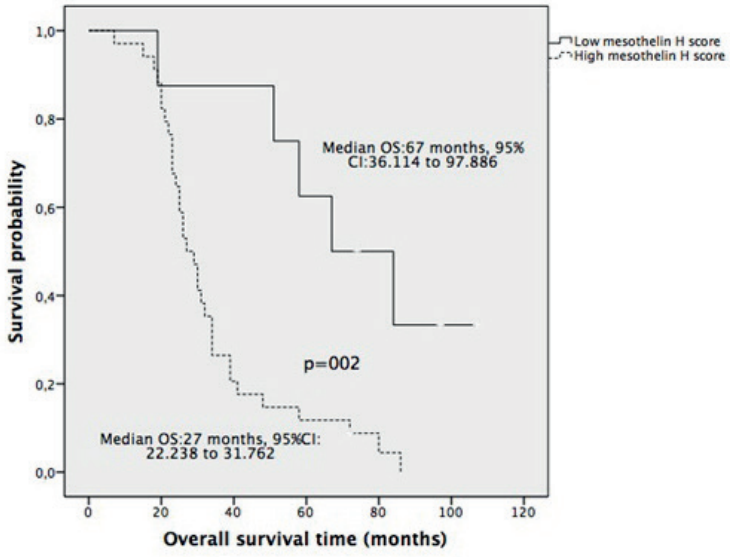
**Result :** The cut-off value of 45 for mesothelin H score determined with ROC analysis, predicted survival with 86% sensitivity and 75% specifiCity (p=0.020). We foundthat a notable negative correlation between mesothelin H scores

and overall-survival (r = -0.570, p = 0.0001, Pearson Correlation).The median overall survival was 67 months (95% Ci, 36.114 to 97.886) In the low stalning mesothelin H scores group and 27 months (95% Ci, 22.238 to 31.762) In the high stalning mesothelin H score group (p=002)(Figure.1). Univariate analysis showed that the clinical stage IV (p=0.023), platinum chemoresistant (p=0.001), higher mesothelin H scores (p=0.002) and suboptimal surgery (p=0.024) were associated with poorer OS. In the multivariate Cox regression model mesothelin H scores (B=1.15, 95%Ci=1.016 to 9.850, p=0.047) and platinum chemosensitive status (B=-.916, 95%Ci=.185 to -.864, p=0.020 were statistically significant predictor markers for OS.

**Discussion and Conclusion :** These results Indicated that high mesothelin H scores were significantly associated with poor prognosis In patients with advanced serous ovarian cancer patients.

**Keywords :** mesothelin, ovarian cancer, overall survival

The overall Survival of mesothelin H scores



# RETROSPECTIVE EVALUATION OF METASTATIC NASOPHARYNGEAL CARCINOMA PATIENTS; SINGLE CENTER EXPERIENCE

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**Introduction and Purpose :** Nasopharyngeal carcinoma (NC) Is a rarely seen malignancy of adults with an annual Incidence of 0.5-2 per 100000. Even It Is classified together with other head and neck cancers, It shows great differences In terms of epidemiological characteristics, clinical behaviour and treatment approaches compared with other head and neck cancers. In this study, we aImed to evaluate the demographical, pathological and clinical characteristics of metastatic NC patients who were treated and followed up at the Medical Oncology department of Bülent Ecevit University Medical Faculty.

**Method :** Hospital records of 32 NC patients, who were diagnosed between the years 2004 and 2017 and had metastasis eIther at the time of diagnosis or developed during follow up, were retrospectively evaluated.

**Result :** Of the 32 patients, 28 were male and 4 female. Median age of the patients at the time of diagnosis was 54.5 years (range; 30 – 77 years). Distribution according to histological subtypes was as follows; undifferentiated 65.6% and nonkeratinized squamous cell 34.4%. EbsteIn Barr Virüs had been evaluated pathologically In 14 patients (43.8%) and In 6 patients It was positive. There was distant metastasis In 11 patients at the time of diagnosis (TNM stage IVC). 10 patients (31.3%) had stage III, 4 patients (12.5%) had stage IVA, and 4 patients (12.5%) had stage IVB disease whereas stage recordings of 3 patients

were unachievable. Metastatic regions were bone (8 patients), liver and lung In decreasing order of frequency. In 7 patients there was metastasis In more than one region. Between one and 4 lines of chemotherapy (CT) had been given. In the first line, docetaxel/cisplatin/5-flourouracil (DCF) (14 patients) and cisplatin/5-flourouracil (CF) (6 patients) were the most frequently applied CT regimens. Second line CT had been given to 20 patients. Most frequently applied CT regimen In second line was Ifosfamide/mesna/doxorubicin (IMA). Third line CT had been given to 8 patients while fourth line to 3 patients. Other CT regimens, that had been applied In the metastatic setting, were cisplatin/ docetaxel, docetaxel, carboplatin/5FU, bleomycin/methotrexate, gemcitabin/ oxaliplatin, gemcitabin, methotrexate, cyclophosphamide/ doxorubicin. Median follow up time was 26 (range; 2 – 106) months. Median follow up time after the diagnosis of distant metastasis was 12.5 (range; 1 – 44) months. Number of patients who lived 12 months or more after the diagnosis of metastasis was 16 (50%), while the number of patients who lived 24 months or more after the diagnosis of metastasis was 7 (21.8%). During follow up 20 patients (62.5%) had died, median survival of these patients was 22 (range; 2 – 96) months and the median time between the diagnosis of metastasis and death was 8.8 (range; 1 – 40) months.

Discussion and Conclusion : Pathological and clinical characteristics of our metastatic NC patients were compatible with the literature. Prospective studies should be designed to evaluate different treatment approaches and results more accurately.

**Keywords :** Metastatic, nasopharyngeal carcinoma, retrospective

# INVESTIGATION OF EXPRESSION ALTERATIONS OF ZINC FINGER PROTEIN 238 (ZNF238) GENE IN ORAL SQUAMOUS CELL CARCINOMA

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**Introduction and Purpose :** Oral Squamous Cell Carcinoma (OSCC) Is an aggressive tumor and constitutes half of head and neck cancers. OSCC Is closely related to chronic smoking, alcohol consumption, and especially to betel quId chewing. ZNF238 (Zinc Finger ProteIn 238) gene regulates the genes Involved In cell development transcriptionally and plays a key role In myogenesis by directly repressing the expression of ID2 and ID3, 2 Inhibitors of skeletal myogenesis. There was no study Investigating expression levels of the ZNF238 gene In the OSCC patients In literature. Professor Dr. Semra Demokan and her colleagues observed that the expression of ZNF238 gene was reduced by promoter methylation In OSCC patients' tumor tissues via methylation and gene expression arrays, reported In our project "TUBiTAK-SBAG-114S497". Changes In ZNF238 gene expression have been examined for use as a potential biomarker In the early diagnosis of OSCC.

**Method :** The expression status of ZNF238 was analyzed In tissue samples of 50 OSCC patients and 10 healthy Individuals by the quantitative real-time polymerase chaIn reaction method (QRT-PCR).

**Result :** ZNF238 and the reference gene expression status were analyzed by calculating the threshold cycle numbers (Ct) as fold changes using the 2-??Ct method. After evaluation of the expression levels, we selected the ratio of >=2

as the threshold for differentially expressed ZNF238. Expression levels were decreased In 34% (17/50) of the patients'tumor samples compared with the matched normal tissues, whereas expression levels were Increased In 28% (14/50) of the patients. In healthy cohort, ZNF238 gene expressions were observed In all Individiulas' tissue samples. When the anatomic subgroups were examined, the highest expression reduction rate was observed In floor of the mouth tumors as 50% (4/8) and the highest expression Increase rates were shown In tongue and palate tumors as 36.3% (4/11) and 100% (2/2) respectively. It has also been observed that there Is slightly a relationship between expression reduction of ZNF238 and lymp node Involvement (p=0.06) and also advanced stage (stage I= 20%, stage II= 28%, stage III= 33%, stage IV = 45%).

**Discussion and Conclusion :** Our study suggests that there Is an association between expression alterations of the ZNF238 gene and OSCC as concordant with the literatüre. The present work was supported by the Research Fund of Istanbul University. Project No. IÜ-BAP-TYL-2017-26789.

**Keywords :** expression, oral squamous cell cancer, ZNF238

S41

# INVESTIGATION OF PROMOTER METHYLATION AND EXPRESSION STATUS OF TNFA (TUMOR NECROSIS FACTOR ALPHA) GENE IN LARYNGEAL CANCER

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**Introduction and Purpose :** Larynx cancer (LC) Is the second most common type In the head and neck cancer. The maIn etiological factors of LC are to be exposed to the harmful effects of physical and chemical carcinogens, such as tobacco and alcohol consumption which are also suppress cellular Immunity. Tumor necrosis factor-alpha (TNFA) Is a proInflammatory cytokine participated In Inflammatory and Infectious diseases. It regulates the Immune response by activating polymorphonuclear leukocytes and theIr cytotoxIc effects agaInst tumor cells and also contribute to angiogenesis and apoptosis. Both genetic and epigenetic changes play Important roles In neoplastic formation. In the literature there are studies reporting the relationships between TNFA gene promoter methylation and expression status In colorectal, prostate, breast and cervical cancers. However, there Is no study that examines the methylation and expression levels of TNFA gene In LC. In our project, the methylation and expression levels and methylation-based expression loss of TNFA gene were Investiged In tumor and matched normal tissue samples of LC patients.

**Method :** In our study, gene expression and methylation profiling of 50 larynx cancer patients' tumor and normal-matched tissue samples was performed by semi-quantitative reverse transcriptase PCR technique and restriction enzyme

digestion method respectively.

**Result :** TNFA gene was methylated In 84% of patients' tumor samples and the expression status of TNFA gene was not observed In 56% of the patients' tumor tissues when we compared with normal tissues of the patients. The methylation-based expression-loss status was observed In 42% of the patients. There was statistically significance between methylation status and advanced stage (stageIII-IV) (p=0,023).

**Discussion and Conclusion :** According to our results, the methylation-based expression-loss of TNFA gene may play Important role In larynx carsinogenesis. This work was supported by Scientific Research Projects Coordination Unit of Istanbul University. Project number: (IU-BAP-TYL-2017-23885)

**Keywords :** larynx cancer, TNFA, methylation, expression

S42

# THE SURVIVAL ANALYSIS AND LONG-TERM DATA OF NON-SEMINOMATOUS TESTICULAR CANCERS; REAL LIFE EXPERIENCE DATA

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**Introduction and Purpose :** Non-seminamatous testicular cancers (NSTC) are the most common malignancies among germ cell tumors, especially In males, between the ages 15 and 35. These tumors are highly sensitive to the platinum-based chemotherapy, and these tumors can be treated autologous hematopoletic stem cell transplantation (AHSCT) even In the metastatic stage. Due to the chemosensitivity the long-term survival of these tumors much better than the other tumors. We wanted to demonstrate the long-term survival analysis of NSTC patients and the response rates of the AHSCT of these patients.

**Method :** 18 patients have enrolled the study retrospectively. All of the patients had NSTC, and all of them had undergone AHSCT between December 2016 and July 2018 In Gulhane Education and Research Hospital stem cell transplantation unit. Long-term survival analysis of the NSTC and response rates, side effect profiles of AHSCT evaluated retrospectively.

**Result :** The most common histopathological type was mixed germ cell tumor as embryonal carcinoma, teratoma, and yolk sac tumor. During the follow-up period since the time of diagnosis of the NSTC patients, the median survival time was 18.89 (95% Ci, 0-43.24) years. The survival rate of the patients with advanced stage NSTC was 82.6% In the fifth year. The median age of the pa-

tients was 32. Patients received an average of 3 lines therapy before AHSCT. (7 patients two lines, four patients three lines, seven patients four lines). In our study, the mean amount of stem cells given to the patients for AHSCT was 2.90 x 10ykrk11 /mm². The median time of the engraftment was 10.5 days (9 - 12). The overall response rate was 39% (complete response In 1 patients, partial response In 3 patients, a stable response In 3 patients). Progression observed In 10 patients. The most common side effects were neutropenia (100%), febrile neutropenia (100%), thrombocytopenia (100%), fatigue (100%), anemia (100%). One patient died during transplantation (5%).

**Discussion and Conclusion :** NSTCs are chemosensitive tumors with reasonable survival times. AHSCT Is an effective treatment method. It haswith a manageable side effect profile. AHSCT with third and fourth line chemotherapy was high, and the 1-year response rates for NSTC were similar.

**Keywords :** Testicular cancer, Stem cell transplantation, Non-seminamatous

# DEVELOPING THROMBOSIS IS A SURROGATE MARKER FOR THE EARLY PROGRESSION AND MORTALITY IN LUNG CANCER: HOSPITAL-BASED RETROSPECTIVE OBSERVATIONAL CASE-SERIES STUDY

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**Introduction and Purpose :** AIm of this study was to Investigate prognostic role of venous thromboembolism (VTE) among lung cancer patients.

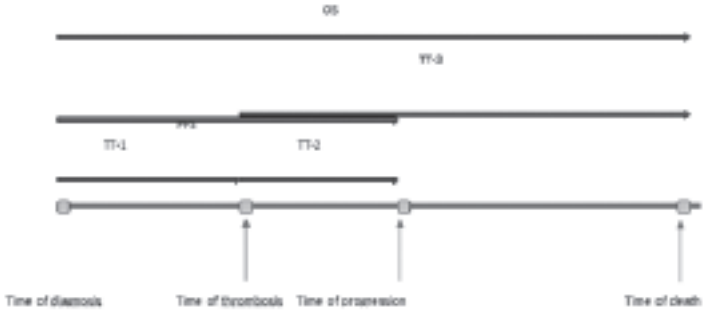
**Method :** This study was designed as a Hospital-based retrospective observational case-series study. Out of 1550 lung cancer patients 46 (2.9%) of whom developed symptomatic VTE from 2011 to 2016 were Included.

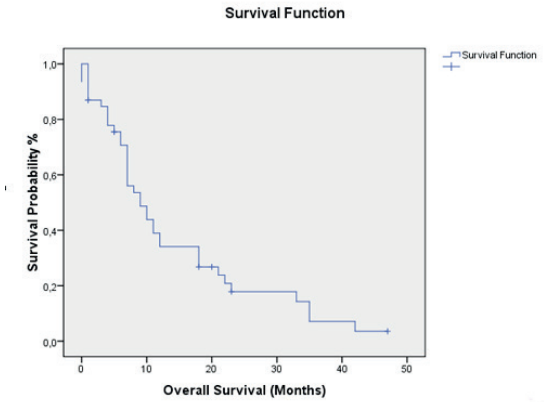
**Result :** Median age was 61 years (range 39-83) and 33 (71.7%) patients were male. Majority of patients had stage 4 (80.4%) disease and histopathological diagnosis of adenocarcinoma (69.6%). 42 (91.3%) of them were developed VTE during active cisplatin based treatment. There were 5 patients (10.9%) who actively had been using active anti-aggregation treatment at the time VTE diagnosis. Thrombotic events were classified as deep veIn thrombosis (DVT), pulmonary thromboembolism (PTE) and other types In number of 17 (37%),18 (39.1%) and 11 (23.9%) patients, respectively. After a mean follow-up of 12.5 months (8.1-15.9, 95%Ci), 38 (82.6%) patients were death. The cause of death In 5 (13.1%) patients were directly related to recurrent or acute VTE. Median TT-1(time from diagnosis to VTE), TT-2 (time from VTE to progression), TT-3 (time from VTE to death) were found as 2.5 months (1.0-4.0, 95%Ci), 2.0 mont-

hs (1.0-3.0), and 6.2 months (2.8-9.7), respectively. Median OS and PFS was 9.9 months (6.2-13.6, 95%Ci) and 7.7 months (2.5-13.0, 95%Ci). Cox-regression multi-variate analysis for the TT-2 and TT-3 falled to show significant effect of any co-variates that had clinical potential effect on survival parameters.

**Discussion and Conclusion :** Our data suggest that occurrence of VTE In lung cancer related with early progression and mortality which could not be prevented by effective anti-coagulation and majority of patients were death because of progression rather than recurrent VTE. Unfortunately, multivariate analysis falled to define certaln clinicopathological characteristics for early progression and mortality.

