

**Research collaboration  
Challenges and opportunities**

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# Challenges

- Well established research groups
- Regional networks
- Registries

# Challenges

- Funding challenges
- Support and trust of Pharma Companies
- Phase I studies

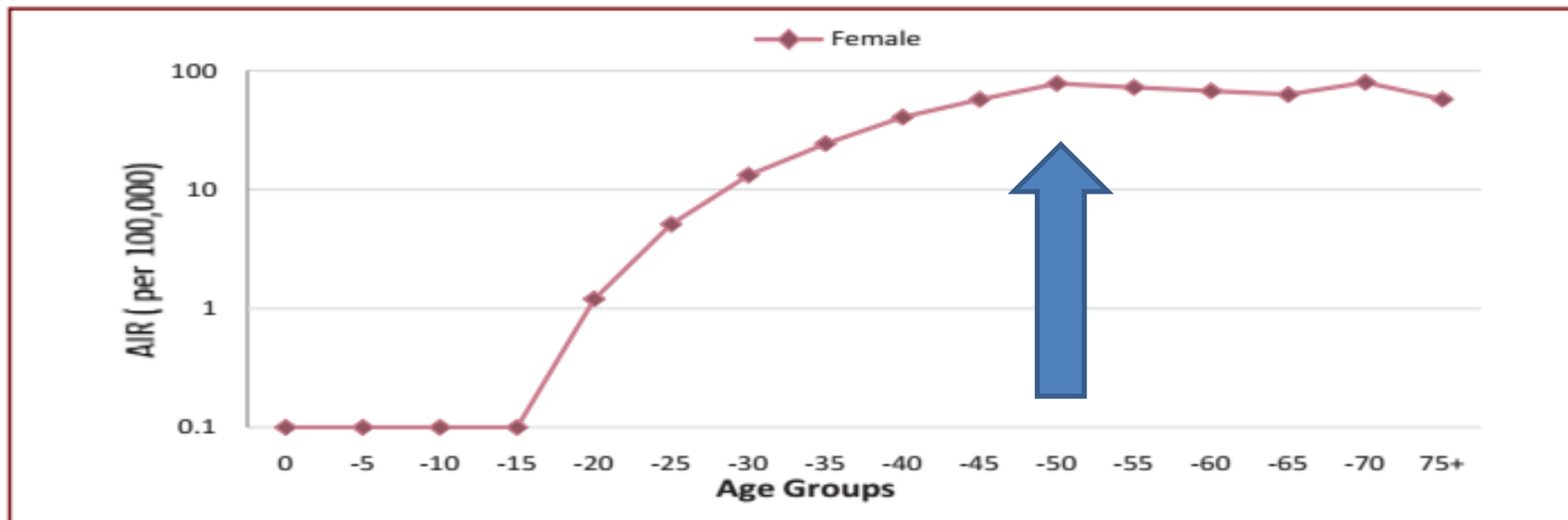
# Opportunities

- Genetic/molecular basis of cancer in the region
- Epidemiological studies
- Pharmacogenetic studies

