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“Axillary dissection- is it necessary for all sentinel lymph node positive patients?”

1- cN0

2- cN+ a- low burden Ax involvment

b- OVERT burden Ax involvement

Key points

1- Axillary surgery … tradition !
Modern molecular

2- Outcomes depends on
biology,
burden,
responce to CT
…….usually not related big surgery

3- surgeon…..breast and axillary conservation (İNTEGRATİF : NO SURGERY)

Less surgery is safe

USA 1987 - 2011 ACS 2015

Mortality fell from
33 to 21 per 100,000

- Despite less radical surgical interventions

pCR and breast conservation

Despite pCR ……60%

BCS increase only %8-14

Bilateral mastectomy for unilateral BC is increasing*

1998-2011

2% to 11%

Changing disease and treatment landscape

More is better

radical surgery

one fit all

Early diognosis : lower disease burden

Biology driven Systemic therapy

Minimum required

Extend of surgery changing

İndividualise

Rrisk adapted!

Local control

Aesthetic concerns

No ALND Why?

Axillary intervention

- Lymphedema
- **Risk of Regional recurrence**
- Extra intervention– stasis of lymph flow….**breast edema** (SLNB&ALND)
- life time disturbance pts life
  sensation….
  motion
  sport
  carrying lugage

Benefits of Avoiding ALND
Lower Rates of Lymphedema

	ALND	SLN alone
ALMANAC (12 mos)	13%	5%
NSABP B32 (36 mos)	14%	8%
ACOSOG Z010/11 (6 mos)	11%	7%
IBCSG 23-01 (60mos, median)	13%	3%
	ALND	**SLN + AxRT**
AMAROS (5yrs)	28%	14%
OSOTAR (1yr)	15%	5%