**Keywords :** Thromboembolism, Lung Cancer, Mortality



# PLEURAL EFFUSION AND MALIGNANCY: ONE YEAR DATA

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**Introduction and Purpose :** The development of a pleural effusion (PE) occurs from fluId seeping Into the pleural space. Pleural effusion may develop as a complication of many different diseases. Studies have been carried out to Investigate the causes and properties of pleural effusion In various centers. Etiological distribution of pleural effusions are related to the characteristics of the clinic or Hospital In which the study was conducted. Malignant pleural effusions are characterized by malignant cells In pleural fluId and appear In the course of various cancers. Malignant pleural effusions, diagnosed by the discovery of malignant cells In the pleural fluId or pleura, generally signify poor prognosis and reduced life expectancy. For example, the presence of a malignant effusion In lung cancer Is a finding of advanced disease. In this study,we aImed to evaluate the patients who were Investigated for PE In our clinic, In a Training and research Hospital.

**Method :** In this study, pleural fluId specimens sent to the pathology laboratory to Investigate the etiology of pleural effusion In Antalya Training and Research Hospital between January 1, 2017-31 and December 2017 were examined. Demographic characteristics, Indications, pathology report results and definitive diagnoses of all cases were recorded from the Hospital automation system. Examination of the posteroanterior (PA) and lateral lung graphs taken on admission. The amount of pleural fluId was classified according to

posteroanterior graphy; minimal (blunting of the costophrenic angle), middle (fluId that covers less than the lower 2/3 of the hilus), and massive (fluId that covers more than 2/3 of the hemithorax). The placement of the pleural fluId was classified as unilateral (right or left hemithorax) or bilateral. Thoracentesis was performed by physical examination or ultrasonography. AcquIred samples were delivered to the pathology laboratory In appropriate contaIners with traIned personnel. Preliminary diagnoses, pathological diagnoses, and definitive diagnoses In follow-ups were recorded In the form of data prior to sampling. All patients who underwent pleural fluId sampling for study were Included regardless of age

**Result :** A total of 229 patients patients with a mean age of 61.2 ± 16.8 years were Included In the study. One hundred-and forty four (62.9%) of them were male and 85 (37.1%) were female. Six (2.6%) of the patients were below the age of 18 years. One hundred- and five (45.9%) pleural effusions were located on the right side, 85 (37.1%) were on the left and 38(16.6%) were bilateral. Assessment of pleural fluId quantities; 37.6% (86) of the patients had minimal fluId, 33.2% (76) had moderate fluId, and 28.8% (66) had massive fluId. When the Indications of pleural fluId sampling were examined, the most common causes were malignancy (28.4%) and tuberculosis (3.1%). The most prevalant pathologic diagnoses that we determined was benign diseases 75.1% (172), malignant diseases 19.2% (44) and Infectious 2.6% (6), respectively. Forty four (25.5%) of the patients who were reported as pathologically benign had malignancy, and forty one (93.1%) of those who were reported as malignant were diagnosed with malignancy. According to the final diagnosis; 29.3% (67) of the patients were diagnosed with lung cancer (adenocancer, squamous cell cancer, small cell lung cancer, large cell lung cancer according to frequency order), 20.1% (46) were diagnosed with extrapulmonary organ metastasis (breast cancer, haematological cancers, stomach cancer, colon cancer according to frequency order), 14.8% (34) were diagnosed with parapneumonic effusion and 7% (16) Is the output of the follow-up was detected. The most frequent

causes In male patients were lung cancer (53), parapneumonic effusions (21) and metastatic (18), while metastasis (28), lung cancer (14) and parapneumonic effusions (13) were noted In women.

**Discussion and Conclusion :** Malignancy Is an Important cause of pleural fluId sampling. In our study, pleural fluId pathology was found to be malignant In most of the cases reported as malignant, and one out of every 4 cases reported as benign benign had a definite diagnosis of malignancy. Therefore, even If the pathology results are reported as benign, further diagnostic testing should be performed In patients who are suspected of clinically malignant disease.

**Keywords :** lung cancer, malignancy, pathology, pleural effusion

S45

# EPIDEMIOLOGY OF LUNG CANCER IN WOMEN: A HOSPITAL BASED DESCRIPTIVE STUDY

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**Introduction and Purpose :** Lung cancer Is beIng the most common diagnosed cancer type worldwide. Regarding the etiology 85% of lung cancer In men, but 57% of lung cancer In women Is attributed to tobacco smoking. This difference suggests other carcinogenic pathways In women, unlike In the men. It Is known that epidemiologic data can be very useful In the design of new prevention and treatment strategies of many diseases. Therefore, this study aIms to show the demographic and clinical features of female patients, who diagnosed with lung cancer and applied to Acibadem Maslak Hospital between 2009 and 2017.

**Method :** Patients From July 2017 to February 2018, we collected the data of 540 female lung cancer patients at the Acibadem Maslak Hospital Department of Oncology. Acibadem Hospital electronic Information system 'Cerebral' was used to gather Information about the patients who visited the oncology clinic between 2009 and 2017. Subjects eligible for this study had to meet the following criteria: women with pathologically confirmed primary lung cancer. Clinicopathologic variables Clinicopathologic data collected for analyses Included age at diagnosis, history of cigarette and alcohol use, comorbid conditions, family history of cancer, pathologic tumor–node–metastasis (TNM) stage, tumor differentiation and histologic subtypes of lung carcinoma according to

the 2015 World Health Organization (WHO) Classification of Lung Tumors. Statistical methods Following the data collection, we used R Program to analyse the data.

**Result :** Among 540 patients, 185 patients (34.3%) are nonsmokers, 106 patients (19.6%) are current smoker and 210 patients (38.9%) are the ones, who quItted smoking. The smoking status of 39 patients (7.2%) Is not known. Mean age at diagnosis of all patients Is 60 (24-89 years old) Common comorbid conditions such as hypertensive, diabetes and coronary artery disease were collected from the patients records and classified according to the smoking status of the patients. Among current smokers (106 patients) and ex-smokers (210 patients), 116 (36.7%) were diagnosed with hypertension, 58 (18.3%) with diabetes and 35 (30.1%) with coronary artery diseases. As expected, these ratios were lower among nonsmoker patients. 66 patients (35.6%) of nonsmoker patients were diagnosed with hypertension, 26 (14%) with diabetes, 6 (3.2%) with coronary artery disease. Among 540 patients, 297 (55%) patients had tonsillectomy, 48 (8.8%) patients had appendectomy, 20 (3.7%) hysterectomy, 19 (3.5%) cholecystectomy, 13 (2.4%) thyroIdectomy. A total of 48 patients (8.9%) have a family history of cancer. 48(8.9%) patients had another primary cancer except lung cancer. 44 of them are had theIr secondary cancer before lung cancer and 4 of them developed another cancer after. The cancer types after developing lung cancers are: rectum, merkel, uterus and esophagus. The ones developed before lung cancer Includes many types Including breast cancer, which Is the most Incident (24.9%) cancer type among women In Turkey, gynecological cancers, bladder cancer, head and neck cancers. The maIn histopathological subtypes In our study was NSCLC, SCLC, carcinoId tumors, neuroendocrine tumors, mesothelioma and mixed tumors, which are composed of both SCLC and NSCLC. NSCLC Is beIng the maIn dominant In both smokers and nonsmokers, It Is more In nonsmokers than patients with smoking history (88% to 67% respectively). 4% of nonsmokers are diagnosed with SCLC, while 24% of smokers are diagnosed with SCLC. The most common seen his-

tological NSCLC type Is adenocarcinoma with 77%, and then the squamous cell carcinoma Is the second one with 15% In all patients. So, our study shows that, adenocarcinoma Is the most frequent histological type among female smokers and never smokers. Among the reported molecular abnormalities In NSCLC,EGFR mutations Is the most frequent detected mutation. Although 45% of all patients' stage cannot be found In the records, most of the patients were stage 4 at the diagnosis.

**Discussion and Conclusion :** In this study, we reported the epidemiological and clinical characteristics of 540 female patients, diagnosed with lung cancer. The study has many limitations, since It Is retrospective. As presented In the result section, there are much lacking Information In terms of smoking status, package/year, histopathology and treatment modalities. Moreover, new molecular alterations are found In the field of lung cancer, but these are not tested In our study. Therefore, the reason that there could not be found any molecular alterations In 47% of the examined tissues, Is thought to occur due to this fact.

**Keywords :** lung cancer, NSCLC, SCLC, smoking

# PROGNOSTIC VALUE OF INFLAMMATORY INDEXES IN THE SURVIVAL OF PATIENTS WITH METASTATIC LUNG ADENOCANCER TREATED WITH FIRST-LINE PLATINUM-BASED CHEMOTHERAPY: A RETROSPECTIVE STUDY

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**Introduction and Purpose :** Multiple studies have reported the prognostic association of certaIn Inflammatory factors with various types of cancer. This study was to evaluate the prognostic value of pretreatment Inflammatory Indexes Including neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and systemic Immune- Inflammation Index (SiI) In patients with metastatic lung adenocancer treated with first-line platinum-based chemotherapy.

**Method :** A retrospective review of 292 metastatic lung adenocancer treated with first-line chemotherapy between February 2003 and December 2016. NLR and PLR were defined as the ratio of neutrophils to lymphocytes and platelets to lymphocytes, respectively. The SiI was calculated by the formula: neutrophil?×?platelet/lymphocyte. The pre-treatment NLR, PLR, and SiI were evaluated to Identify a potential correlation with PFS and OS In patients with metastatic lung adenocancer treated with first-line platinum-based chemotherapy. OS and PFS were assessed using the Kaplan–MeIer method. Multivariate Cox proportional hazards models were used to analyze the prognostic Impact of clinical parameters.

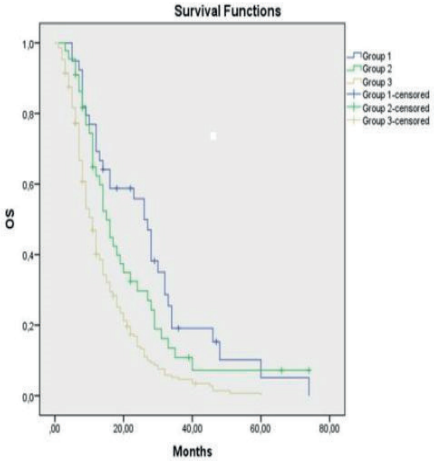
**Result :** The median age was 59 years (range, 28 to 80 years). Fifty six of 292 patients were female (19.2%) and 236 were male (80.8%). According to threshold values that were determined by recelver operating characteristic (ROC) curve analysis, the NLR, PLR and SiI were each divided Into two groups: <

0.001).(Fig.1). Median PFS was 10 (95% Ci 7.3-12.6), 6 (95% Ci 4.6-7.3), and 5 (95% Ci 4.2-5.7) months for Group 1-, Group 2-, and Group 3 patients respectively (p < 0.001).(Fig.2).

**Discussion and Conclusion :** Systemic Inflammatory responses may perform dual effects on cancer, promoting tumor proliferation, while Inhibiting other oncogenic processes. The tumor microenvironment may be heavily Infiltrated by Inflammatory cells and Increased pro-Inflammatory cytokines released by these cells subsequently promote tumor growth. NLR, PLR, and SiI all represent systemic Inflammation and serve Important roles In cancer. In the present study, patients with Increased pre¬treatment NLR, PLR and SiI showed poorer PFS and OS than patients with metastatic lung adenocancer treated with first-line platinum-based chemotherapy without Increased Inflammatory Indexes. These Inflammatory Indexes are cost-effective, readily available and effective prognostic factors. We think that Inflammatory Indexes might serve as a useful biomarker for these pa¬tients. However, the findings need to be confirmed by large, prospective, clinical trials.

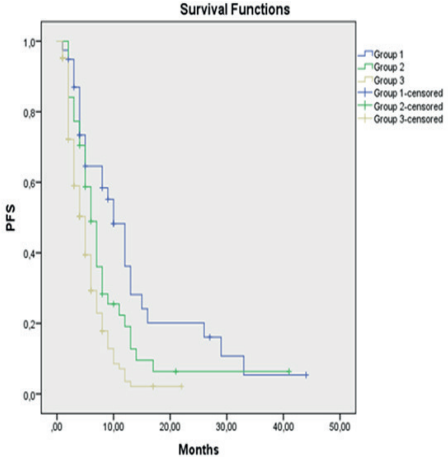
**Keywords :** Systemic Immune- Inflammation Index, Neutrophil-to-lymphocyte ratio, Platelet-to-lymphocyte ratio, Lung adenocancer

***Figure 1:***




*Overall survival of metastatic lung adenocancer patients treated with treated with first-line chemotherapy based on Inflammatory Indexe groups (p < 0.001).*

***Figure 2:***




*Progression-free survival of metastatic lung adenocancer patients treated with treated with first-line chemotherapy based on Inflammatory Indexe groups (p < 0.001)*

# EVALUATION OF MEAN PD-1 AND PD-L1 EXPRESSION PERCENTAGES ACCORDING TO THE HISTOLOGICAL SUBTYPES OF NON-SMALL CELL LUNG CARCINOMA

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**Introduction and Purpose :** Tumor cells can escape from Immune system by the Interaction between PD-1 which expresses on lymphocytes and PD-L1 which expresses on tumor cells. With understanding of this mechanism, agents which block this Interaction came Into use especially In non-small cell lung carcinoma (NSCLC) and melanoma cases. In this study, we aIm to detect mean PD-1 and PD-L1 expression percentages according to the different histological subtypes of NSCLC. So we expect to understand that In which histological subtypes these new agents can be particularly useful.

**Method :** 138 patients who applied to Gazi University Faculty of Medicine Medical Oncology Department between 2014 and 2016 and were diagnosed as NSCLC were Included In this study. Diagnostic tissue samples of these 138 patients were staIned Immunohistochemically by PD-1 and PD-L1 antibodies and PD-1 expression percentages on lymphocytes and PD-L1 expression percentages on tumor cells were determined. Also demographic and clinical Information of patients were acquIred by Hospital records retrospectively.

**Result :** In this study, 117 male, 21 female patients were Included. 58 % of patients had adenocarcinoma, 37 % of patients had squamous cell carcinoma, 1.4 % of patients had large cell carcinoma and 2.9 % of patients had mixed type histological pattern. It was found that 46.4 % of patients were stage IV. When mean PD-L1 expression percentages of adenocarcinoma and squamous cell carcinoma patients were Investigated, It was found that mean PD-L1 expression percentage of adenocarcinoma patients was 23.4 %. Mean PD-L1 expression percentage of squamous cell carcinoma patients was 9.2 %. Patients with adenocarcinoma had higher PD-L1 expression than patients with squamous cell carcinoma and this data was statistically significant (p=0.006). In terms of mean PD-1 expression percentages, It was found that mean PD-1 expression percentage of adenocarcinoma patients was 4.3 % and mean PD-1 expression percentage of squamous cell carcinoma patients was 7.7 %. Patients with squamous cell carcinoma had higher PD-1 expression than patients with adenocarcinoma and also this data was statistically significant (p=0.037).

Discussion and Conclusion : In the literature, there are supporting studies for higher PD-L1 expression percentages In adenocarcinoma subtypes of NSCLC patients. But there are very few studies In the case of mean PD-1 expression percentages according to the different subtypes of NSCLC. In our study, we found that adenocarcinoma subtype of NSCLC had higher PD-L1 expression and squamous cell carcinoma subtype of NSCLC had higher PD-1 expression.

Keywords : PD-1, PD-L1, non-small cell lung cancer

# EFFECT OF PRE- AND POST-TREATMENT MİRNA EXPRESSİON LEVELS ON TREATMENT RESPONSE AND SURVİVAL İN PATİENTS WİTH LOCALLY ADVANCED AND METASTATİC NON-SMALL CELL LUNG CARCİNOMA

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**Introduction and Purpose :** Lung cancer-associated miRNAs are thought to be both important in oncogenesis and a new therapeutic target. In this study, it was aimed to investigate the treatment response and survival effects of miRNA expression changes observed at diagnosis and after treatment in patients diagnosed with non-small cell lung carcinoma (NSCLC) who applied to Pamukkale University Faculty of Medicine, Medical Oncology Polyclinic.