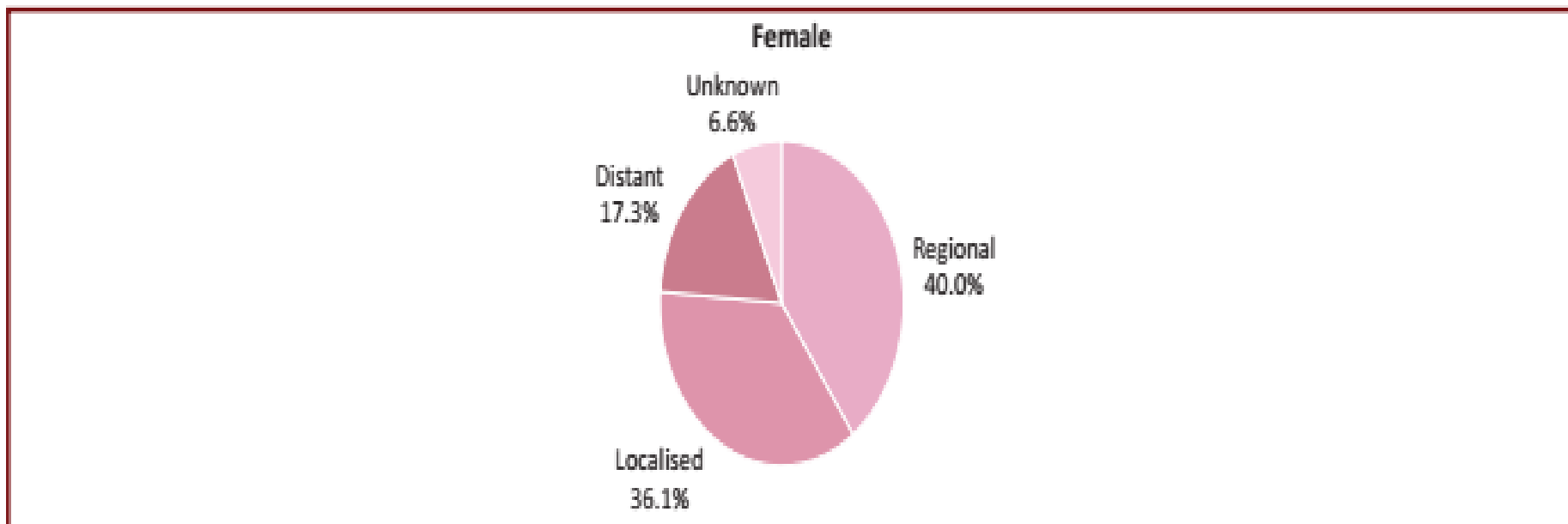
# Opportunities

- Research in advanced cancers: locally advanced/metastatic cancers e.g: breast, rectal cancer
- Breast cancer: younger age, premenopausal

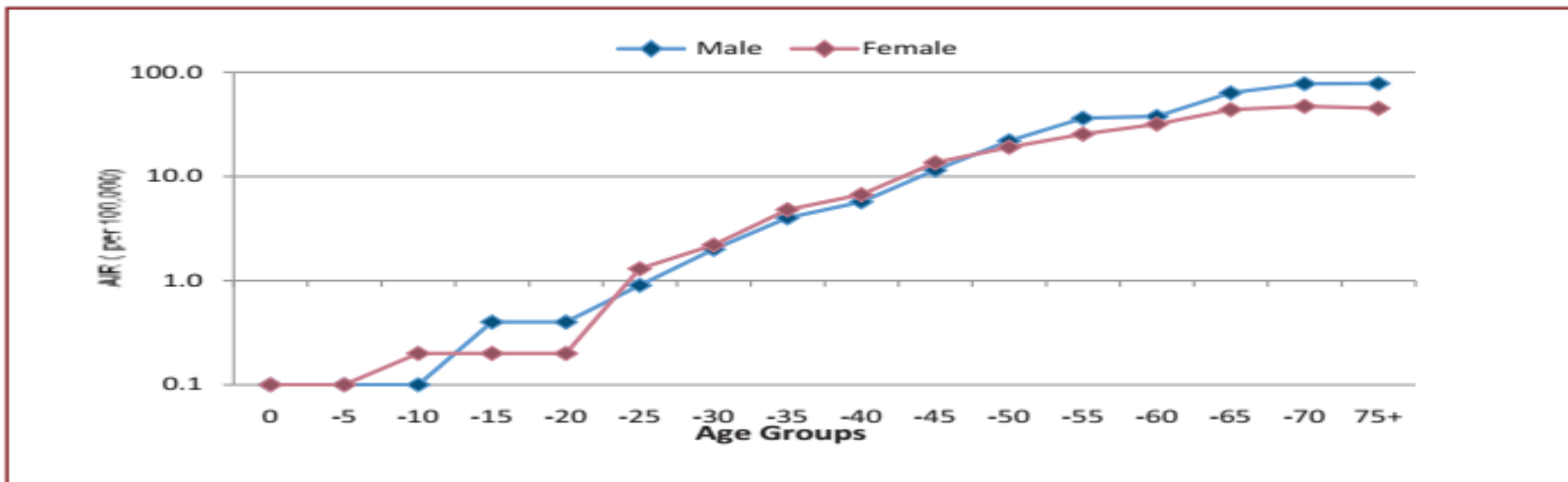
**Figure 3.1.1: Age-Specific Incidence Rate (AIR) for Breast Cancer Among Saudi Females, 2014**