Donker M, Lancet Oncol 2014; Savolt A. EJSO 2017; Krag et al. Lance

SLN biopsy is the standard of care in clinically node negative patients

ACASOG Z0011

BCS+RT

SLNB+ pts

a-Follow-up

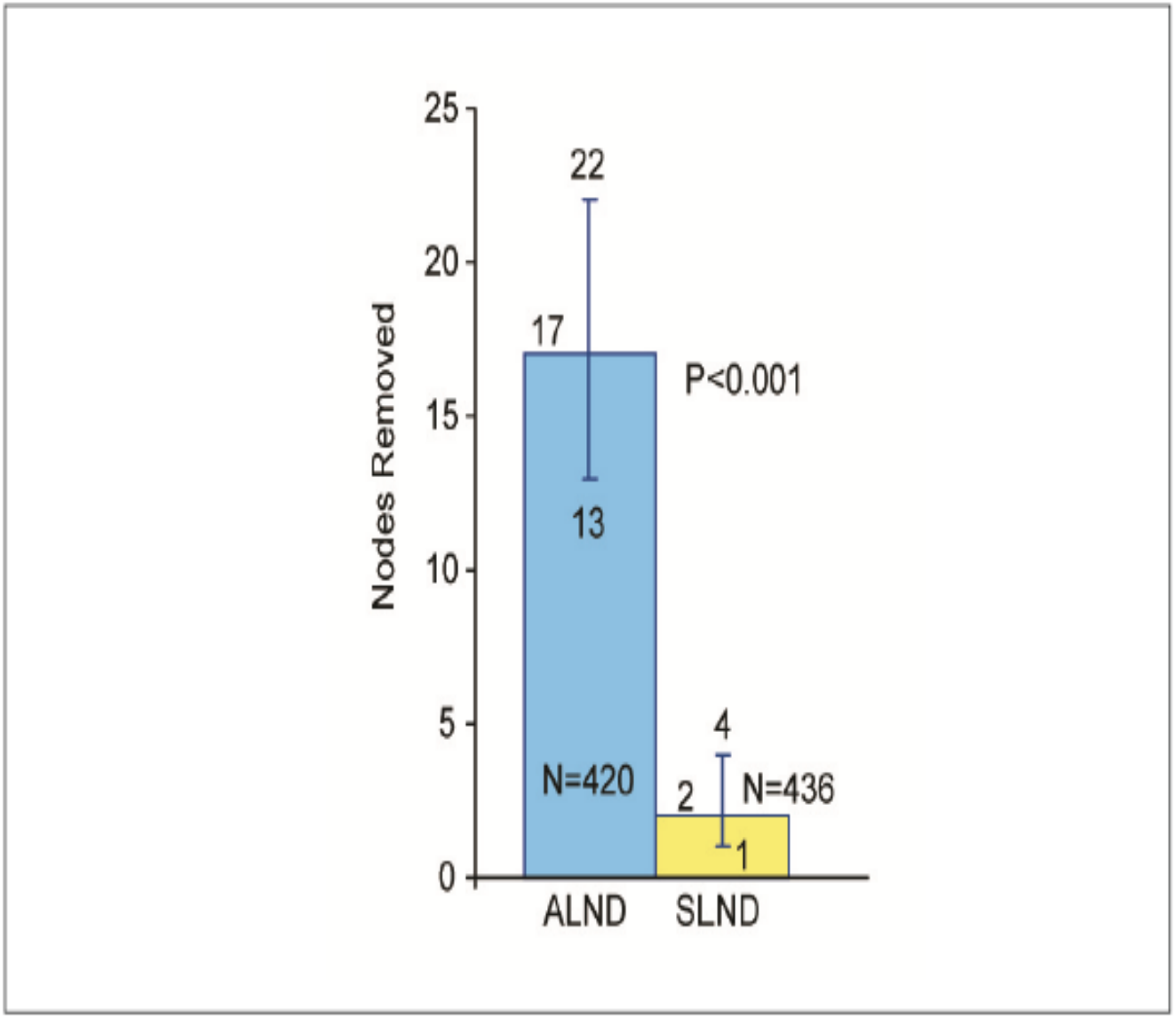
b-ALND

Patient and Tumor Characteristics

	ALND (420 pts)	SLND (436 pts)
Age (median range)	56 (24-92)	54 (25-90)
Clinical Stage		
T1	67.9%	70.6%
T2	32.1%	29.4%
ER		
(+)	83.0%	83.0%
(-)	17.0%	17.0%
PR		
(+)	67.7%	69.9.%
(-)	32.3%	30.1%
LVI		
Yes	40.6%	35.2%
No		