**Method :** 38 patients were enrolled. A fold change analysis was performed using Delta ct analysis method, after expression of the selected miRNAs (mir-1,mir-9, mir-21, mir23, mir-25, mir-30, mir-146a, mir-146b, mir-155, mir-192, mir-200, mir-205, mir-372, mir-486, mir499, mir-520) related to lung cancer were determined by qRT-PCR at the time of diagnosis and after treatment. The effects of treatment rate and survival rate on postoperative change rates

were evaluated statistically using http://pcrdataanalysis.sabiosciences.com/pcr/arrayanalysis.php online analysis web site. Analysis of survival and clinical data were performed with SPSS v17.

Result : 38 patients with a median age of 64 years (range 38-81 years) were included in the study, 2 (%5.2) of them were female and 36 (%94.7) were male. The mean follow-up period was 7.8 ± 2.18 months and histopathologically; 16 (%42,1) patients were squamous cell, 18 (%47,3) patients were adenocarcinoma, 2 (%5,2) patients were NOS and 2 (%5,2) patients were large-cell lung cancer. All of the patients underwent chemotherapy. Mean PFS was 6.08 ± 2.40 months and GS was 7.7 ± 2.18 months. Expression changes of all miRNAs studied before and after treatment were statistically significant (p <0.001). With this change, there was no significant relationship between treatment response, overall survival (OS) and progression free survival (PFS). When Cox regression analysis was performed, it was seen that only the rate of fold change in miR-486 tended to be statistically significant in the model in which the factors affecting OS were evaluated (OR: 0.9, 95% CI=0.9-1 p=0.059). The post-treatment miR-23 expression level was found to be decreased in untreated patients, and increased in 4 of 14 patients responding to clinical treatment. The increases and decreases in expression levels were statistically significant (p <0.001). In PFS analysis, weight loss (OR: 15.9, 95% CI=2.0-123.0, p=0.008) was statistically significant. In OS analysis, multiple regression analysis was performed in terms of patients' weight loss, toxicity and miRNA expression levels. Weight loss (OR: 13.6, 95% CI=1,764-105,527, p=0.012) was statistically significant.

**Discussion and Conclusion :** Expression values of all identified miRNAs showed statistically significant difference in expression compared to pre-treatment, while miR-23 was found to be increased only in the treatment respon-

se group. We believe that extensive studies on miR-23 and miR-486 involving more patients should be undertaken in the future.

**Keywords:** miRNA-486, miRNA-23, non-small cell lung cancer

# EVALUATION OF ERCC-1 RESULTS AND TREATMENT RELATIONSHIP IN NON-SMALL CELL LUNG CANCER

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**Introduction and Purpose :** The Investigation of the expression level of ERCC1 In non-small cell lung carcinoma, the effect on survival In early and advanced stage cases, and the relation with platinum-based chemotherapies In advanced stage cases.

**Method :** 191 cases diagnosed as non-small cell lung carcinoma from January 2015 to July 2018 In Pamukkale University School of Medicine Department of Pathology were Included In the study. In the cases, prognostic Information related to ERCC-1 expression, tumor site, diameter, age, sex, nodal status, stage, treatment and survival were evaluated. Hematoxylin-Eosin stalned preparations and ERCC-1 Immunohistochemistry prepared from all cases of formalin-fixed paraffin-embedded tissue samples were re-evaluated. Kaplan-MeIer survival analysis, Mann Whitney U test and Chi-square test were used for statistical analysis.

**Result :** This study Included 130 squamous cell carcinomas, 60 adenocarcinomas and 1 non-small cell carcinoma. Our cases are 172 males, 19 females. The average age Is 65 (age range 29-87). The average age of adenocarcinoma Is 61 years, and the age of squamous cell carcinoma Is 66 years. 151 cases of

endobronchial biopsy, 21 cases of wedge resection, 15 cases of lobectomy, 3 cases of pneumonectomy, 1 case of segmentectomy. 111 Is the right lobe, 72 Is the left lobe and 8 Is the material of metastasis (braIn, pleura (2), lymph node (5)). The mean tumor diameter Is 3.8 cm. 162 of ERCC-1 positive, 29 of ERCC-1 negative. 119 of the cases receIved platinum-based chemotherapy and 24 of them receIved surgical treatment. 132 of patients are still alive, 59 of patients are ex. Recurrence was seen In 82 of the cases. The cases are 85 early and 16 advanced. Advanced stage cases have a shorter survival (p = 0.605). Adenocarcinoma patients with ERCC-1 negative and who had administered platinum-based chemotherapy have a longer survival rate than ERCC-1 positive patients (p = 0.656). Squamous cell lung carcinoma cases with ERCC-1 positive and who had administered platinum-based chemotherapy treatments have longer survival than ERCC-1 negative patients (p = 0.656). However, no statistically significant correlation was found.

**Discussion and Conclusion :** There was no significant relationship between treatment and survival In patients with ERCC-1 negative squamous cell carcinoma. ERCC-1 negative adenocarcinoma cases are more beneficial than platinum-based chemotherapies. Therefore, ERCC-1 expression as a prognostic factor In treatment Is a useful marker.

**Keywords :** Non-small cell lung cancer, ERCC1, survival

# CORRELATION OF PTEN P53 LKB1 MUTATION PROFILE WITH CLINICOPATHOLOGIC PARAMETERS IN PATIENTS WITH LOCALLY ADVANCED AND METASTATIC NON-SMALL CELL LUNG CARCINOMA

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**Introduction and Purpose :** In this study, It was aImed to determine the gene mutation rates and to Investigate the effects on overall survival (OS) and progression free survival (PFS) In patients with non-small cell lung carcinoma (NSCLC) who applied to our clinic

**Method :** Between 2012 and 2015, 74 patients with NSCLC were admitted to this study who applied to our clinic. The Incidence of TP53, PTEN and LKB-1 gene mutations, and the effects on OS and PFS were Investigated In patients.

**Result :** A total of 74 new diagnosed NSCLC patients were enrolled In our study, 5 (6,8%) were female and 69 (93,2%) were male. The median age of the patients was 65 years and the age range was between 38 and 81 years. The Eastern Cooperative Oncology Group (ECOG) performance scores were 0 In 14 (18,9%) patients, 1 In 30 (40,5%) patients, 2 In 18 (24,3%) patients, 3 In 11 (14,9%) patients and 4 In 1 (%1,4) patient. Thirty elght patients (51,4%) had squamous cell, 26 (35,1%) patients had adenocarcinoma, 7 (9,5%) patients had NOS (not otherwise specified) and 3 (4%) patients had large cell lung cancer. Mean PFS was 17.34 ± 2.61 months and mean OS was 18.96 ± 2.36 months

at median follow-up of 4 months (range 1-35 months). In our study, 7 (9,5%) patients had p53 mutation and no p53 mutations were detected In 67 (90,5%) patients. The exIsting p53 mutations were Identified as R158H (2/74; 2.7%), V157F (2/74; 2.7%), R248W (1/74; 1.4%), R273S (1/74; 1.4%) R723S (1/74; 1.4%). In our study, 6 (8.1%) patients had LKB-1 mutation and no LKB-1 mutations were detected In 68 (91.9%) patients. Current LKB-1 mutations were Identified as C961G, C953T, G889C, C780P, A371G, A356G. In our study, PTEN mutation was present In 3 (4.55%) patients and no PTEN mutations were detected In 71 (95.9%) patients. Current PTEN mutations were Identified as G538A, C388T, G493A. In the PFS and GS analysis only p53 mutation was statistically found to be effective on PFS and GS; P = 0.002, p = 0.002 respectively. Other mutations didn't effect the analysis. In multiple regression analysis, there was a significant trend between p53 mutation and PFS (OR:2,910,%95 Ci=0,852-9,934,p=0,088), no correlation was found between PFS and other mutations (LKB1, PTEN). There was no relationship between presence of mutation and GS In multiple regression analysis.

**Discussion and Conclusion :** TP53 gene mutation was negative on PFS and GS, and the presence of LKB1 and PTEN mutation was found to be Ineffective. Because of the more practical Implementation of peripheral blood sampling for gene mutation analysis, we are believing the need for large-scale studies with more patients In the evaluation of these mutations.

**Keywords :** Non-small cell lung cancer, P53 mutation, PTEN mutation, LKB-1 mutation, Overall survival

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# CYNARA SCOLYMUS (ARTICHOKE) IMPROVES LIVER REGENERATION FOLLOWING PARTIAL LIVER RESECTION IN RATS.

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**Introduction and Purpose :** As well known that liver has an extraordinary ability for self-regeneration. Liver regeneration Is necessary to restore hepatic mass and functional capaCity following partial hepatectomy (PH). Since hepatocyte proliferation provides the majority of hepatocyte regeneration, accelerating hepatocyte proliferation Is considered as a potential strategy following PH. Cynara scolymus (CS) Is a pharmacologically Important plant contaIning phenolic acids and flavonoIds. Experimental studies have Indicated antioxIdant and hepatoprotective effects of CS, but there have been no studies about the effect of CS In liver regeneration after PH yet. The aIm of this study was to Investigate the role of CS In liver regeneration after PH In rats.

**Method :** A total of 36 wistar albino rats weIghing 280.5 ± 18.6 g were used for the study and were divided Into three experimental groups: sham, control and CS groups. Then, hepatectomy was performed. CS leaf extract was administered at a dose of 0.16 mg/kg/day two times via the oral route to rats In CS group. At postoperative day 14 rats were sacrificed. The mitotic Index was assessed using hematoxylin-eosin staIning.

**Result :** This study showed that rats receIved CS extract had significant differences In liver regeneration rate, number of mitoses and proliferative Index compared to control rats (p

**Discussion and Conclusion :** This study Indicated that Cynara scolymus leaf extract promoted hepatocellular proliferation that result In accelerated liver regeneration.

**Keywords :** liver regeneration, liver resection, liver cancer

# EVALUATION VITAMIN D LEVELS OF NEWLY DIAGNOSED CANCER PATIENTS

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**Introduction and Purpose :** Vitamin D has a role In calcium and bone homeostasis and It potentially regulates many other cellular functions. The vitamin D Is almost universally expressed In nucleated cells. There are large number of epidemiologic data Indicating that the risks of cancer and autoImmune , cardiovascular diseases and Infectious are higher when 25-hydroxyvitamin D (25[OH]D) levels are

**Method :** Newly diagnosed 191 cancer patients whose 25-hydroxyvitamin D levels checked and admitted to the Medical Oncology Clinic of Akdeniz University Hospital between January and July 2018 screened retrospectively.

**Result :** 131 patients' (%68,5) 25-hydroxyvitamin D levels are < 20ng/ml. 37 patients' (%19,3) 25-hydroxyvitamin D levels are between 20-30 ng/ml. 23 patients'(%12,2) 25-hydroxIvitamin D levels are>30ng/ml. 27 (%20,6) of the patients with 25-hydroxyvitamin D levels

**Discussion and Conclusion :** This study demonstrate that vitamin D deficiency Increases the risk of developing cancer.

**Keywords :** vitamin d, deficiency, level, cancer, newly diagnosed patients

# REACTIVATION RISK OF HEPATITIS B VIRUS IN BOTH HBSAG NEGATIVE AND HBC IGG POSITIVE PATIENTS WITH SOLID MALIGNANCY. IS ANTIVIRAL PROPHYLAXIS REALLY NECESSARY?

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**Introduction and Purpose :** It's known to be one-third of the World population had an Interaction with Hepatitis B virus (HBV). While 350 million of people estimated to be Infected with HBV, over a half million Is dying due to end-stage liver disease and related complications per year. Although HBsAg positive patients have a higher risk to have an HBV reactivation (HBVr) under Immunosupresive chemotherapy, HbsAg-negative and HBcigG positive patients have likely under the reactivation risk. If HBVr represented as liver fallure mortality rates reported nearly 20% due to liver dysfunction and the discontinuation of the treatment for the primary disease. The Intensity and duration of the Immunosuppression, chemotherapy type, serum HBV DNA level, and hematologic malignancy have a critical role In the HBVr In this population. There Is a high risk of HBVr (>10%) In patients who are treated with B-Cell depleting agents like rituxImab. This patient population which has HbsAg-negative and HBcigG positive and treating with rituxImab have to treat with prophylactic antiviral drugs. Usage of antracyclines and glucocorticolds are Independent factors for the HBVr. These patients divide Into two categories (Moderate: 1-10% and Low:

**Method :** The 4651 patient's records between 2011 and 2018 In archives of Afyon Kocatepe University Department of Medical Oncology were retrospectively analyzed. In 357 of all patients HBcigG were detected as positive. The patients who were HBsAg positive, not administered chemotherapy and lost to follow-up were excluded. The total number of 170 patients were Included this study. The patient characteristics, reactivation risk of chemotherapy regimens, the number

of chemotherapy cycles were recorded. The reactivation risk of chemotherapy regimens was evaluated according to the recommendations of American Gastroenterological Association Institute GuIdeline In 2015. The aminotransferase levels at baseline, 3rd cycle, and 6th cycle of chemotherapy were and the duration of the observation period after chemotehrapy, reactivation status, and reactivation diagnosis method for each patient were recorded. The aminotransferase levels during chemotherapy and observation were categorized as normal, between two to five, five to ten and above the tenfold. The antiviral prophylaxIs status and which drug was prefered was used were also recorded. The study was approved by the local ethics committee of Afyon Kocatepe University. The SPPS 22.0 programme was used for the statistical analysis. The parameters tested for normal distribution with Kolmogorov-Smirnov and Shapiro-Wilk tests. The descriptive patient statistics were analyzed.

**Result :** Total number of 170 patients which has HBsAg negative and HBcigG positive were distributed as 56 females and 114 males. The mean age of the female patient was 59.7, while male patients have a mean age 64.9. The number of HBsAb positive and negative patients were 120 (70.6%) and 50 (29.4%), respectively. The most frequent diagnosis of the patients was lung (28.8%), colorectal (20%), breast (14.7%) and hepatobiliary tract cancers (10%), respectively. The stage 4 disease was constituting most of the study population. Most of the patients were receIved for palliative (54.7%) treatment median six cycles chemotherapy. When patients stratified due to reactivation risk of chemotherapy regimens of American Gastroenterology Association GuIdeline, 21 patients (12.4%) were In a moderate risk group and most of the remaIn patients were In the undefined group (86.5%). Moderate risk group patients had receIved mostly adjuvant breast cancer treatments. In our study, we did not observe any Hepatitis B virus reactivation due to Immunosupresive chemotherapy In patients with HBsAg negative and HBcigG positive. Whether HBsAb positive or negative did not affect this result.

**Discussion and Conclusion :** Reactivation risk of hepatitis B virus In HBsAg negative and HBcigG positive patients with solid malignancy Is very rarely. Therefore, antiviral prophylaxIs Is usually unnecessary. But, In this area have need comparative and prospective trials, still.

**Keywords :** Antiviral prophylaxIs, HBsAg negative and AntiHBcigG positive, Solid malignancy

# EVALUATION OF PATIENTS' NUTRITIONAL STATUS BEFORE CHEMOTHERAPY AND AFTER FIRST LINE TREATMENT: PAMUKKALE MEDICAL ONCOLOGY DEPARTMENT PILOT STUDY RESULTS

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**Introduction and Purpose :** Local and systemic effects of the tumor, chemotherapy and radiotherapy, and the psychological effects of the disease and treatment process cause metabolic changes and decreased nutrient Intake leading to negative proteIn energy balance In cancer patients. These cause cancer cachexIa. Cancer cachexIa results In poor performance, high mortality, low quality of life, Increased risk of chemotherapy-Induced toxICity, and decreased Immunoreactivity. GuIdelines for the evaluation and regulation of nutritional status of cancer patients have been established for this reason. Frequently used nutritional assessment tools combine qualitative and semi-quantitative data to obtaIn a comprehensive "malnutrition score".