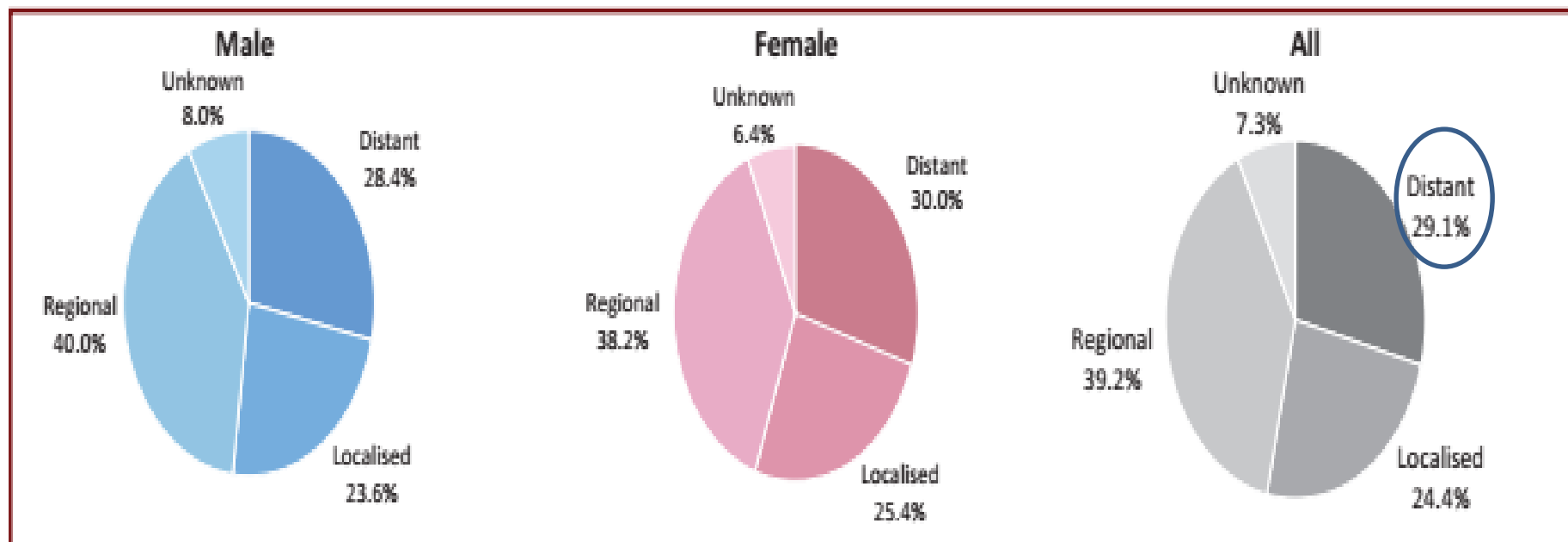
**Figure 3.1.2: Stage Distribution of Breast Cancer Among Saudi Females, 2014**



**Figure 3.2.1: Age-Specific Incidence Rate (AIR) for Colorectal Cancer Among Saudi Nationals, 2014**



**Figure 3.2.2: Stage Distribution of Colorectal Cancer in Saudi Arabia, 2014**



# Opportunities-advanced CRC

- Panitumumab rechallenge in metastatic CRC: in process
- Consolidation chemotherapy after neoadjuvant chemoRT in Rectal cancer: Recruiting



**Patients with metastatic colorectal cancer**  
**Failed 2 lines of systemic therapy**  
**1<sup>st</sup> line included anti-EGFR**

