

Surgical planning of patients undergoing neoadjuvant treatment



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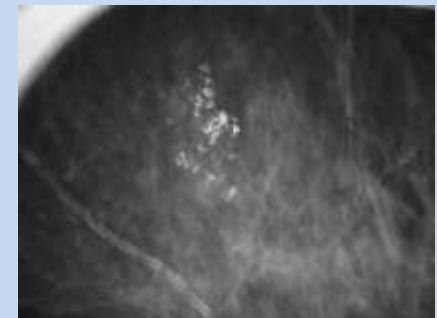
Surgical planning of patients undergoing neoadjuvant treatment (NAT)

Main questions

- 1-Is the demarcation of the tumor area always necessary ?**
- 2-The MRI should always be requested ?**
- 3-Why < 40% of patients with CR are treated by conservative surgery?**
- 4-The SNB has the same accuracy?**
- 5-Are LRR and survival similars after CS or mastectomy ?**

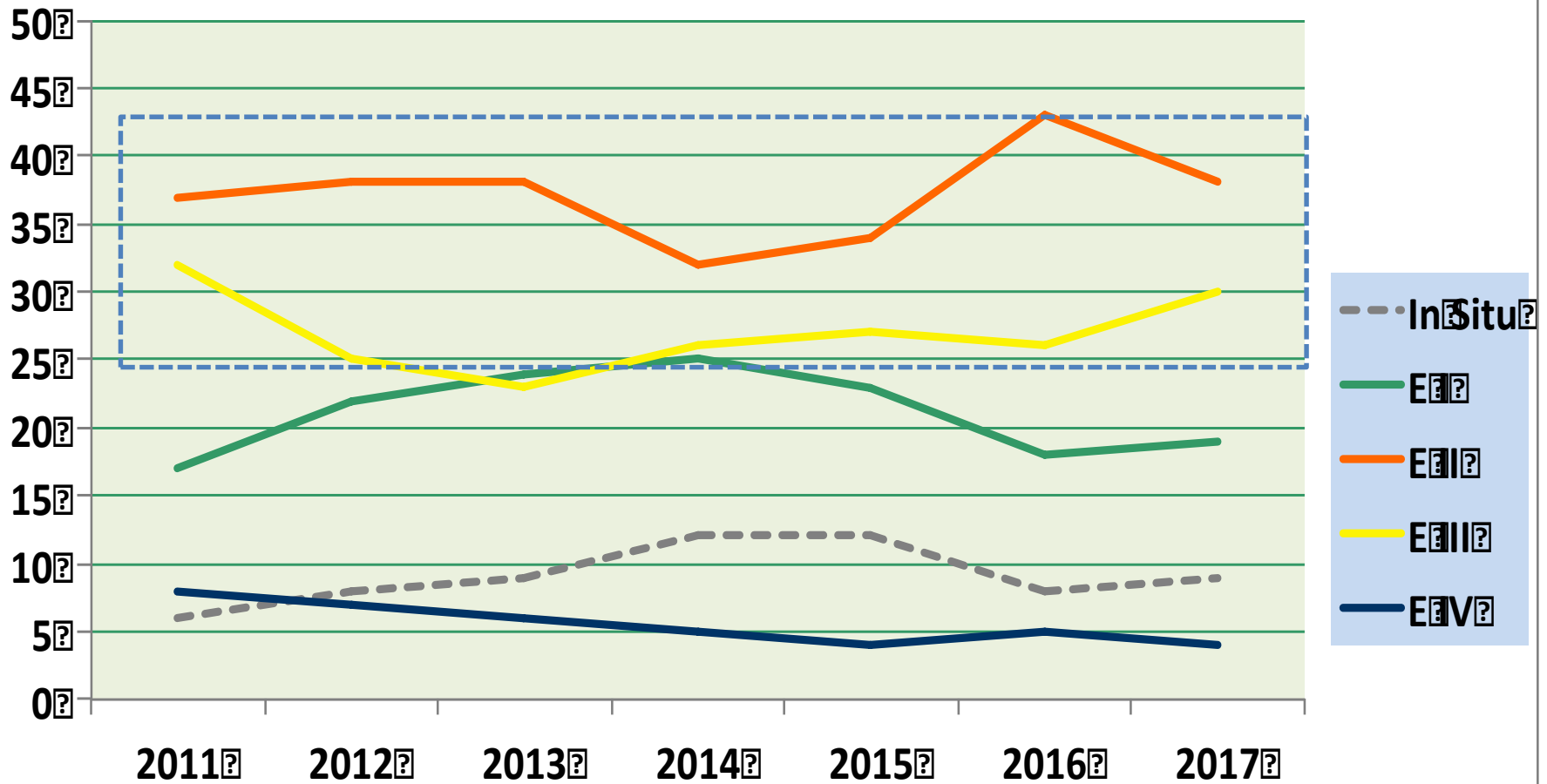
Importance of preoperative planning to prevent recurrences and reoperations after NAT

- 1. Age , comorbidities and response**
2. Type of surgery (Radical x conservative)
- 3. Oncoplastic surgery**
4. Rational indication of MRI (CS,CBM)
- 5. Demarcation of the resection area**
(clip , microcalcifications)
- 6. Surgical margins**
7. SNB or ALND ?