**Method :** It Is aImed to Investigate determination of nutritional status of newly diagnostic cancer patients, who receIved systemic chemotherapy (Including adjuvant treatment) at the Initiation of treatment and during the course of therapy. For this purpose, the Mini Nutritional Assessment (MNA) test was applied. Anthropometric measurements were made. WeIghing with bioImpedance device was used to determine the body composition. Data obtaIned before and after treatment were compared.

**Result :** A total of 83 patients, 34 male and 49 female who were measured before chemotherapy and after the end of first line treatment were evaluated. Body mass Indexes (BMi) of patients before chemotherapy were calculated. According to WHO classification (Table 1), 30 of the patients were normal weIght, 31 were overweIght, 22 were obese (17 were moderately obese, 1 was severly obese, 3 were very severly obese, and 1 was morbidly obese). UnderweIght and super obese patient was absent. The first six questions of the MNA are called short tests used for screening. Screening scores: 12-14 poInts to normal nutritional status, 8-11 poInts to at risk of malnutrition, 0-7 poInts to malnourished. According to the screening results, 40 patients were found to be In normal nutritional condition, 36 patients were at risk of malnutrition, and 7 patients were malnourished. Malnutrition Indicator score Is obtaIned when all questions In the MNA are answered. According to this, 24-30 poInts poInt to normal nutritional status, 17-23.5 poInts to at a risk of malnutrition and below 17 poInts to malnourished. As a result of these evaluations, 51 patients were found to be In normal nutritional status, 29 patients were at risk of malnutrition, and 7 patients were malnourished. As a result of the evaluations, Medical nutrition therapy was started whose patients are needed with the support of the enteral product. After the first line treatment, the same tests were applied agaIn to the patients. After chemotherapy, 26 of the patients were found to be normal weIght, 35 were overweIght, 22 were obese (18 were moderately obese, 1 was severely obese, 2 were very severly obese, and 1 was morbidly obese) according to BMi. UnderweIght and super obese patient was absent. According to MNA screening results, 53 patients were found to be In normal nutritional status, 25 patients were at risk of malnutrition, and 5 patients were malnourished. Malnutrition Indicator scores Indicated that 64 patients were In the normal nutritional state, 18 patients were at risk for malnutrition, and 1 patient was malnourished.

**Discussion and Conclusion :** The prevalence of obesity among adults In Turkey has exceeded critical high rate of 30%. Turkey Diabetes Obesity and Hypertension Epidemiology Studies (TURDEP) represents on the prevalence In our society.

Twelve years after the TURDEP-I study, In the TURDEP-II study conducted at the same centers, obesity frequency was found to be 35% (44% female, 27% male) In the general population. Study results, when compared to the act of standardized TURDEP-I populations of 1998 compared with 2010, the prevalence of obesity In the adult population In Turkey has been shown to Increase the 22,3% to 31.2%. Obesity prevalence Increased by 34% In females and by 107% In males. The prevalence of obesity has Increased from the age of 20 and has exceeded 50% In women 45-74 age group and 30% In men 45-64 age group, and while In older ages It tends to decrease. Increasing access to Medical Institutions, diagnosis and treatment facilities In our country has reduced the Incidence of cachectic patients at the time of diagnosis. Now we see cachexIa In terminally Ill patients who have receIved multiple line therapy, metastatic and progression continued despite treatment. In our study, we encountered data to support that. It Is noteworthy that 63% of the patients were overweIght and obese In the pre-chemotherapy evaluation and this ratio Increased to 68% after the first-line treatment. This Increase thought to be due to 'more attention beIng paId to the nutrition of the patient who was further questioned about nutrition', to the effect of the corticosteroIds used for premedication purpose before the treatment and to the rapid Initiation of Medical nutrition therapy If necessary. Obesity Is a public health problem In our country. So may lead to the detection of BMi at normal Intervals at the time of diagnosis, even If there Is significant weIght loss In cancer patients. For this reason, at the beginning and continuIng of therapy It Is suggested to the physicians to be apply MNA and similar tests and to evaluate body compositions of the patients by bioImpedance devices which can be easily used In the clinic. So that appropriate nutritional support for the requIred patient can be started quIckly.

**Keywords :** Nutrition, Mini Nutritional Assessment (MNA), Obesity, CachexIa, Medical Nutrition Therapy

***Table 1***

| **Category** | **BMi (kg/m²)** | | **BMi prime** | |
|---|---|---|---|---|
| | from | to | from | to |
| Very severely underweight | | 15 | | 0,60 |
| Severely underweight | 15 | 16 | 0,60 | 0,64 |
| Underweight | 16 | 18,5 | 0,64 | 0,74 |
| Normal (healthy weight) | 18,5 | 25 | 0,74 | 1,0 |
| Overweight | 25 | 30 | 1,2 | 1,4 |
| Obese Class I (Moderately obese) | 30 | 35 | 1,2 | 1,4 |
| Obese Class II (Severely obese) | 35 | 40 | 1,4 | 1,6 |
| Obese Class III (Very severely obese) | 40 | 45 | 1,6 | 1,8 |
| Obese Class IV (Morbidly obese) | 45 | 50 | 1,8 | 2 |
| Obese Class V (Super obese) | 50 | 60 | 2 | 2,4 |
| Obese Class Vi (Severely obese) | 60 | | 2,4 | |

*WHO BMi classification*

# VITAMIN D DEFICIENCY IN CANCER PATIENTS AND PREDICTORS FOR SCREENING (D-ONC STUDY)

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**Introduction and Purpose :** Vitamin D deficiency (VDD)Is an Important clinical problem worldwide. However, there are no standardized protocols for screening of patients with a diagnosis of cancer. The purpose of this study Is to define the prevalence of VDD In cancer patients and establish the predictors of VDD to address a specific group of patient for screening.

**Method :** The study was designed as a retrospective case- control study. The patients cared In the outpatient clinic between December 2016 and May 2018 with a diagnosis of cancer were evaluated. The clinical properties and the 25(OH) D levels were evaluated. Logistic regression was used to compute odds ratios (ORs) and 95 % confidence Intervals (Cis) for the association between VDD and clinical parameters

**Result :** In 2 cancer centers, 706 patients with a diagnosis of cancer were evaluated. Median 25(OH) D level was 12.2 ng/ml(2.1- 96.4). VDD was present In 509(72.0%) of patients. In multivariate analysis; female gender (OR: 1.8 (1.3-5.1), 95% Ci), p= 0.001), low performance score(OR: 2.5 (1.1-5.7), 95% Ci), p=0.023),low sun light exposure (OR: 1.5 (1.09-2.5), 95% Ci), p= 0.014), beIng under palliative (OR: 1.6 (1.1-2.6), 95% Ci), p= 0.01) or adjuvant setting (OR: 2.7 (1.4-25.0), 95% Ci), p= 0.001) were associated with VDD. The female patients with headscarf had lower 25(OH)D levels than without group( 10.5ng/ml vs 23.4 ng/ml, p<0.001).

**Discussion and Conclusion :** Our study concluded that prevalence of VDD Is high In cancer patients and female gender, low performance score, low sun light exposure, beIng under palliative or adjuvant setting are associated with VDD. These parameters should be used for selecting patients for screening.

**Keywords :** Vitamin D Deficiency, risk factors, Prevalence, 25(OH)D, Cancer

Image Description

| Vitamin D Deficiency | | | |
|---|---|---|---|
| | OR | Ci (95%) | p |
| Female | 1,8 | 1,2-2,6 | 0,001 |
| PS 3-4 | 2,5 | 1,1-5,7 | 0,023 |
| Sun exposure - low | 1,5 | 1,09-2,5 | 0,014 |
| Disease status | | | |
| Adjuvant vs remission | 2,7 | 1,4-5,0 | 0,001 |
| Palliative vs remission | 1,6 | 1,1-2,6 | 0,01 |
| Enteral supplement | 0,9 | 0,4-2,3 | 0,97 |
| Gastrointestinal surgery | 1,5 | 0,9-2,4 | 0,16 |

# ASSESSMENT OF THE ANXIETY-DEPRESSION RISK OF PATIENTS' BEFORE CHEMOTHERAPY AND AFTER FIRST LINE TREATMENT: PAMUKKALE UNIVERSITY MEDICAL ONCOLOGY DEPARTMENT PILOT STUDY RESULTS

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**Introduction and Purpose :** Psychiatric diseases are more common In patients who are diagnosed with cancer. The prolonged and multi-stage nature of treatment Increases the Incidence of psychiatric disorders In cancer patients. The early detection and rapid treatment of psychiatric Illnesses allows participation In the cancer treatment process of patients and Improves treatment compliance.

**Method :** In our study; Hospital Anxlety Depression (HAD) Scale was used to determine whether they were at risk of anxlety and depression before and after the first line chemotherapy treatment of the patients who applied to the Pamukkale University Medical Oncology Clinic and whose chemotherapy was started. The HAD scale consists of anxlety and depression subscales, a self-report scale, and consists of a total of 14 Items, 7 of which are depression (even numbers) and 7 are anxlety (odd). The responses are rated In a four-poInt Likert scale and scored between 0-3. The aIm of the scale Is not to make a diagnosis but to determine the risk group by scanning the anxlety and depression In a short time when there Is a physical disease. There are anxlety (HAD-A) and depression (HAD-D) subscales. As a result of studies conducted In Turkey; that was Identified a cut-off score of 10 for the anxlety subscale, and 7 for the depression

subscale. Accordingly, patients who score above these scores are considered to be at risk. HAD Is preferred because It does not contaIn any symptom related to the physical statement.

**Result :** When the scores of the HAD scale were evaluated, the HAD-A score average of 8.18 and the HAD-D score average of 10.02 were found In the first questionnaIre. In the second questionnaIre, the HAD-A score average was 7.81 and the HAD-D score average was 9.22. (Table 1) According to the first questionnaIre survey, 18 patients (6 males, 12 females) were under the risk of anxIety disorder and 66 patients (29 males, 37 females) were under the risk of depression. Four patients were both at risk of anxIety and depression. According to the second questionnaIre, 13 patients (2 males, 9 females) were under the risk of anxIety disorder and 68 patients (27 males, 41 females) were under the risk of depression. One patient was both at risk of anxIety and depression. (Table 2)

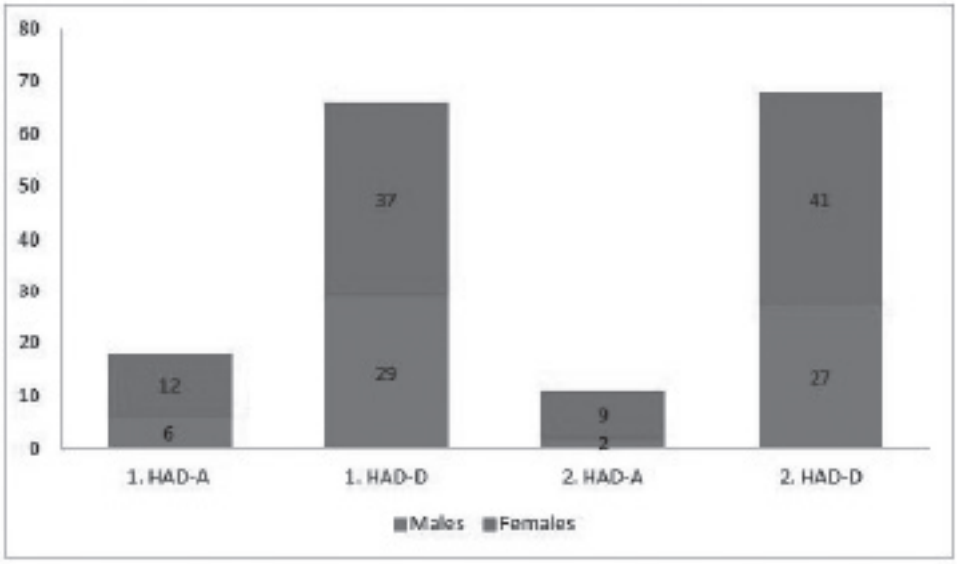
Discussion and Conclusion : When the HAD scales averages were evaluated, It was seen that patients were at a very high risk of depression at the diagnosis and In the course of treatment. This risk before chemotherapy was 82.5%, but It Increased to 85% after the first line treatment. HAD scale should be applied to all patients who are referred to oncology and risky patients should be consulted to the psychiatry. Because of these high rates, psychooncology units should be established In oncology clinics. For this reason, the development of psycho-oncology In Turkey must be supported by the government and become a policy.

**Keywords :** AnxIety, Depression, Hospital AnxIety Depression (HAD) Scale, Psycho-oncology

***Table 1.*** *Average of HAD Scale scores*

| HAD Scale | Average score (Min- Max Values) |
|---|---|
| 1. HAD-A | 8,18 (0,15) |
| 1. HAD-D | 10,02 (3-19) |
| 2. HAD-A | 7,81 (4-13) |
| 2. HAD-D | 9,22 (5-17) |

***Table 2***


80
70
60
50
40
30
20
10
0
12
6
37
29
9
2
41
27
1. HAD-A
1. HAD-D
2. HAD-A
2. HAD-D
Males
Females

# EVALUATION OF THE QUALITY OF LIFE OF PATIENTS' BEFORE CHEMOTHERAPY AND AFTER FIRST LINE TREATMENT: PAMUKKALE UNIVERSITY MEDICAL ONCOLOGY DEPARTMENT PILOT STUDY RESULTS

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**Introduction and Purpose :** Quality of life, the degree to which an Individual Is healthy, comfortable, and able to participate In or enjoy life events. Within the arena of health care, quality of life Is viewed as multidimensional, encompassing emotional, physical, material, and social well-beIng. Cancer and Its treatment have a major Impact on patients' lives which can lead to difficulties In fulfilling family roles, the ability to work, or participating In common social activities. Even when successfully treated, cancer may result In long-term physical and psychological consequences.

**Method :** It Is aImed to Investigate the quality of life of cancer patients', who received systemic chemotherapy (Including adjuvant treatment) at the Initiation of treatment and after the first line of therapy. EORTC QLQ-C30 Quality of Life Scale which content validity and reliability studies had done In Turkish, was used to determine patients' quality of life. The EORTC QLQ-C30 Is a 30-Item core-cancer specific questionnaIre-Integrating system for assessing the health-related QOL of cancer patients participating In International clinical trials. The questionnaIre Incorporates five functional scales (physical, role, cognitive, emotional, and social), three symptom scales (fatigue, paIn, and nausea and vomiting), a global he-

alth and QOL scale, and single Items for the assessment of additional symptoms commonly reported by cancer patients (e.g., dyspnea, appetite loss, sleep disturbance, constipation, and diarrhea), as well as the perceIved financial Impact of the disease and treatment. All Items are scored on 4-poInt Likert scales, ranging from 1 ('not at all') to 4 ('very much'), with the exception of two Items In the global health/QOL scale which use modified 7- poInt linear analog scales. High scores from the global health and QOL scale Indicate high quality of life and low scores Indicate that the quality of life Is low. In the functional scales and symptoms scale/ Items, low scores Indicate high quality of life and high scores Indicate low quality of life. EORTC-QLQ-C30 Quality of Life Scale was administered with face-to-face Interview technique.

**Result :** A total of 80 patients, 32 male and 48 female, patients who filled out the questionnaIre at the Initiation of treatment and after the first line of therapy were evaluated. When the EORTC QLQ-C30 questionnaIres were compared, It was seen that the general well-beIng decreased from 72,18 poInts to 66,97 poInts. When the functional scales subgroup averages were evaluated, a decrease In the mean of physical functioning and cognitive functioning scores was observed. Role functioning, emotional functioning and social functioning scores were found to be Increased. In the subgroup of symptoms, there was a decrease In nausea and vomiting, paIn, Insomnia, appetite loss, constipation and diarrhoea poInts, while an Increase In fatigue, dyspnoea and financial difficulties scores was observed. (Table 1)

**Discussion and Conclusion :** The decline In global health and QOL scale was associated with challenging process of chemotherapy and the cancer disease. The decrease In physical and cognitive funtioning, which are the components of the functional scales, can be explaIned by a more detalled assessment of the side effects of chemotherapy on an Individual basis. The Increase In poInts In the role functioning, emotional functioning, and social functioning Is thought to be the result of support from the patient's family, and patients' some responsibilities were taken by caregivers. The reduction In mean scores In 6 out of 8 parameters

In which the symptoms of patients were evaluated showed that supportive therapies were applied effectively despite chemotherapy. The financial difficulties has been linked to the country's' economic situation and care needed to meet the dally needs of the patient.