**Assessment of RAS mutation in ctDNA**  
**or/new biopsy**

**RAS mutant**

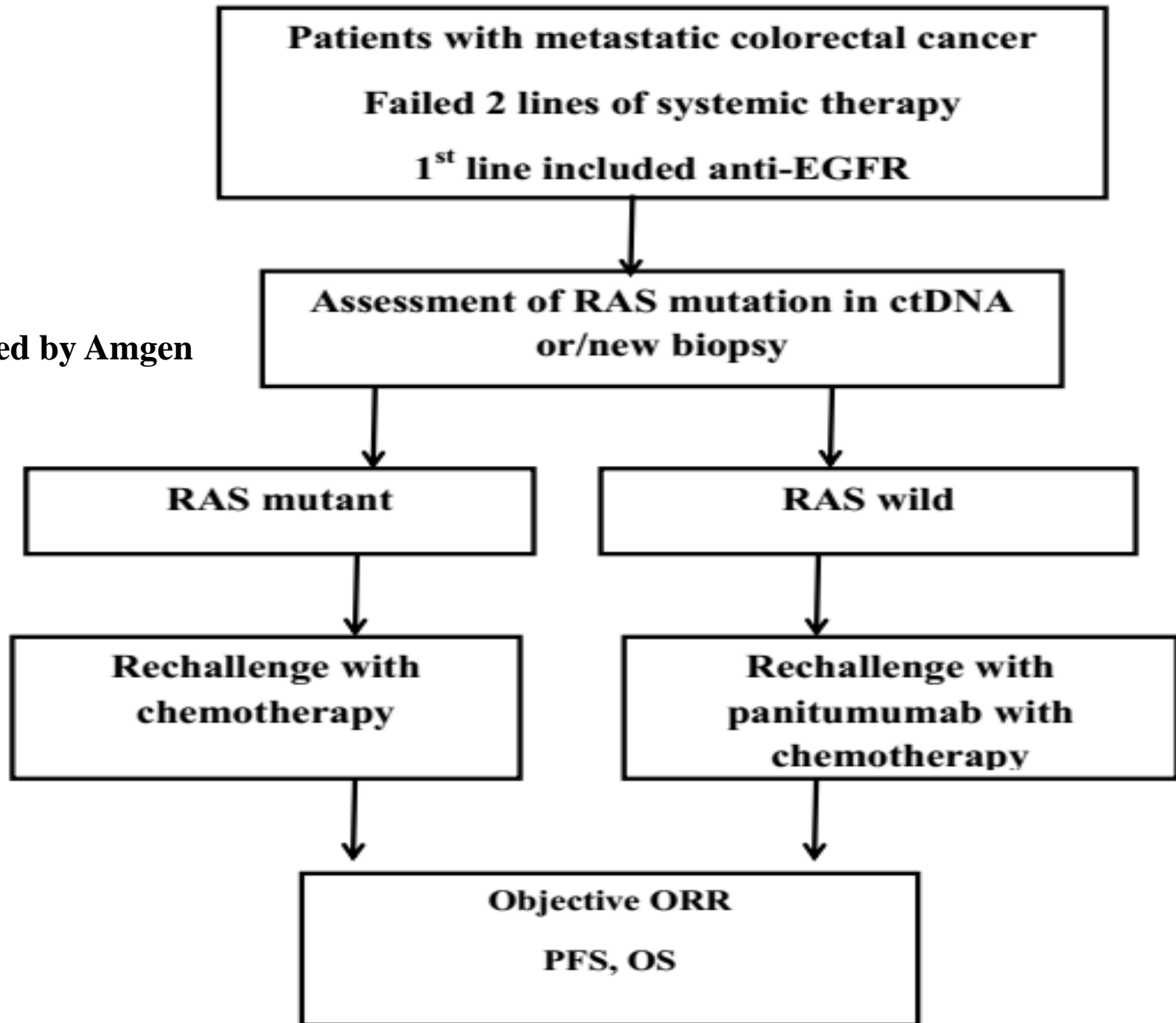
**RAS wild**

**Rechallenge with**  
**chemotherapy**

**Rechallenge with**  
**panitumumab with**  
**chemotherapy**

**Objective ORR**  
**PFS, OS**

Funded by Amgen



**Rectal adenocarcinoma**  
**cT2,N+, cT3/4, any N**

**Stratified by:**  
**cT2/3 vs cT4**  
**Upper/middle vs low tumours**

**ChemoRT**

**Consolidation chemo**  
**3 XELOX/4 FOLFOX**

**NO chemotherapy**

**Surgery**

**> ypT0-2, N0**  
**3 XELOX/4 FOLFOX**

**> ypT0-2, N0**  
**6 XELOX/8 FOLFOX**

**Recruiting**