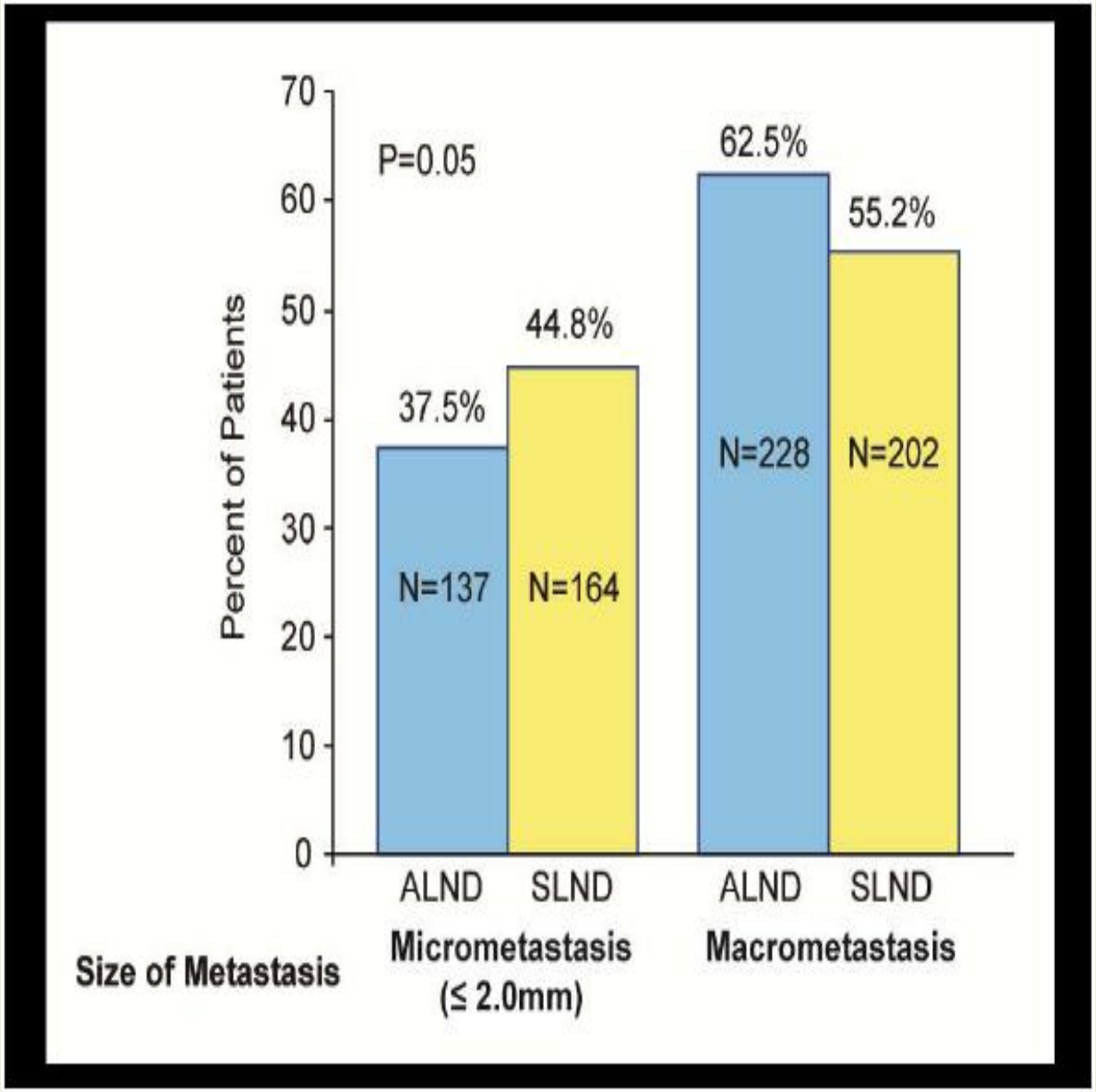
Giuliano A, et al. JAMA 2011

Median Number of Lymph Nodes Removed



Giuliano A, et al. JAMA 2011

Size of SLN Metastasis



San Antonio Breast Cancer Symposium, December 5-9, 2017

Clinical Trials, cT1-2N0 with 1-2+ SLN

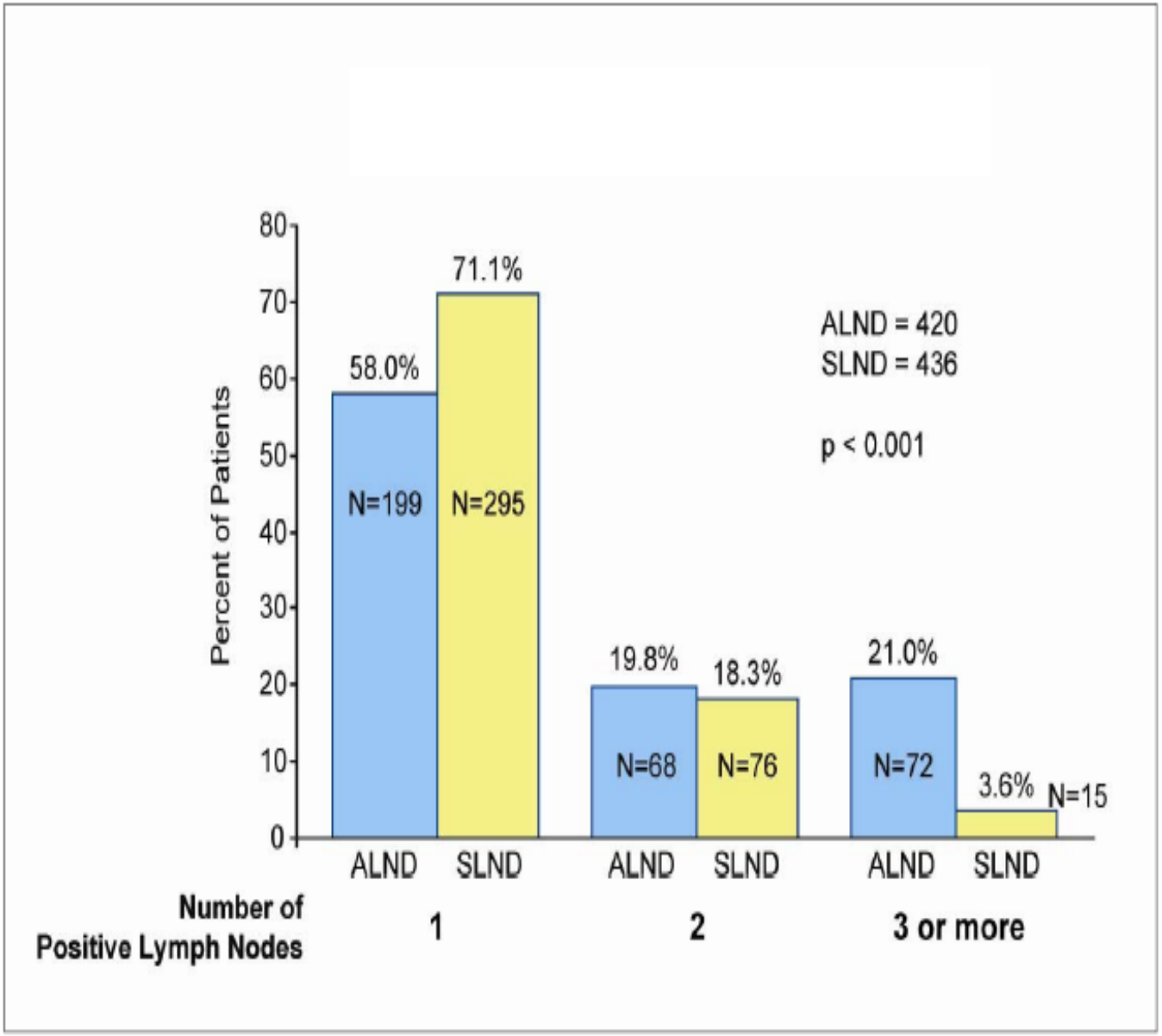
Trials	Randomization	
	observation vs ALND	AxRT vs ALND
ACOSOG Z0011 (n=856)	50% macromets	
IBCSG 23-01 (n=933)	micromets	
AATRM (n=233)	micromets	
AMAROS (n=1425)		60% macromets
OTOASAR (n=474)		68% macromets