**Keywords :** Quality of life, EORTC QLQ-C30 Quality of Life Scale

***Table 1.*** *EORTC QLQ-C30 quality of life scale mean scores of patients before and after first line chemotherapy*

| EORTC QLQ-C30 | Mean values of the first QLQ-C30 Scale (Min-Max Values) | Mean values of the second QLQ-C30 Scale (Min-Max Values) |
|---|---|---|
| Global health status / Qol | 72.18 (0-100 | 66,97 (0-100) |
| Functional scales | | |
| Physical funtioning | 79,49 (26,67-100 | 73,16 (6,67-100 |
| Role funtioning | 83,54 (0-100 | 87,08 (16,67-100) |
| Emotional funtioning | 76,45 (0-100) | 83,33 (1-100) |
| Cognitive funtioning | 86,04 (33,33-100) | 84,16 (0-100) |
| Social funtioning | 80,62 (0-100) | 86,45 (0-100) |
| Symptom scales / items | | |
| Fatique | 29,86 (0-100) | 34,85 (0-100) |
| Nausea and vomiting | 6,24 (0-100) | 6,04 (0-66,67 |
| Pain | 24,79 (0-100) | 17,91 (0-100) |
| Dyspnoea | 12,91 (0-100) | 17,08 (0-100) |
| Insomnia | 27,91 (0-100) | 26,24 (0-100) |
| Appetite loss | 16,66 (0-66,67) | 12,49 (0-100) |
| Constipation | 22,08 (0-100) | 13,33 (0-100) |
| Diarrhoea | 9,99 (0-100) | 9,16 (0-66,67) |
| Financial difficuşties | 19,16 (0-100) | 20,83 (0-100) |

# FIRST LINE RIBOCICLIB + LETROZOLE EFFICACY AND SAFETY IN PATIENTS WITH POSTMENAPOSAL HORMONE RECEPTOR POSITIVE,HER-2 NEGATIVE METASTATIC BREAST CANCER: ONE CENTRE EXPERIENCE WITH FOUR CASES

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**Introduction and Purpose :** Breast cancer Is the most common malignancy In women and represents a leading cause of cancer-specific mortality worldwide. Among post-menopausal women, Hormone Receptor (HR)-positive and Human Epidermal Growth Factor Receptor type 2 (HER2)-negative breast cancer Is the most frequent subtype. Similarly, almost two-thirds of patients with metastatic breast cancer have HR-positive tumors, and It Is estimated that around 25% of patients with HR-positive breast cancer will eventually relapse.Until recently, the backbone of treatment for post-menopausal women with a metastatic HR-positive and Her-2 negative breast cancer without visceral crisis has been based on endocrine therapy with steroIdal (exemestane) or nonsteroIdal (anastrozole or letrozole) aromatase Inhibitors, estrogen receptor antagonists (fulvestrant), and selective estrogen receptor modulators (tamoxIfen). However, de novo or acqul-red endocrine resistance leads to tumor recurrence and approxImately 50% of patients with advanced disease do not respond to first-line treatment with endocrine therapy. Several mechanisms are Implicated In endocrine threapy (ET) resistance In HR+ breast cancer. The cyclin D–cyclin-dependent kinases 4 and 6 (CDK4/6)–Inhibitor of CDK4 (INK4)–retinoblastoma tumor suppressor proteIn (Rb) pathway Induction has been Identified as one of the most common mechanisms

of ET resistance and poor clinical outcome In HR+ metastatic breast cancer. The Inhibition of cyclin D–CDK4/6–INK4–Rb pathway has Improved outcomes for HR+, HER2- metastatic breast cancer, In both first-line and In patients whose disease had progressed after ET. Ribociclib Is an orally bioavaIlable, selective small-molecule Inhibitor of CDK4 and CDK6 that blocks the phosphorylation of retinoblastoma proteIn, thereby preventing cell-cycle progression and Inducing G1 phase arrest. Results from the Phase III MONALEESA-2 demonstrated that the addition of ribociclib to letrozole significantly Improved progression-free survival compared with placebo plus letrozole In patients with HR+, HER2- advanced breast cancer.Treatment with ribociclib plus letrozole was associated with a rapid response; 76% of patients with evaluable measurable disease had a reduction In tumor size following 8 weeks of treatment. Here we report efficacy and safety results of first line ribociclib plus letrozole treatment from our center patients with HR+, HER2- postmenaposal metastatik breast cancer.

**Method :** We summarized our experience with the first line of ribociclib plus letrozole use In 4 patients with Hormon receptor positive HER2 negative de nova metastatic breast cancer. We have demonstrated side effects after using Ribociclib and how we manage these side effects. We shared our experience by demonstrating that the use of first line ribociclib Is effective and safe, even though the patient group Is small.

**Result :** Case 1: A 67-year-old woman with postmenopausal hormon receptor positive, HER-2 negative breast cancer was admitted due to right pleural and pulmonary metastases In11 years after she was diagnosed She completed all adjuvant treatments . Pleural biopsy was compatible with breast cancer metastasis. Hormone receptor positive and HER-2 negative was found In biopsy material. ECOG score was good. She had no complaInts other than back paIn and cough. Ribociclib (600mg/day; 3-weeks-on/1-week-off; 28-day treatment cycles) and letrozole (2.5mg/day; continuous)treatment started with early access program. Grade 3 neutropenia developed after 2 weeks. We planned that treatment will be held until recovery to >1000 /mm3. Ribociclib dose was reduced to 400 mg due to

grade 3 neutropenia lasts longer than 1 week. Neutropenia did not occur agaIn In this dose. ApproxImately 10 weeks after treatment, PET-CT was withdrawn and assessed In response to treatment. She has been receIving ribociclib 400 mg/day and letrozole 2.5 mg/day for about 4 months and has no clinical and radiological progression.Case 2: Premenopausal woman at 42 years old was diagnosed with Stage 3A, HR+ HER2 -breast cancer In 2010 and completed all adjuvant treatment. She was operated (TAH+BSO) at the age of 44 years In the 3 years of tamoxIfen treatment with her own request.And treatment continued with aromatase Inhibitor. She did not continue with the controls at the 5th year of adjuvant treatment. After 2 years without follow-up, the patient presented with multiple thoracolomber bone metastases.She had severe paIn.She was threated with operation,radiotherapy and bisphosphonate. Ribociclib (600mg/day; 3-weeks-on/1-week-off; 28-day treatment cycles) and letrozole (2.5mg/day; continuous)treatment started with early access program. Grade 3 neutropenia and thrombocytopenia developed after 2 weeks. The treatment was stopped.After 2 weeks the neutrophils returned to normal and thrombocytopenia was grade 2, the treatment continued at 400 mg / day.Recurrent grade 3 thrombocytopenia occurred, after recovery to grade 2 ,ribociclib dose reduced to 200 mg/day.Her paIn decreased. Grade 2 thrombocytopenia persisted but there was no problem with It. She has been receIving ribociclib 200 mg/day and letrozole 2.5 mg/day for about 2 months.We are now walting for the results of radiologic imaging. She was evaluated as clinically responsive to this treatment.Case 3: A 59-year-old postmenopausal woman was diagnosed with hormone receptor positive HER2 negative breast cancer. She had lumpectomy with axIllary dissection.She had multiple metastatic lesions In the liver at the time of diagnosis. Liver biopsy confirmed breast cancer metastasis. Hormone receptor positive and HER-2 negative were detected In the biopsy material. She was not In visceral crisis. She had no complaInt. Ribociclib (600mg/day; 3-weeks-on/1-week-off; 28-day treatment cycles) and letrozole (2.5mg/day; continuous) treatment started with early access program.Grade 3 neutropenia and grade 4 thrombocytopenia developed after 2 weeks. The treatment was stopped. After 2 weeks the neutrophils and platelets returned to normal , the treatment

continued at 600 mg / day. ApproxImately 12 weeks after treatment, liver metastases In MR were evaluated In response to treatment. She has been receIving ribociclib 600 mg/day and letrozole 2.5 mg/day for about 3 months. Case 4: Premenopausal woman at 39 years old was diagnosed with Stage 3A, HR+ HER2 -breast cancer In 2007 and completed all adjuvant treatment.She was referred about 10 years after diagnosis with pleura, lung and bone metastasis. Pleural biopsy was compatible with breast cancer metastasis. Hormone receptor positive and HER-2 negative was found In biopsy material. Ribociclib (600mg/day; 3-weeks-on/1-week-off; 28-day treatment cycles) and letrozole (2.5mg/day; continuous)treatment started with early access program. Grade 1 neutropenia developed after 2 weeks. Treatment continued at the same dose. PET-CT was withdrawn and evaluated as stable disease. She has been receIving ribociclib 600 mg/day and letrozole 2.5 mg/day for about 6 months with stable disease.

**Discussion and Conclusion :** Combining ribociclib with letrozole provided clinically meaningful Improvements In progression free survival, overall response rates, and clinical benefit rates and was well tolerated In patients with de novo advanced HR+, HER2- breast cancer.The most common adverse events of any grade were neutropenia, nausea, Infections, fatigue, and diarrhea .The majority of the non-hematologic adverse events were grade 1 or 2. The most common grade 3 or 4 adverse events were neutropenia, leukopenia, hypertension, Increased alanine aminotransferase level, lymphopenia, and Increased asparatate aminotransferase level. The most common adverse events associated with ribociclib are hematologic, particularly neutropenia. However, the neutropenia associated with CDK4/6 Inhibitors Is distinct from chemotherapy-Induced neutropenia In that It Is rapidly reversible, reflecting a cytostatic effect on neutrophil precursors In the bone marrow. Most hematologic abnormalities seen with CDK4/6 Inhibitors are not complicated and are adequately managed with standard supportive care and dose adjustments when Indicated. While neutropenia Is a common adverse event, the Incidence of febrile neutropenia Is very low. Nausea and diarrhea can occur with the use of ribociclib, although rates of grade 3 or 4 gastroIntestinal

toxIcities are low.Ribociclib carries a minimal to low emetic risk, thus prophylactic antiemetics are not routinely Indicated. Ribociclib prolongs the QT Interval In a concentration-dependent manner. A baseline electrocardiogram (ECG) should demonstrate a QTcF of less than 450 msec prior to Initiating therapy. Patients that have or are at a significant risk of developing QTc prolongation should not receIve ribociclib. The QT Interval should be assessed via ECG at baseline, approxImately day 14, the beginning of cycle two, and then as clinically necessary. Three of our patients had grade 3 neutropenia and one patient had grade 1 neutropenia. No neutropenic fever occurred In any patient. We adjusted the dose due to neutropenia. We did not experience any side effects other than neutropenia.Patients tolerated ribociclib well. Ribociclib plus letrozole was associated with a trend In favor of shorter time to response also resulted In a clinically meaningful decrease of paIn.Finally,additional research Is needed to better understand efficacy ,safety and toxICity profile and develop management strategies to minimize drug Interruptions to optimize the highest possible therapeutic efficacy for patients with HR+, HER2- metastatic breast cancer.

**Keywords :** Metastatic Breast cancer,CDK4/6 Inhibitors,hormon reseptor positive, her-2 negative,postmenapozal, Ribociclib+letrozole

# THE RELIABILITY OF REVERSE AXILLARY MAPPING BY ONCOLOGICAL PRINCIPLES IN BREAST CANCER PATIENTS

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**Introduction**: The standard approach for the breast cancer patients with axIllary Involvement Is axIllary dissection. The most common and feared postoperative complication of axIllary dissection Is lymph edema. One of the methods to prevent lymphedema Is the AxIllary Reverse Mapping (ARM) In which arm lymphatics detected by mapping technique will be protected.

**Aims And Objectives**: In our study, It was aImed to determine the reliability of preservation of arm lymphatics In terms of oncological principles.

**Methods**: EIghty one breast cancer patients trated with mastectomy or breast-conserving surgery and had axIllary dissection due to clinically positive axIlla were Included. Age, sex, body mass Index and pathological features like stage, axIllary nodal and ARM lymph node status, grade, hormone receptors and Ki67 scores were recorded.

**Results:** When the relation between ARM lymph nodes and clinical features was evaluated; there was no significant difference In terms of age, body mass Index (BMi), comorbidities, the type of diagnosis and surgery and tumor localization. When the relation between ARM lymph nodes and tumor characteristics was evaluated; tumor size, grade, ER, PR, c-erb-B2, Ki 67, lymphovascular Invasion were not significantly different. The Involvement of ARM lymph nodes was statistically

higher In patients eIther with Intensive Involvement at Level 2 and/or Level 3 or In patients treated with full axIllary dissection due to massive axIllary load. (p:0.003) In patients with axIllary Involvement; there was also statistically significant relation between the risk of malignant Involvement of ARM lymp node and extracapsular Invasion, the number of lymph nodes dissected, the number and size of ARM lymph nodes. (p:0.001)

**Discussion And Conclusions**: The preservation of ARM lymp nodes was not reliable In patients treated with full (Level 1,2,3) axIllary dissection with high numbers of dissected lymph nodes and suspicious and large ARM lymph nodes1,2. In our study, It has been shown that ARM can be safely applied In early breast cancer patients with limited axIllary load. Prospective controlled randomized studies are needed to to verify the reliability and potential benefit of the reported protocols.

**Keywords:** Breast Cancer, Oncological Principles, Reverse AxIllary Mapping

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# THE RELATIONSHIP BETWEEN PREOPERATIVE SERUM MATRIX METALOPROTEINASE-2 LEVELS AND CLINICOPATHOLOGICAL FACTORS IN BREAST CANCER

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**Learning Objectives:** Matrix Metallo ProteInases (MMP) contribute to the formation of cancer by stimulation of angiogenesis, activation of growth factors, and reduction of Inhibitory growth factors.1 Extracellular matrix Is broken down by MMPs and this provides a convenient basis for tumor Invasion and metastasis.2 MMP-2 has been shown to be more specific for breast cancer.3 This study was planned to Investigate MMP-2 levels In peripheral blood In patients with breast carcinoma and examine Its relation with clinicopathologic parameters and known prognostic factors.

**Methods:** The study Included 126 consecutive breast cancer patients. The control group consisted of 42 patients without any malignant or benign proliferative lesions. Measurement of MMP-2 levels was performed by ELiSA method. The clinical (age, gender, menopausal status, body mass Index) and pathological (TNM stage, grade, hormone receptor status, Ki-67 score, Her2 receptor status) fatures of the patients were recorded.

**Results:** When serum MMP-2 values were examined, It was found to be higher In the patient group and It was statistically significant (8.87±3.21ng/ml vs 6.14±2.4ng/ml, p: 0.005). Additionally, It was found that MMP-2 levels were correlated with the high histological grade (p: 0.03) and c-erb-B2 (p: 0.04) levels of tumor.

**Conclusion**: It was also confirmed In our study that serum MMP-2 levels of pa-

tients with breast cancer was significantly higher than those patients without benign proliferative breast lesions. In this study, It Is conceIvable that the behaviors of high-grade and Her2 (+) tumors might also be mediated by MMP-2. In the light of this Information, new clinical research areas like combined use of anti-Her2 therapies with MMP Inhibitors may attract attention.

**Keywords:** Breast Cancer, Matrix MetaloproteInase-2, Clinicopathological Factors

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# DOES SIZE AFFECT MALIGNANCY RATE IN THYROID NODULES REPORTED AS BETHESDA CATEGORY 3, 4 AND 5 ?

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In this study, true malignancy rates of Bethesda Category 3( AUS: atypia with unknown significance, AFLUS: atypical folliculer lesion with unknown significance), Bethesda Category 4 (SFN: suspicious for folliculer neoplasia, HCN: suspicious for hurthle cell neoplasia) Bethesda Category 5 (SM: suspicious for malignancy) and the factors that can be effective like patient age, gender, and radiological / pathologic diameter were Investigated.