**Endpoints**

**1ry: pCR**

**2ry: DFS, OS**

**Patients with colorectal cancer, indicated for cytoreduction+ HIPEC**



**Assessment of CTC within 2 weeks before chemotherapy (CTC1)**



**Folfox/ Xelox**



**Assessment of CTC within 2-3 weeks after chemotherapy (CTC2)**



**Cytoreduction + HIPEC**



**Assessment of CTC within 2 weeks after surgery (CTC 3)**



**Folfox/ Xelox**

**Endpoints**

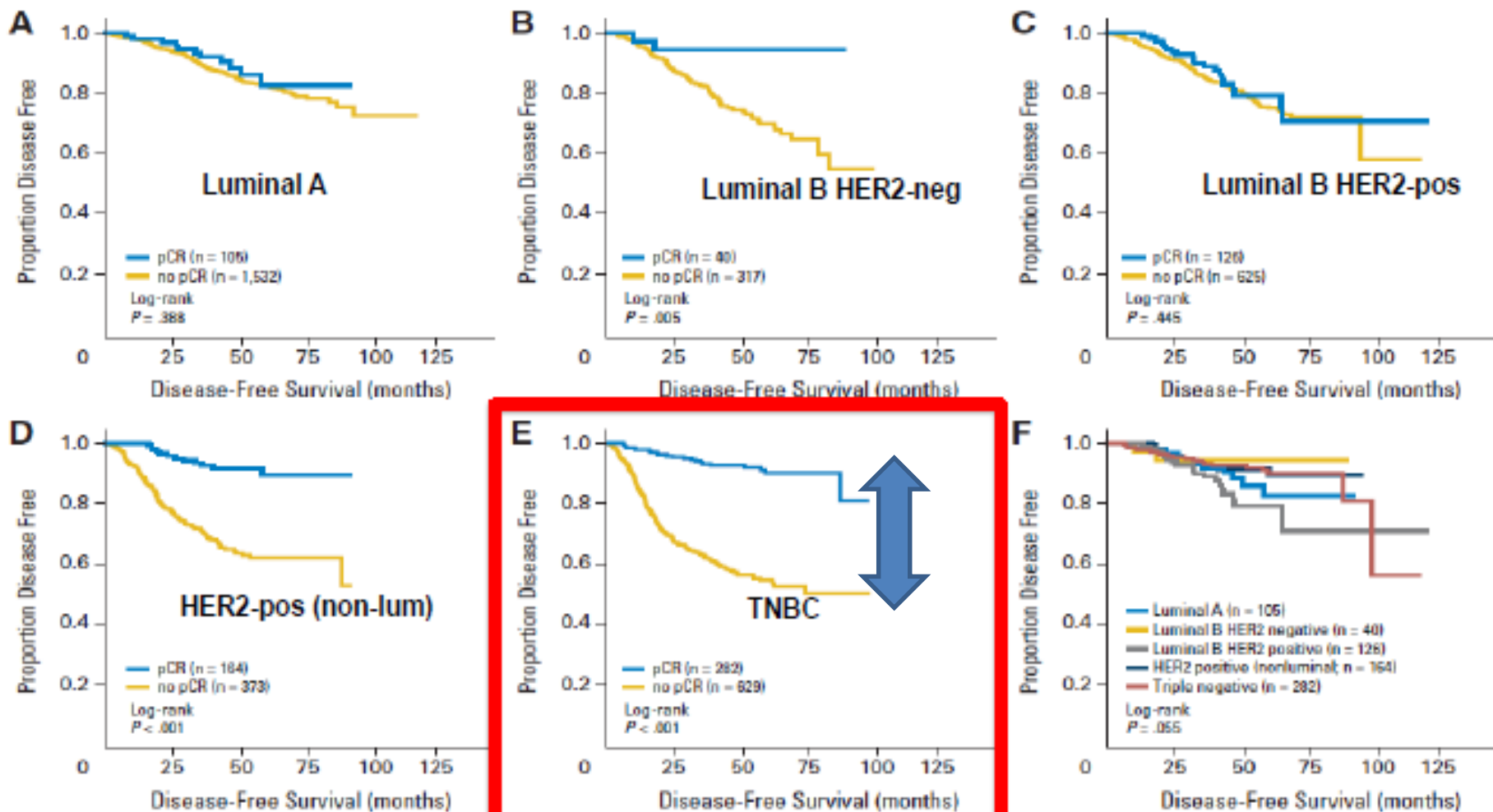
**DFS, OS**

**Correlation with CTC1, CTC2, CTC3**

# Opportunities-advanced BC

- Adjuvant IO in TNBC in non-pCR after NAC
- HER2: duration of Pertuzumab, TDM1