Giuliano A. Annals of Surg 2010 and 2016; Donker M. Lancet Oncol 2014;
Galimberti V. Lancet Oncol 2013; Sola M. Ann Surg Oncol 2013; Savolt A. EJSO 2017

ACOSOG Z0011

106 (27.4%) patients treated with ALND had additional positive nodes removed beyond SLND

Number of Positive Lymph Nodes



Additional Axillary Disease after a Positive SLN

- Meta-analysis of 69 trials
  - 8059 patients undergoing SLN surgery and ALND
  - average percentage of LNs considered positive = 42%
  - 53% of patients with +SLN had additional positive axillary nodes

Kim T, et al. *Cancer*, 2006

Incorporating Trial Data into Clinical Practice
cT1-2N0 population

- Accepting the clinical trial results means recognizing that some patients will have positive nodes which are not removed
- There is no role for nomograms to predict the likelihood of additional positive nodes or PET scans to look for additional positive nodes

Clinical Trials, cT1-2N0 with 1-2+ SLN

	Z0011 N=856	AMAROS N=1425	OTOASOR N=474*	IBCSG 23-01 N=933	AATRM N=233
Additional positive nodes ALND	27.3%	32.8%	38.5%	13%	13%
Axillary recurrence: ALND	0.5%	0.4%	2%	0.2%	1.0%
Axillary recurrence: other tx	1.1%	1.2%	1.7%	1%	1.7%
Median follow-up	9.25yrs	6.1yrs	8yrs (mean)	5yrs	5.1yrs
Breast Conservation	100%	83%	84%	91%	88%

No difference in axillary recurrence rates between ALND and "other" treatment (observation or AxRT)

Giuliano A. Annals of Surg 2010 and 2016; Donker M. Lancet Oncol 2014; Galimberti V. Lancet Oncol 2013; Sola M. Ann Surg Oncol 2013; Savolt A. EJSO 2017

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Axi					
Axi					
Me					
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NO difference in DFS or OS
between ALND or observation in Z011, IBCSG, AATRM
between ALND or nodal RT in AMAROS or OTOASOR