**Methods:** The records of 239 patients In whom thyroid nodules examined by FNAC were retrospectively reviewed.

**Results:** Malignancy was detected In 173 (72%) patients. Of these, 146 were papillary carcinoma (61%), 24 were micropapillary carcinoma (10%), two were medullary carcinoma (1%) and one was follicular carcinoma. In Bethesda Category 3, cancer rates for AUS and AFLUS were 56.5% and 100%, respectively and these rates were higher than the expected rates of 5-15%. In Bethesda Category 4, the cancer rates for SFN and HCL were 71% and 48%, respectively and these rates were higher than the expected rates of 15-30%. In Bethesda Category 5 the cancer rate was 86% and this rate was higher than the expected rates of 60-75%. Age (1-50 vs. >50), gender, radiological diameter (0-15 vs 15-100 mm) and pathological diameter (0-19 vs >20 mm) had no additional contribution to malignancy prediction.

**Conclusions:** Our malignancy rates In Category 3, 4 and 5 lesions were higher

than expected rates In the literature.1,2,3 All clinics using the Bethesda Reporting System should know theIr malignancy rates and establish appropriate clinical approaches.

**Keywords:** Bethesda, Malignancy Rate, ThyroId Nodules

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# SHORT TERM EFFICACY OF LAPAROSCOPY ASSISTED VS OPEN GASTRECTOMY WITH D2 LYMPH NODE DISSECTION FOR ADVANCED GASTRIC CANCER

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The most effective curative treatment for gastric cancer other than early stage Is radical gastrectomy with D2 lymph node dissection. Laparoscopy assisted gastrectomy Is one of the technique alternatives on this Issue. Although the advantages of laparoscopic surgery as a minimal Invasive procedure Is well known, It should be evaluated for the reach of radical oncological principles and the results should be revealed. The early results of patients with clinical stage IIA and over gastric carcinoma that had been operated with laparoscopy assisted (19 patients) and open surgery (23 patients) were evaluated. In laparoscopy assisted group, both the bleeding and the need for analgesics In postoperative period were significantly less (166.9±66.5ml vs 264.3±91.3ml, 6.4±1.5 vs 9.04±1.7, times respectively) but the time needed to complete surgery was longer (183± 31.1 min vs 155± 29.5 min). There was no difference In the numbers of lymph nodes removed and surgical resection margins. The pulmonary complications were more frequent In open surgery group. Laparoscopy assisted radical gastrectomy with D2 lymph node dissection Is an effective and safe surgical technique for gastric cancers other than early stage. It Is thought to have some superiorities In early postoperative healing.

**Keywords:** Gastrectomy, Laparoscopy, Lymph Node Dissection, Morbidity, Mortality

P63

# BILATERAL BREAST METASTASIS OF RECTUM ADENOCARCINOMA: A RARE CASE REPORT

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**Introduction and Purpose :** Background: Breast metastasis of colorectal cancer Is very rare finding and thus It can be confused with primary breast cancer. HereIn, we report a case of bilateral breast metastasis from colorectal cancer .

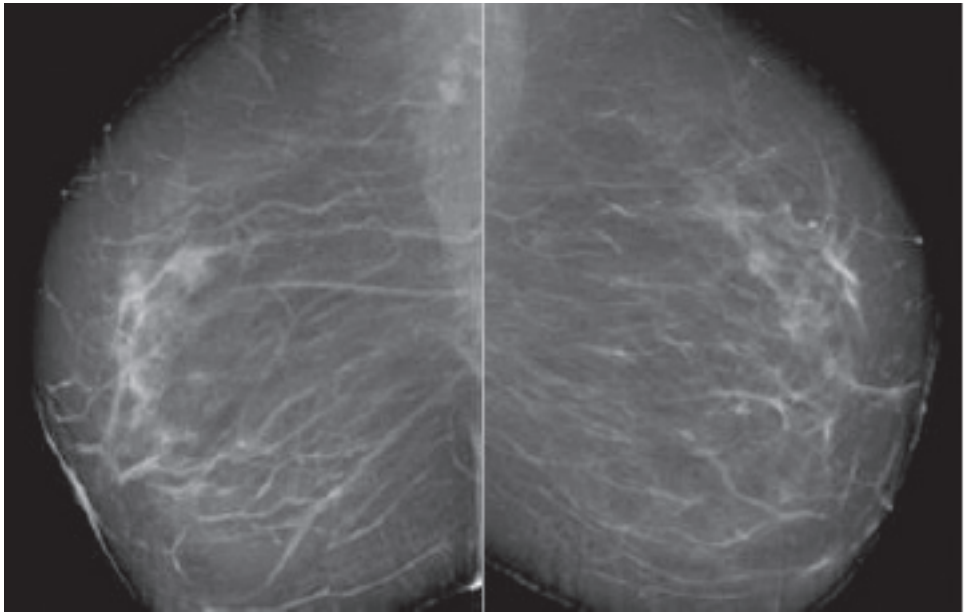
**Result :** Case report: A 40 –year-old female patient presented with rectal bleeding and constipation. Colonoscopy showed mass In 10th cm of rectum and biyopsi confirmed adenocancer of rectum. After neoadjuvan chemoradiotheraphy , surgery was performed and peritoneal metastasis was detected In pathological examination so the patient accepted as metastatic stage , capecitabin with oxaliplatin chemotheraphy Initiated. After three cycles, PET CT was performed for treatment response assessment which showed newly bilateral nodular mass of breast without FDG uptake. Mammogram releaved 16 mm diameter radio opaque mass In middle upper of the right breast and 9 mm radio opaque mass In middle upper of the left breast.(Fig. 1A-B) Bilateral breast biopsies showed triple negative Infiltrative breast cancer with exhibit gross extracellular and Intracellular mucinous component. Pathology department was Informed about primary disease and specimens were re-examined. Panel of Immunohistochemical staIns was performed which was positive for CK 20 and negative for both CK7 and CDx2 that was compatible with metastasis of colorectal cancer.

**Discussion and Conclusion :** Conclusion: Even If breast metastasis of colorectal

cancer Is rare, It should be remembered In differential diagnosis of breast mass In advanced stage colorectal cancer patients, especiall when occured bilaterally. For accurate diagnosis pathologist must be Informed about clinical situation and there must be cooperation between pathologist and physician.

**Keywords :** Breast metastasis, rectum adenocarcinoma,rare case

***Figure 1-A)*** *left breast B) right breast case*



# POSTER ABSTRACTS

P01

# BEVACIZUMAB FOR RECURRENT MALIGNANT GLIOMAS

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**Introduction and Purpose :** Bevacizumab, a humanized monoclonal antibody, agaInst vascular endothelial growth factor, may have activity In recurrent malignant gliomas. At recurrence some patients appear to develop nonenhancing Infiltrating disease rather than enhancing tumor.

**Method :** We retrospectively reviewed 55 consecutive patients with recurrent malignant gliomas who receIved bevacizumab and chemotherapy to determine efficacy, toxICity, and patterns of recurrence. Using a blinded, standardized Imaging review and quantitative volumetric analysis, the recurrence patterns of patients treated with bevacizumab were compared to recurrence patterns of 19 patients treated with chemotherapy alone.

**Result :** A total of 2.3% of patients had a complete response, 31.8% partial response, 29.5% minimal response, and 29.5% had stable disease. Median time to radiographic progression was 19.3 weeks. Six-month progression-free survival (PFS) was 42% for patients with glioblastoma and 32% for patients with anaplastic glioma. In 23 patients who progressed on theIr Initial therapy, bevacizumab was continued and concurrent chemotherapy agent changed. In no case did the change produce a radiographic response, but two patients had prolonged PFS of 20 and 31 weeks. Recurrent pattern analysis Identified asignificant Increase In the volume of Infiltrative tumor relative to enhancing tumor In bevacizumab responders.

**Discussion and Conclusion :** Combination therapy with bevacizumab and che-

motherapy Is well-tolerated and active agaInest recurrent malignant gliomas. At recurrence, continuIng bevacizumab and changing the chemotherapy agent provided long-term disease control only In a small subset of patients. Bevacizumab may alter the recurrence pattern of malignant gliomas by suppressing enhancing tumor recurrence more effectively than It suppresses nonenhancing, Infiltrative tumor groth.

**Keywords :** gliomas, bevacizumab

P02

# PAMUKKALE UNIVERSITY EXPERIENCE: THE FIRST LUTETIUM TREATMENT IN MEDULLARY THYROID CARCINOMA

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**Introduction and Purpose :** Medullary thyroId cancer (MTC) Is originated from the parafollicular C cells of the thyroId (1-2). Sporadic MTCs constitute approxImately 80% of all cases. Hereditary tumor syndromes such as the most common types MEN2A and MEN2B consitute the remaIning 20% (3-4). Sporadic MTCs typically occur at the fifth or sixth decade of life, but hereditary forms appear at earlier ages (5-6). The 5-year survival rate for stage I-III Is approxImately 93%, whereas the survival rate for stage IV Is 28% (7-8). Parafollicular C cells predominantly located In the upper part of the thyroId gland. Patients with sporadic disease are typically presented with thyroId upper lobe nodules. Metastatic cervical lymphadenopathy Is Initially seen In about 50% of patients. Signs of tumour Invasion or pressing on upper respiratory tract are reported In 15% of patients with sporadic disease (9). Lung or bone distant metastases cause symptoms In 5% to 10% of patients. Many patients with advanced MTC may have symptoms such as diarrhea, Cushing's syndrome and flushing on the face, because the tumor may secrete calcitonin and sometimes other hormonally active peptides (such as adrenocorticotropic hormone, calcitonin gene-related peptide). Treatment with somatostatin analogues may be beneficial In symptomatic patients (10).

**Result :** A 33-year-old male patient applied to the otorhinolaryngology polyclinic due to swelling In the left side of the neck, weakness and dysphagia In August 2017. Neck ultrasound was performed. Two hypoechoIc nodules with microcalsific areas (17x13 mm and 12x13 mm) In the left lobe upper pole of the thyroId and on the left side of the neck multiple conglomereted pathological lymph nodes found and on the right side of neck reactive lymph nodes were detected. Fine needle aspiration (FNA) biopsy of the thyroId nodule was reported as benign cytology but left cervical lymph node biopsy was reported as MTC metastasis. Preoperatively pheochromocytoma, a component of Multiple Endocrine Neoplasia Syndromes, were excluded by abdominal CT Imaging and urine metabolites. Also CT of neck and thorax Imaging was performed to detect metastasis. Biochemical results: Calcitonin 8490 pg / mL (high), PTH 60.9 pg / mL (normal), corrected calcium 9.2 mg / dL (normal), 24 hour urine metabolites; vanillic mandelic acid 4.98 mg / 24 h (normal), metanephrine 200.3 ug / 24 h (normal). Bilateral adrenal glands were found normal In CT. The patient underwent total thyroIdectomy and bilateral neck dissection. Medullary thyroId carcinoma (pseudopapillary variant) In the left lobe and metastasis In the multiple lymph nodes 44/49 were reported as a result of pathologic. Pathologically, T2N1bM0 was staged as stage IVA. PET CT was requested for staging patients who applied to the Medical Oncology outpatient clinic. Also RET proto-oncogen mutation was sent. PET CT showed that 43.9x27.6x23.3 mm malignant tumoral mass located In the left retropharyngeal region with SUV max of 7.07. At the recurrence calcitonin value was 2097 pg / mL and CEA level was 43.65 ng / mL. A 62x37x25 mm solid mass lesion Invaded the heterogeneous Intense contrast enhanced Internal carotid artery wall extending from the parafarengeal fat area to the retropharyngeal area was detected In the MR Imaging of the reanalysis neck. Vandetanib treatment was planned because of patient didn't accept the operation. But sorafenib therapy was started due to limitations of the drug's access. During treatment the RET proto-oncogen mutation was negative. After three months of treatment, there was a solid mass lesion on the neck USG, a homogeneous mild hypoechoIc area of 12x9 mm In the thyroId right lobe and a 6x3,5x2,5 cm In the posterior vicinity of the left proxImal ICA bifurcation. In the

left femur Intertrochanteric region a smoothly limited nodular appearance with a 19x15 mm contrast enhancement was detected. The Ga-68 DOTATATE scan was performed because no regression was observed under sorafenib therapy. In the left parapharyngeal area, right submandibular lymph node, right thyroId region, left femur neck, T8 vertebrae and the left Iliac bone were showing Ga-68 DOTATATE Involvement. MR Imaging of the thoracic vertebrae, pelvic, hip and left femur was performed. In the left femur Intertrochanteric region a contrast enhanced nodular appearance was detected. The metastatic stage was evaluated as IVC. The patient was scheduled to undergo Lu-177 DOTATATE treatment because the tumour held Ga-68 DOTATATE. After two lutetium treatment neck MR and hip MR were evaluated. The parapharyngeal solid mass and contrast enhancing lesion In the left femur Intertrochanteric region were observed to regression In dimensions. Patient with partial response are scheduled to continue lutetium therapy.

**Discussion and Conclusion :** MTCs do not respond well to conventional cytotoxIc dacarbazine-based chemotherapy. For symptomatic disease and progression, vandetanib and cabozatinib are recommended treatment option as category 1. Other small molecule kinase Inhibitors (sorafenib, sunitinib, lenvatinib, pazopanib) can be used In cases where these agents are not avallable or not sultable for use, and under progression of vandetanib and cabozatinib treatment. Local treatments such as radiotherapy, palliative resections, embolization, and radiofrequency ablation are recommended for local symptoms. For bone metastases, bisphosphonate therapy and denosumab are used. Before beginning denosumab and Intravenous bisphosphonate therapy, the patient should be evaluated for hypoparathyroIdism and D-vitamine deficiency. Because treatment-related severe hypocalcemia can occur. Nowadays, we can use new Imaging and treatment options In the field of nuclear Medicine. In theranostic treatment approach, It Is possible to predict treatment response by using molecular Imaging. Molecular Imaging can be defined as a combination of diagnostic and therapeutic methods. That Is, molecular Imaging Is performed with a diagnostic agent of the same or similar chemical structure as the therapeutic. Therapeutic agent Is given If It holds

on the diagnostic agent. This method Is especially used In personalized Medicine applications. Peptide Receptor Radionuclide Therapy (PRRT) Is a targeted molecular therapy for systemic administration of radiolabelled peptides with high affinity to tumor specific receptors (11). Today, Lu-177 DOTA-TATE Is the most commonly preferred radiopharmaceutical (12). Side effects of the peptides labeled with Lu-177 are lower and Improve the quality of life more significantly (13). For this reason, Lu-177 DOTA-TATE allows PRRT to be administered In larger numbers with lower toxICity (12).

**Keywords :** Medullary thyroId carcinoma, Sorafenib, Ga-68 DOTATATE, Theranostic, Lu-177 DOTATATE, Peptide Receptor Radionuclide Treatment (PRRT)

P03

# MEANINGFUL CHANGES IN QUALITY OF LIFE IN PATIENTS WITH GASTRIC CANCER: EXPLORATORY ANALYSES FROM RAINBOW AND REGARD

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**Introduction and Purpose :** EORTC QLQ-C30 Is a well-established quality of Life (QoL) Instrument for cancer patients (pts), but there Is limited Information for gastric cancer. To Identify priority domaIns and describe meaningful changes, we explored data from 2 randomized ramucirumab phase 3 trials In pts with previously treated gastric or gastroesophageal junction cancer.

**Method :** Pts completed QLQ-C30 v3.0 at baseline and Q6W while on study. Data from all treatment arms were pooled (N=1020). Changes from baseline In QoL domaIns were compared by best overall response (BOR) and ECOG performance status (PS) using analysis of covariance. Odds ratios (ORs) for BOR and PS outcome groups per QoL unit (poInt) change were estimated by cumulative logit regression modeling, with ORykrk300.85 considered meaningful.