# pCR vs. PFS by Subtype (N=4193)



# Gene Expressions in TNBC

## Subtype

## Gene Expression Profile / High Expression of Genes

**Basal-like 1 (BL-1)**

cell cycle progression, cell division, and DNA damage response pathways

**Basal-like 2 (BL.2)**

cell cycle progression, cell division and growth factor signalling

**Immunomodulatory**

immune processes and cell signaling

**Mesenchymal**

motility and extracellular matrix

**Mesenchymal stem-like**

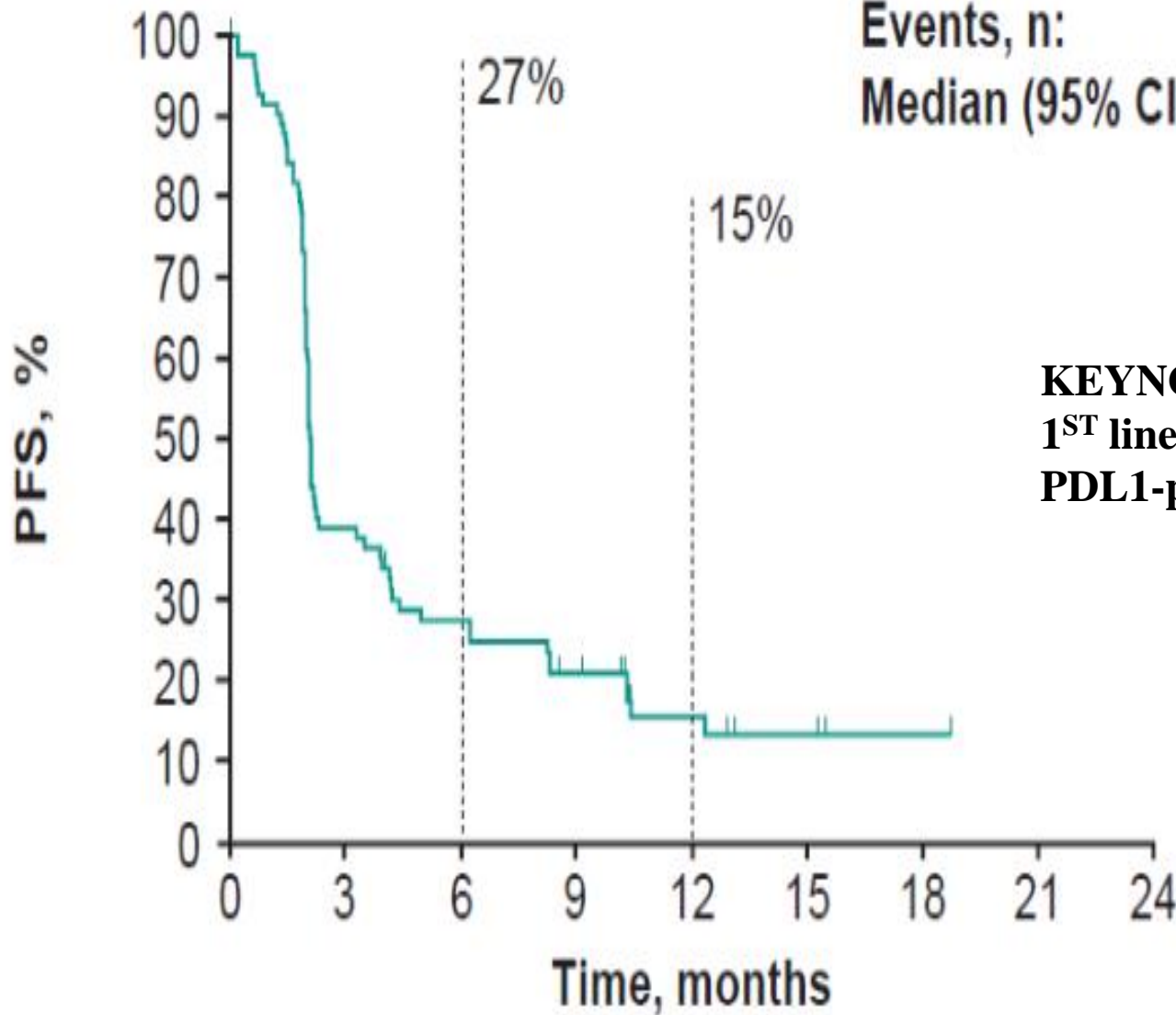
motility, extracellular matrix, growth factor signalling (consistent with claudin-low)