Giuliano A. Annals of Surg 2010 and 2016; Donker M. Lancet Oncol 2014; Galimberti V. Lancet Oncol 2013; Sola M. Ann Surg Oncol 2013; Savolt A.
EJSO 2017

Clinical Trials Axillary Management Z0011 Breast Conservation

	# patients	% spared ALND
Ngui et al	119	22%
Verhuevel et al	916	61%
Delpech et al	125	70%
Yi et al	488	75%
Morrow et al	793	84%

Ngui N. ANZ J Surg 2013; Verhuevel W. Eur J Surg Oncol 2016;
Delpech Y. Ann Surg Oncol 2013; Yi M. J Am Coll Surg 2013; Morrow M. Ann Surg Oncol 2017

Reasons for Low LRR?

Eradicated systemic therapy

Eradicated RT

Different meanings ? Function?

- Surgical staging (SLNB) is probably no longer required
  - SOUND trial (SLNB vs observation after AUS) 2012 Milan
- Nodal status/burden less relevant
  - Biology decides systemic therapy
  - Response determines outcome.

ALND= RT

RT=cN0 (PE, US, +/- MRI , PET)

1-WHY SLNB in cN0 pts If BCS+RT is done

2-When ALND….. If Treatmen really changes

TAKE HOME MASSAGE

- Do not concentrate FNR of SLNB
- Do not “ micro/macro met
- Do not “ number of + SLNB
- Do not make FNA in minor axillary involvment (if no neoadj)

- Concentrate on cN0 status (USG/MR/PET)=

low axillary involvement

or overt Ax

Neo Adjuvant CT/SLNB

Rationale for NAC In cN+ Patients

Study	n	Nodal pCR
ACOSOG Z1071 (2014)	694	41%
SN FNAC (2015)	145	35%
Mamtani (2016)	195	49%

Boughey J, JAMA 2013;310:1455

Nodal pCR by Receptor Status

Receptor Status	n	%
All	96 / 195	**49%**
ER+/HER2-	15 / 73	21%
ER-/HER2-	26 / 55	47%
ER+/HER2+	26 / 37	70%
ER-/HER2+	29 / 30	97%

$p < 0.0001$

Studies Evaluating the Identification Rate and False-Negative Rate Among Clinically Node-Positive Patients Undergoing SLNB Following Neoadjuvant Chemotherapy

Study	Population cN1-N2	Biopsy required	cN0 post NAC	Identification rate	False-negative rate
SENTINA	592	No*	100%*	80%	14%
ACOSOG Z1071	689	Yes	83%	93%	13%
SN FNAC Study	153	Yes	Unknown*	88%	13%**

cN+ to cN+/SLN+ after NAcT (high risk)

ALND is standard of care.....

NCCN guidelines

Alliance A11202

T1-3, SLN+ after NAcT

RT Breast/SCF/IMN

Randomised

ALND or RT axilla

MDT dialogue

Surgeon

Pathologist

Radiologist

oncologist

***Guide line**

***“Standart”**

conclussion

- If cN+…NAC…..turns cNo….SLNB

  (use experienced , proper method for the pt)

- Excise SLNB (number depends on your **preop / perop findings**)

If SLNB + Further AD

- **Depends on**

  treatment decission needs (most we do not to do AD)

  not for Ro resection

- **Prior work up (number and anatomic location of +LNs)**
- **PET**
- **MR**
- **USG*****

fear and ignorance?

- **Risk poorly understood by patients**

- **Risk poorly understood by health professionals**

Where will we go from here ?

No improvement in survival with ALND

Increasing role of biology vs anatomy in decision making for systemic therapy

Growing interest to omit axillary staging...

Thank you

Targeted SLNB (optimise technique)

- Marking abnormal axillary lymph nodes at the time of needle biopsy
- with clip or by tattooing to allow for localization and excision of the known metastatic node following NAC has been suggested as a strategy to reduce the FNR.
- clipped lymph node is not a SLN in 9% to 24% of cases
- combination of SLNB with targeted excision of the clipped node reduces the FNR.
- failure to control for the number of SLNs removed, making it difficult to determine the benefit of nodal clipping when SLNB technique and pathologic evaluation are optimized.
- clipped nodes require localization with either a wire or a radioactive seed.
- Wires in the axilla may be difficult to place and are