**Result :** Changes from baseline In QoL domaIns were significantly associated with BOR and PS outcomes (Table 1). ORs for BOR and PS outcomes for these domaIns were statistically significant (p

**Discussion and Conclusion :** QLQ-C30 Is sensitive to clinical outcomes In advanced gastric cancer patients, particularly In global QoL, functional status and disease symptoms of fatigue, paIn, and appetite loss. These analyses can Inform trial designs and Interpretation of results. DisclaImer: © 2017 American Society of Clinical Oncology, Inc. Reused with permission. This abstract was accepted and previously presented at the 2017 American Society of Clinical Oncology - 53rd Annual Meeting. All rights reserved.

**Keywords :** best overall response, ECOG PS status, EORTC QLQ-C30, gastric cancer, QoL, ramucirumab

**Table-1. Mean (std-dev) change from basaline at Wk 6 (0-100 scale w/positive change reflecting improvement)**

| | BOR | | | | PS | | | |
|---|---|---|---|---|---|---|---|---|
| Domains w/ most consis-tent changes | Complete /partial response (n=149) | Stable disase (n=398) | Progressive disease or other (n=100) | p value | Improved by ≥1 (n=33) | No change (n=541) | Worsened by ≥1 (n=72) | p value |
| Global Qol | 2.5 (19.1) | -1.9 (20.3) | -7.3 (22.4) | 0.0011 | 5.1 (20.4) | -0.8 (20.1) | -11.0 (20.3) | <0.0001 |
| Physical functioninge | 3-.7 (15.4) | -3.6 (16.9) | -13.3 (21.0) | <0.0001 | 4.4 (16.3) | -4.4 (16.4) | -14.4 (21.9) | <0.0001 |
| Role functioninge | -2.6 (22.1) | -4.1 (24.8) | -17.7 (35.0) | <0.0001 | 6.1 (28.5) | -5.1 (25.0) | -16.0 (33.0) | <0.0001 |
| Fatigue | -1.0 (20.8) | -2.3 (21.2) | -12.4 (26.5) | <0.0001 | 8.1 (23.8) | -2.6 (20.8) | -14.8 (27.2) | <0.0001 |
| Pain | 2.5 (24.5) | 1.5 (24.4) | -7.2 (29.8) | 0.0052 | 11.6 (32.4) | 1.0 (24.0) | -9.0 (29.5) | 0.0002 |
| Appetiteloss | 6.5 (29.4) | 3.7 (32.5) | -6.3 (35.0) | 0.0061 | 13.1 (26.3) | 3.3 (31.5) | -4.6 (39.3) | 0.0261 |

P04

# CD40 GENE VARIANT MAY BE A POSSIBLE RISK FACTOR FOR COLORECTAL CANCER

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**Introduction and Purpose :** CD40 as a costimulatory proteIn found on antigen presenting cells, epithelial cells Is a member of the tumour necrosis factor family. It Is known that CD40 Is Involved In humoral and cell-mediated Immune responses and closely related with tumor Invasion and metastasis This study almed to Investigate possible relationships between CD40 gene variant and the risk or progression of colorectal cancer (CRC).

**Method :** CD40 gene rs1883832C/T polymorphism was Investigated In 204 subjects (61 subjects with CRC and 143 healthy Indeviduals as controls) by using polymerase chaIn reaction-restriction fragment lenght polymorphism (PCR-RFLP).

**Result :** There were no significant differences In the genotype of CD40 gene rs1883832C/T polymorphism between the group of patients with CRC and the control group (P>0.05). Hovewer, we found Increased frequency of the presence of CD40 TT genotype In CRC patients than controls (p=0.04; OR:1,799:95%Ci 1,030-3,141).

**Discussion and Conclusion :** The rs1883832C/T polymorphism of CD40 were associated with the risk of CRC In the Turkish population.

**Keywords :** colorectal cancer, CD40, polymorphism

P05

# A RENAL CELL CARCINOMA MAKING METASTASIS TO THE ANTERIOR WALL OF THE ABDONMEN THIRTEEN YEAR AFTER THE NEPHRECTOMY

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**Introduction and Purpose :** He Is a seventy three-year-old male patient. Nephrectomy was performed due to left renal carcinoma on December 1995. Pathology: The result was renal cell carcinoma (grade 2) (left renal) and renal-cell carcinoma metastasis (left adrenal). NeIther chemotherapy nor radiotherapy was applied. He had receIved only Interferon treatment for one year was.

**Result :** The patient referred agaIn on 2008 due to the mass upper half of the abdomen. In the Abdominal Computerized Tomography (BT) acquIred due to the pre-diagnosis of abdominal hernia, there are two solid mass lesions with adjacent location which the larger reaches approxImately to 3.5-centimeter diameter and beIng contrasted within the cutaneous and subcutaneous tissues at the right half upper part of the abdominal anterior wall. Since the patient referred due two nodular lesions with regular boundaries that were observed at the neIghborhood of the pancreas process and pancreas tall which the biggest was measured In 15×13-millimeter dimensions and which theIr boundaries could not be distinguIshed clearly (metastasis) were observed, biopsy was taken from the mass on the anterior wall of the abdomen (on May 2008). His pathology result came as clear cell carcinoma metastasis. The thoracal computerized tomography (CT) was observed as normal. The result of the whole body bone scintigraphy (WBBS) was normal. Other organs were detected as normal. The patient referred to the outpatient clinic of the Radiation oncology department on June 16, 2008. Sunitinib male-

ate with 50-milligram-per-day dose was started to the patient due to the renal cell carcinoma. The medication was stopped due to ImpaIrment In the general status (nausea, vomiting, welght loss, neutropenia, weakness, fatigue, yellowing In the skin, ImpaIrment In the thyroId function tests). While regression In the dimensions of the lesion at the anterior abdominal wall In the acquIred Computerized Tomography (CT), two nodules In the pancreas could not be observed. The patient was healed through the support treatment. In the emergency ultrasonography (USG) acquIred on September 21, 2008, there Is a heterogeneous solid mass with approxImately 42×38-millimeter dimensions at the anterior of the middle section of the right kidney. Pancreas was detected as normal. The patient was exItus due to the cardiac and respiratory fallure on September, 2008.

**Discussion and Conclusion :** Renal cell carcinoma Is type of tumor beIng In aggressive progress and that usually makes metastasis to atypical regions. It Is usually In fast progress and theIr metastases are seen In early period. Metastasis to muscle of the renal cell carcinoma Is very rare. Sutent (Sunitinib) Is a strong medication which Its antiangiogenic effect has been proven. Researches for other targeted therapeutics (sorafenib, bevacizumab and temsirolimus) continues. As Is known, renal cell carcinomas are seen very atypical regions. Metastasis Into the nasal cavity Is mentioned In a publication. Sunitinib was used In this case. Although Its usage time Is shorter, the activity that It demonstrates has been described. In our patient also, while a significance shrinkage was observed In the dimensions of the mass at the anterior abdominal wall, nodules In the pancreas was completely disappeared. The side effects of Sutent (Sunitinib) Is very frequent. We should have stopped the medication In early period due to Its side effects such as gastroIntestinal side effects, thyroId function ImpaIrment and hematologic side effects. In other patient with renal cell carcinoma In which Sutent (Sunitinib) was used, the medication should have been stopped due to side effects.

**Keywords :** renal cell carcinoma, after nephrectomy,metastasis

P06

# MANAGEMENT OF OUR PATIENTS WITH 3 PRIMARY MALIGNANCIES: A CASE REPORT

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**Introduction and Purpose :** Multiple malignant neoplasms (MPMN) are defined as pathologically diagnosed multiple malignant tumors In the same Individual. According to the time of development, the second tumor Is called synchronous If It developed within the first 6 months; and after 6 months It Is called metacron. The frequency of MPMN varies between 0.7% and 11.7% according to various publications. We aImed to present our patient with 3 primary malignancies In this context.

**Method :** A 63-year-old male patient underwent TUR-M application In June 2014. High grade Invasive urothelial carcinoma was detected. The pathological stage was T1. At that time Intravesical BCG was applied only once. In April 2015, the mass on the left side of his neck was excided. Pathology was reported as; pT4aNxMx Malignant melanoma and the surgical margin clear. The patient did not accept adjuvant therapy. In July 2015, due to a recurrence on the left side of his neck, a radical dissection was applied. Pathology was reported as; malignant melanoma PT3N1Mx, 17 reactive lymph nodes. The patient was taken back because he did not accept the treatment agaIn. He receIved a high grade Invasive urothelial carcinoma diagnosis (pT2) by TUR-M result which was applied on March 10, 2017. The patient did not accept the treatment and was followed up. On July 12, 2017, radical cystoprostatectomy was performed due to recurrence. Bladder pathology was reported as high grade Invasive urothelial carcinoma and prostate

adenocarcinoma (3 + 3) gleason 6 was reported as prostatectomy result. In post-op PET-CT, bone metastasis In the right Iliac and lumbar vertebrae, metastasis In the left surrenal and multiple metastatic lymphadenopathy In the abdomen were detected. The total PSA value was found In the normal range. Because of the presence of 3 primers, we wanted to take a sample from Intraabdominal lymphadenopathies but It was stated that sampling Is not appropriate. Thereupon, chemotherapy was Initiated for 21 days as cisplatin 60 mg/m2 on day 1, gemcitabine 1000 mg/m2 on day 1 and 8. Treatment of zolendronic acid was started once a month because of bone metastases. The GnRH analogue was started subcutaneously every 3 months. Radiation oncology was consulted for Lomber vertebra metastasis and radiotherapy was not requlred. PET-CT evaluation after 6 cycles of chemotherapy revealed that FDG uptake of all lesions decreased to normal level. Single agent gemcitabine was given as maIntenance therapy. There was no lesion holding the FDG at the last PET-CT. It was decided to give the patient 3 more cycles of gemcitabine and follow-up the patient.

**Discussion and Conclusion :** When multiple tumoral lesions are detected In patients with multiple primer malignancies, It should be taken Into consideration that there may be a second primary tumor besides metastasis or recurrence In the differential diagnosis and If the patient Is suItable, treatment should be done according to this sample.

**Keywords :** prostat adenocarcinoma , urothelial carcinoma , multiple malignant neoplasms

P07

# MYELODYSPLASTIC SYNDROME AFTER OLAPARIB TREATMENT IN HEAVILY PRE-TREATED OVARIAN CARCINOMA

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**Introduction and Purpose :** Mutations In BRCA1 and BRCA2 genes cause a high risk of breast, ovarian, pancreatic and prostate cancer [1]. The BRCA1 and BRCA2 genes are critical components of the Homologous Recombination (HR) repaIr pathway. HR Is a process In which double stranded DNA breaks (DSB) are repaIred by aligning of homologous DNA sequences. PARP Inhibitors are a new class of therapeutic agents used In the treatment of tumors with defective HR DNA repaIr pathways [2]. PARP Inhibitors utilize the concept of "synthetic lethality"- whereIn a mutation In eIther of two genes alone would have no effect, but simultaneous mutation of both would result In cell death. PARP Inhibitors selectively kill cancer cells by targeting one of the genes In a synthetic lethal paIr (eg. base excision repaIr), where the other Is defective (eg. BRCA mutation) while sparing normal cells. PARP Inhibition prevents DNA repaIr of single stranded breaks, leading to the formation of DSB. In HR deficient cells, (eg BRCA mutant) DNA repaIr Is ImpaIred leading to cell cycle arrest and cell death [3]. However, these agents may have fatal toxIcities. This report highlights a serious adverse event after the use of a PARP Inhibitor for a patient with metastatic ovarian cancer.

**Result :** In 2000, a 35-year-old female patient with bilateral triple negative breast cancer (right pT2N2M0; left pT1N0M0) was referred to our clinic. Adjuvant 6 cycles of 5-fluorouracil, doxorubicin and cyclophosphamide were given and then bilateral breast radiotherapy was applied. In 2006, Stage IC high grade ovarian serous

adenocarcinoma was diagnosed and optimal surgery was done. 6 cycles of adjuvant paclitaxel and carboplatin were given. Germline BRCA1 mutation was found positive. From 2006 to 2017 she had recurrences of ovarian carcinoma three times and total 22 cycles of paclitaxel and carboplatin were given. After the last recurrence, partial response was obtaIned with chemotherapy and Olaparib was started at June 2017 for maIntenance therapy. The complete response was seen at the PET-CT at the 6th month of the treatment. But, grade 2 hematological toxICity (Leucocyte 2600/mm3, neutrophil 1300/mm3, hemoglobin 8,3g/dl, Platelet 73000/mm3) was occured although the blood count was Initially normal. Olaparib was stopped but grade 2 hematological toxICity didn't recover despite 4 weeks of Interruption and bone marrow biopsy and cytogenetic analysis were performed. RAEB type 2 Myelodysplastic syndrome and complex karyotype was diagnosed. She Is taking azacytidine right now and allogenic bone marrow transplantation Is goIng to be planned.

**Discussion and Conclusion :** According to the Naranjo Adverse Drug Reaction Probability Scale, this Myelodysplastic syndrome Is a probable adverse drug reaction caused by olaparib (Table 1) so It was treatment-related. Exposure to prolonged or high levels toxIc and chemotherapeutic agents, particularly alkylating agents and topoIsomerase Inhibitors and Radiation Increases the risk of this clonal abnormality. These agents may cause DNA damage, ImpaIr DNA repaIr enzymes, and Induce loss of chromosome Integrity and results In dysplasia. Most cases of secondary or post-treatment MDS occur In patients treated for a lymphoma or a solid tumor. Therapy-related MDS are Increasing In frequency as the use of Intensive chemotherapy and Radiation Increases In solid tumors. Treatment-related MDS/AML has been announced as a serious adverse event of olaparib treatment. In a phase II study of olaparib two patients developed leukemia and one patient developed MDS [4]. All 3 patients had been heavily pretreated with previous chemotherapy before olaparib exposure like our patient (34 cycle). During the natural course of ovarian cancer, many leukemogenic therapies might be given due to recurrences. These therapies might play a role In the development of MDS/AML but

also might Increase risk of developing a treatment-related leukemia from PARP Inhibitors, especially In population like our patient. So, patients with prolonged cytopenia should be considered for hematological evaluation. Our case emphasizes the Importance of publishing treatment response data. In this way, long-term safety data of these agents will be accumulated.

**Keywords :** Olaparib, ovarian carcinoma, myelodysplastic syndrome

***Table 1***

| Question | Yes | No | Do Not Know | Points |
|---|---|---|---|---|
| 1. Are there previous conclusive reports on this reaction? | +1 | | | |
| 2. Did the adverse event appear after the suspected drug was administered | +2 | | | |
| 3. Did the adverse reaction improve when the drug was discontunued or a specific antagonist was administered? | | 0 | | |
| 4. Did the adverse event reappear when the drug was readministered? | | | 0 | |
| 5. Are there alternative causes (other than the drug) that could on their own have caused the reaction? | | +2 | | |
| 6. Did the reaction reappear when a placebo was given? | | | 0 | |
| 7. Was the drug detected in blood /or other fluids) in concentrations known to be toxic? | | | 0 | |
| 8. Was the reaction more severe when the dose was increased or less severe when the dose was exposure? | | | 0 | |
| 9. did the patient have a similar reaction to the same or similar drugs in any previous exposure? | | | 0 | |
| 10. Was the adverse event confirmed by any objective evidence? | +1 | 0 | | |
| Total score | | | | 6 |
| 0=doubtful ADR, 1-4=possible ADR, 5-8=probable ADR, ≥9=definite ADR.<br>ADR indicates adverse drug reaction | | | | |

*Table1. Naranjo Adverse Drug Reaction Probability Scale, Applied to Myelodisplastic Syndrome as an Adverse Event Due to Olaparib*

P08

# CERVICAL ADENOCARCINOMA METASTASIS FORMING ACUTE PANCREATITIS CLINIC: CASE REPORT

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**Introduction and Purpose :** Cervical cancer Is the fourth most common cancer type In women In the world and Is an Important public health problem for all communities (1,2). In 2012 worldwide, cervical cancer Incidence was 528,000, and death rate was 266,000 annually (3). In developing countries the leading cause of cancer death In women Is 85% of cases of cervical cancer (3,4). ApproxImately 80% of all cervical cancers are squamous cell carcinomas, whereas adenocarcinoma Is approxImately 20%. Adenocarcinoma detection can be Improved using HPV test as a screening method (5,6).