**Luminal androgen receptor**

hormonally regulated pathways

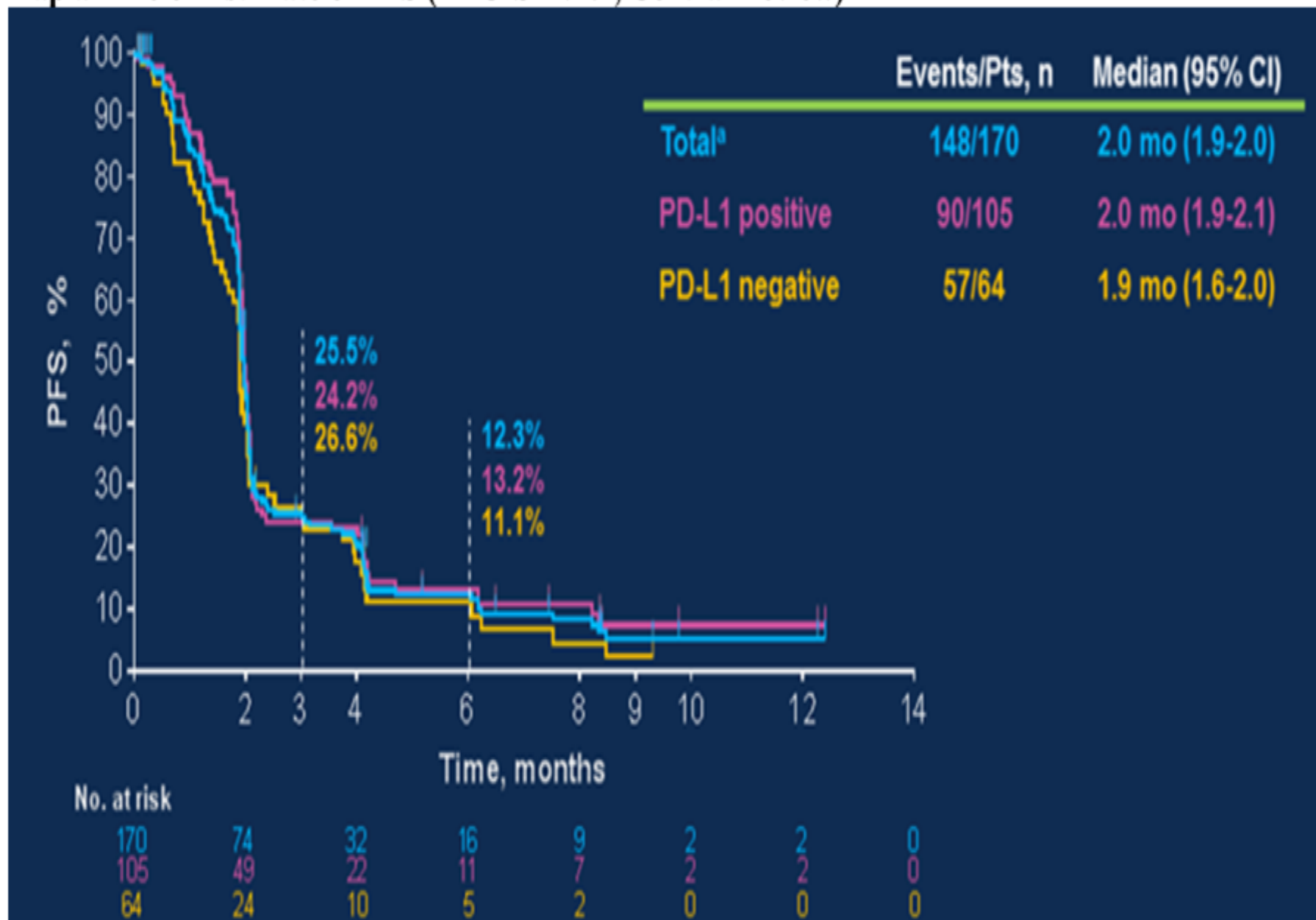
# Kaplan-Meier Estimate of PFS Based on RECIST v1.1 as Assessed by Central Review