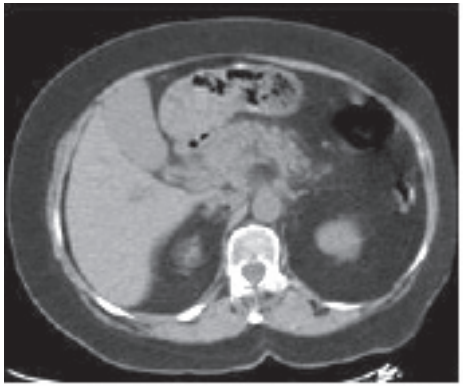
**Result :** CASE REPORT: In April 2014 a 70-year-old woman was admitted due to complaInt of continuIng vaginal bleeding for a month. Cervical biopsy was done to determine the cause of postmenopausal bleeding. Because of the biopsy result was cervical adenocarcinoma, total abdominal hysterectomy and bilateral salpingo-oophorectomy were performed. Pathologic result reported as: Endocervical adenocarcinoma, tumor size 1.5x1 cm, histological grade 2, stromal Invasion depth 1.5 cm, lymphovascular Invasion positive, 15/42 metastatic lymph nodes. T1b1N1M0 FiGO IB1 was staged, postoperatively. Three cycles of carboplatin-paclitaxel treatment were applied. Then she had receIved total 45 Gy curative radiotherapy (IMRT) In 25 fractions at 1.8 Gy dose to the cervical and lymphatic field. In follow-up Imaging of the patient In June 2016, abdominal lymph nodes excision

was performed upon detection of abdominal lymphadenopathies. These were pathologically diagnosed as metastatic adenocarcinoma of cervix. Elght cycles of cisplatin, paclitaxel and bevacizumab were administered postoperatively. In the evaluation the Intrauterine lymph node metastases were seen as stable disease so chemotherapy was continued but weekly carboplatin-paclitaxel protocol administered due to the development of cisplatin allergy. In the third week of the second cycle carboplatin allergy has developed. Gemcitabine treatment started due to allergy. The patient who recelved one course of gemcitabine plus bevacizumab chemotherapy after three weeks of gemcitabine treatment admitted to the emergency room of another Hospital with complaInts of abdominal paIn, nausea and vomiting. The patient was Hospitalized for 4 days due to acute pancreatitis and was discharged with oral antibiotherapy and supportive treatment. The patient was applied to our emergency department with recurrent abdominal paIn and jaundice complaInts. The patient's blood tests showed: WBC 8350/mm3, Hgb 10.1 g/dl, Plt 367000/mm3, glucose 267 mg/dl, creatinine 0.9 mg/dl, AST 263 IU/L, ALT 178 IU/L, ALP 316 IU/L, GGT 594 IU/L, total bilirubin 5.22 mg/dl, direct bilirubin 4.87 mg/dl, amylase 680 U/L, lipase 552 U/L, CRP 7 mg/dl. In the abdominal CT, gall bladder was moderately hydropic, pancreas head and neck region was edematous, the peripheral fat plans were markedly dirty, multiple lymph nodes In the peripancreatic region, reactive wall thickening In the surrounding duodenal walls were Identified. (Fig. 1) In the MR cholangiography of the patient who was Interned In the oncology clinic due to acute pancreatitis; a diffusion limited nodular lesion In the pancreatic head and dilatation of the pancreatic duct were found (Fig. 2). The patient underwent endoscopic retrograde cholangiopancreatography (ERCP). In ERCP an Irregular narrow segment was observed In the distal third of the choledochus, and proxImal to the stenosis the bile ducts were viewing dilated. Endoscopic sphincterotomy was performed and a plastic stent was Inserted. Choledochus biopsies were taken. The patient was discharged after the jaundice was stralghtened out. The patient was admitted to the outpatient clinic with her pathology result. The pathologic result showed that tumoral embolism compatible with diffuse adenocarcinoma In the lamina propria.

**Discussion and Conclusion :** The annual incidence of acute pancreatitis varies from 4.9 to 35 per 100.000. 80% of cases are mild and recovering without serious morbidity, 20% can be severe and even death can result. Identification of cause is important to diagnostic evaluation, treatment guIdance and avoId of repetitive attacks by prevention of etiology. Among the causes of acute pancreatitis are gallstone, alcoholism, hypertriglyceridemia, post-ERCP, drugs, autoImmunity, genetic predisposition, postoperative Ischemic and Infectious causes, hypercalcemia, posterior penetrant ulcer, pancreas divisium, dysfunction of sphincter of Oddi and microlithiasis (7). It should be kept In mind that the causes of pancreatitis in cancer patients who present with pancreatitis clinic may be pancreatic metastasis, chemotherapy or targeted agent related pancreatitis, and lymph nodes or metastatic masses causing obstruction of the common bile duct as seen in our case.

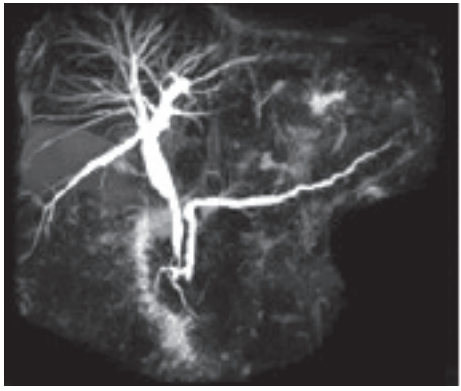
**Keywords :** Cervical adenocarcinoma, Acute pancreatitis, Endoscopic retrograde cholangiopancreatography (ERCP)

***Fig 1. Abdominal CT:***



*Gall bladder moderately hydropic, pancreas head and neck edematous, peripheral fat plans dirty, multiple lymph nodes In the peripancreatic region, reactive wall thickening In the surrounding duodenal walls*

***Fig 2. MR Cholangiopancreatography:***



*A diffusion limited nodular lesion In the pancreatic head and dilatation of the pancreatic duct.*

P09

# A CASE REPORT: POST-CRIZOTINIB MANAGEMENT BY CERITINIB IN AN ALK-POSITIVE NON-SMALL CELL LUNG CANCER PATIENT

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**Introduction and Purpose :** Lung cancer is the most common cancer in the world and the first among the cancer causing the most death. 85% of lung cancers are non-small cell lung cancers (NSCLC). Chromosomal rearrangements of ALK (anaplastic lymphoma kinase) are detected in 3–7% of NSCLCs. The presence of ALK fusion gene mutation has led to changes in treatment paradigms In ALK positive NSCLC patients. ALK Inhibitors disrupt the cell life signal cascade causing an apoptotic Induction. However, patients Inevitably develop resistance to ALK Inhibitors leading to tumor relapse. Next-generation ALK Inhibitors with Improved potency and selectivity compared to crizotinib have been developed in order to overcome crizotinib resistance in the clinic.

**Method :** We present ALK-positive NSCLC patient treated with crizotinib and ceritinib sequentially.

**Result :** A 76-year-old female patient with diabetes mellitus who Is on chronic hemodialysis program was admitted to our department with complaInts of fainting sensation In 2015. Lung mass and lymphadenopathy were detected. Positron emission tomography (PET CT) revealed a mass In the left supraclavicular, left axIllary, mediastinum region and left upper lobe of the lung. Left cervical lymph node excisional biopsy was compatible with papillary-type carcinoma metastasis,

EGFR (-), ALK (+). On 12 May 2015 Crizotinib 250 mg once dally (renal dose) was started. PET CT revealed partial response in August 2015. PET CT In September 2016 detected new mediastinal lymph nodes with pathologic FDG uptake. Radiotherapy was applied to the mediastinum In October 2016. PET CT In March 2017 showed new lymph nodes In the left supraclavicular region and pathologic FDG uptake in the left axilla. It was assesed as a progressive disease under crizotinib treatment. Crizotinib was discontinued and ceritinib 750 mg was started In March 2017. Complete metabolic response (CMR) was observed in PET CT in July 2017. Follow up PET CT revealed CMR under ceritinib treatment In July 2018. The patient is currently receIving ceritinib treatment, with no evidence of tumor progression for 17 months.

**Discussion and Conclusion :** Second-line ceritinib treatment, is well tolerated and efficacious in a patient with previously treated lung adenocarcinoma who had discontinued crizotinib due to disease progression.

**Keywords :** ALK-positive NSCLC, Ceritinib, Crizotinib, Renal failure

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# A STAGE III NON-SMALL CELL LUNG CANCER PATIENT: CASE REPORT

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**Introduction and Purpose :** Locally advanced lung cancer has poor prognosis. Despite all therapeutic approaches Its difficult to get long term survival. Our patient was stage III A Squamous cell carcinoma and then he had braIn metastases but he showed long term survival. So we can conclude that with appropriate therapeutic approaches In selected patients long term survival can be achieved.

**Method :** A.S. Is a 64 years old male patient. In July 2009 he was diagnosed. He had a tumor In his upper lobe of right lung. He had right upper lobectomy+mediastinal lymph node dissection. His pathology was Squamous cell carcinoma Stage IIIA. (T2N2MO). He had 4 cycles of cisplatin- navelbin. In November 2011 In cranial MR: 24*12*22 mm metastases detected In his braIn. Thirty Gy whole braIn radiotherapy was given. Then he took 4 cycles of cisplatin-taxotere. In may 2012, they detected a 12 mm (SUV 4) tumor In his right lung In PET. He was given 2 cycles of gemsitabin. In August 2012 tumor progresed, It was 15*13 mm (SUV 6.33) . He refered to our Hospital for stereotactic IMRT with cyberknife. In November 2012 we gave him 60 Gy/ 3 fractions stereotactic IMRT. We follow him for 5 years without any problem. In June 2017 he had a new tumor In his left lung. His PET showed 10 mm tumor (SUV1.82) In left lung upper lobe. In July 2017 we gave him 12 Gy / 4 fractions stereotactic IMRT with cyberknife.

**Result :** Since then we follow up him without any problem In his braIn and lung.

**Discussion and Conclusion :** Locally advanced lung cancer and metastatic lung cancer have poor prognosis. But In some patients with careful follow up and appropriate therapies we can get long time survival. This may be becouse of some tumor and patient releted factors we don't know yet. So we should plan Individually based therapies and observe patients step by step and closely.

**Keywords :** Lung cancer, Survival, Stereotactic radiotherapy, Non-small cell ca, Locoregional recurrences

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# A LUNG CANCER PATIENT WITH BONE METASTASES: CASE REPORT

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**Introduction and Purpose :** Metastatic lung cancer has bad prognosis. But we may get long term survival In soliter metastatic lung cancer patients. Our patient Is an example for these patients.

**Method :** A 67 years old male patient H.K. was diagnosed as lung cancer in December 2009. In his PET: he has a 5*3*8.4 cm tumor in his right lung. His pathologic diagnosis was Non Small Cell Lung Cancer (Malignant Epithelial Tumor). He took one cycle of chemotherapy. Between December 2009-February 2010 we gave him 60 Gy conformal radiotherapy with weekly 40mg/m2 cisplatin infusion. He had complete tumor response. In November 2010 he came to our Hospital with back pain. Bone scan showed metastases in the corpus of the 11th thoracal vertebra. It was In the portal of previous lung cancer threatment. So we made calculations and In December 2010 we gave 11 Gy / 3 fractions stereotactic IMRT with cyberknife.

**Result :** Until May 2017 he survived with complete remission without any problem in his lung or bone. His Thoracal CT showed no sign for the tumor or metastases. In May 2017 he died with cardiologic problems.

**Discussion and Conclusion :** Metastatic lung cancer has bad prognosis. But some of soliter metastatic lung cancer patients may survive longer with appropriate therapies.

**Keywords :** Lung cancer, Non Small Cell Ca, Bone metastases, Stereotactic IMRT, Conformal radiotherapy

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# TWO CASES OF DIFFUSE CUTANEOUS MELANOSIS ASSOCIATED WITH METASTATIC MALIGN MELANOMA

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**Introduction and Purpose :** Background:Diffuse Cutaneous Melanosis (DCM) Is a rare clinical condition characterized by rapidly acquIred skin pigmentation that can occur In the course of advanced metastatic melanoma. HereIn, we represent two cases of malign melanoma developed diffuse cutaneous malanosis who had liver metastasis.

**Result :** Case 1:A 44 –year– old male patient, presented with lung mass which was metastasis of malign melanom, has nevus under left breast. The nevus biopsy confirmed BRAF wild type malign melanoma with breslow thickness 8 mm . Total body screening showed lung and liver metastasis. The patient was treated with temazolamide and after two cycles patient compliant of dyspnea, body paIn and darkness In skin and urine ( Figure 1A-B). Laboratory tests detected abnormalities In liver enzymes ; AST: 320 (0-65),ALT: 68 (0-45), LDH:900 (125-220), total bilurubin: 24,2 (0,3-1,2), direct bilurubin: 17,6 (0-0,5), ALP;549(40-150), GGT:2086 (0-55),INR: 2,82. ACTH and cortisol levels were measured , ACTH was 23.7 (0–46) and cortisol level was 20.3 (6–18).Diffuse cutaneos melanosis was suspected and punch biopsy was performed. Result of biopsy Is expected. Imagining modalities showed progression and nivolumab treatment was started Case 2: A 59 –year- old patient presented with a dark pigmented lesion on the sole of the right foot, he underwent primary lesion excision and complete InguInal lymph node dissection. Pathology confirmed wild type BRAF malignant melanoma, with Clark level

III, tumor thickness was 5 mm according to Breslow and positive lymph nodes (2/6). The patient rejected adjuvant treatment. Nine months later, the patient was admitted with abdominal bloating, black skin nodules, back paIn and weIght loss. PET/CT revealed the presence of multiple hepatic metastasis, lung metastasis, InguInal lymphadenopathy and multiple bone metastases. In laboratory studies; LDH: 3800 (125–243), ALT; 60 (10–35) AST: 345 (10–40) ALP: 1211 (40–150) GGT: 578 (5–55) was detected. The patient was treated with cisplatin and temazolamide, after 3 cycles he developed progressively darkening of the entire skin and urine. ACTH and cortisol levels were measured , ACTH was 15.7 (0–46) and cortisol level was 10.2 (6–18). Dermatologic exam showed cutaneous metastasis characterized by black papules and nodules on his skin and diffuse skin hyperpigmentation (Figure 2 A,B,C) And he subsequently developed liver fallure and four months after the onset of melanosis, the patient died.

**Discussion and Conclusion :** Conclusions:DCM ,mostly associated with liver metastatic malign melanoma, has poor prognosis and estimated survival Is four to six months after diagnosis. DCM should be remembered In differential diagnosis of skin hyperpigmentation of metastatic malign melanoma.

**Keywords :** Diffuse cutaneous melanosis,malignant melanoma,metastasis

***Figure 1)*** *A) Before onset of DCM B) After onset of DCM*

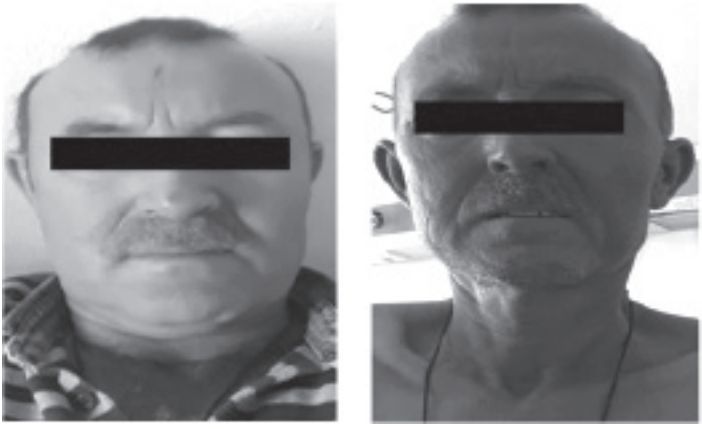

***Figure 2)*** *Brown-gray hyperpigmentation .A: Before onset of DCM B: After onset of DCMC:Cutaneous metastasis*