Events, n: 68  
Median (95% CI): 2.1 mo (2.0-2.3)



No. at risk 84 31 21 15 7 3 1 0 0

# Kaplan-Meier Estimate of PFS (RECIST v1.1, Central Review)



<sup>a</sup>Included 1 patient with unknown PD-L1 status who experienced PD.



**Triple negative breast cancer**  
**No evidence of metastasis**  
**No pCR after neoadjuvant chemotherapy**

**AR testing**  
**Ki67**

**AR-positive**  
**High Ki67**

**Off the study**

**AR-negative and low  
Ki67**

**Randomization**

**PDL1 inhibitor**

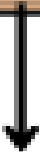
**Observation**

- **Negative selection**
- **No good marker for positive selection**

# Opportunities-advanced BC

- Adjuvant IO in TNBC in non-pCR after NAC
- HER2: duration of Pertuzumab, TDM1

**Her2-positive metastatic breast cancer**  
**Failed at least one line of systemic therapy**  
**including anti-HER2**



**Stratified by:**  
**Number of previous lines**  
**Use of pertuzumab in 1<sup>st</sup> line**



**TDM1 till**  
**progression**



**TDM1 for a maximum**  
**of 6 months**



**Maintenance**  
**trastuzumab**

**Endpoint**  
**1<sup>ry</sup>: PFS**

**Her2-positive metastatic breast cancer**  
**No previous systemic therapy in advanced setting or**  
**Finished adjuvant trastuzumab > 12 months**

**Stratified by:**  
**Hormonal receptor status**

**Taxan+Trastuzumab+**  
**Pertuzumab (6-8 cycles)**

**Taxan+Trastuzumab+**  
**Pertuzumab (6-8 cycles)**

**Maintenance trastuzumab**  
**+pertuzumab for up to one year**

**Maintenance trastuzumab**  
**+pertuzumab till progression**

**trastuzumab till progression**

# Conclusion

- Establishing research groups and networks
- Infrastructure and research funding
- More efforts in screening and early detection
- Research in young and advanced cancer patients
- Epidemiology and molecular basis of cancer in our population

**Thank you**