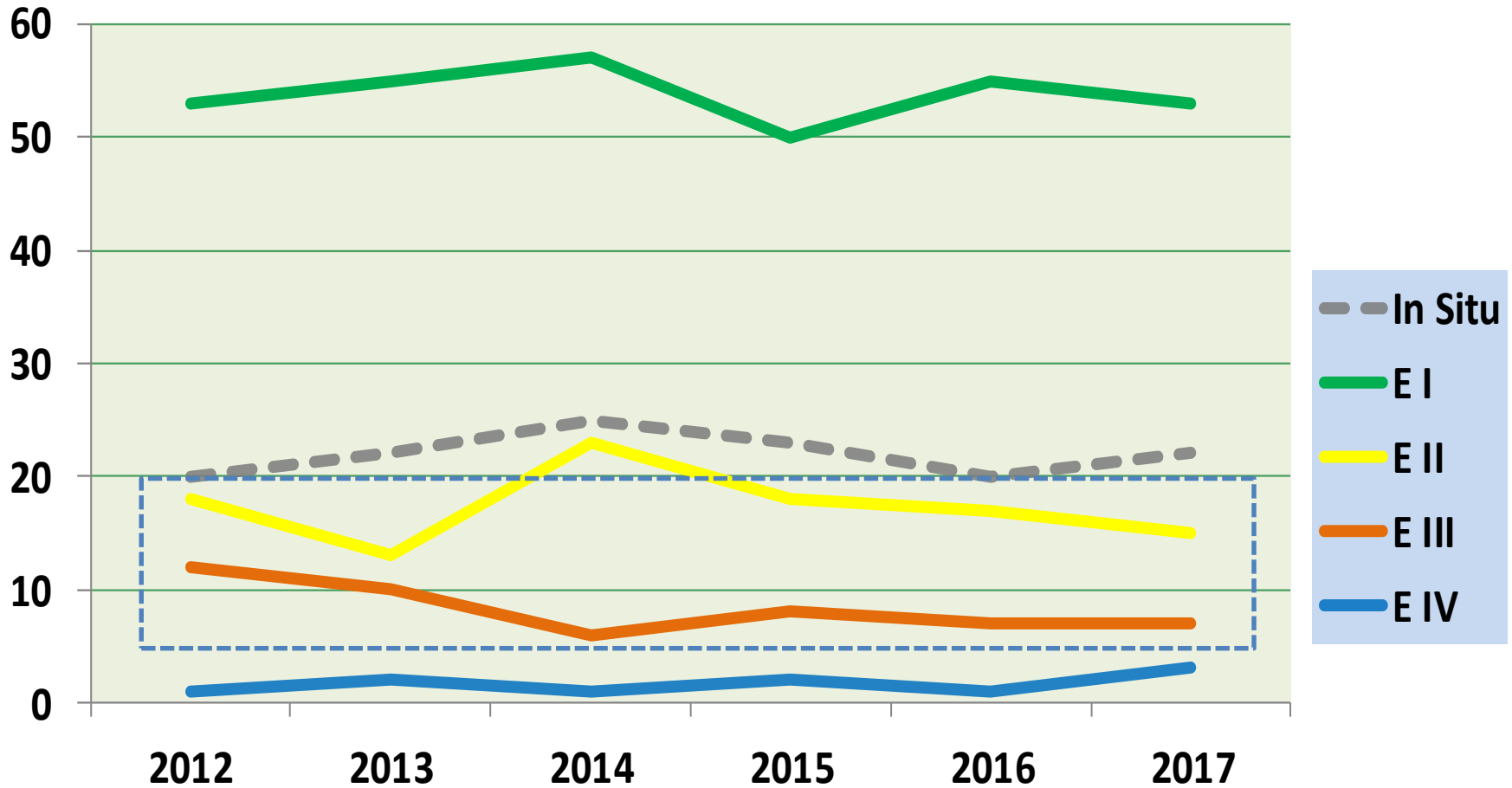


Clinical stage of breast cancer patients treated in the Perola Byington Hospital (São Paulo-Brazil)

Jan/2011-Dez/2017 (n=9.421)



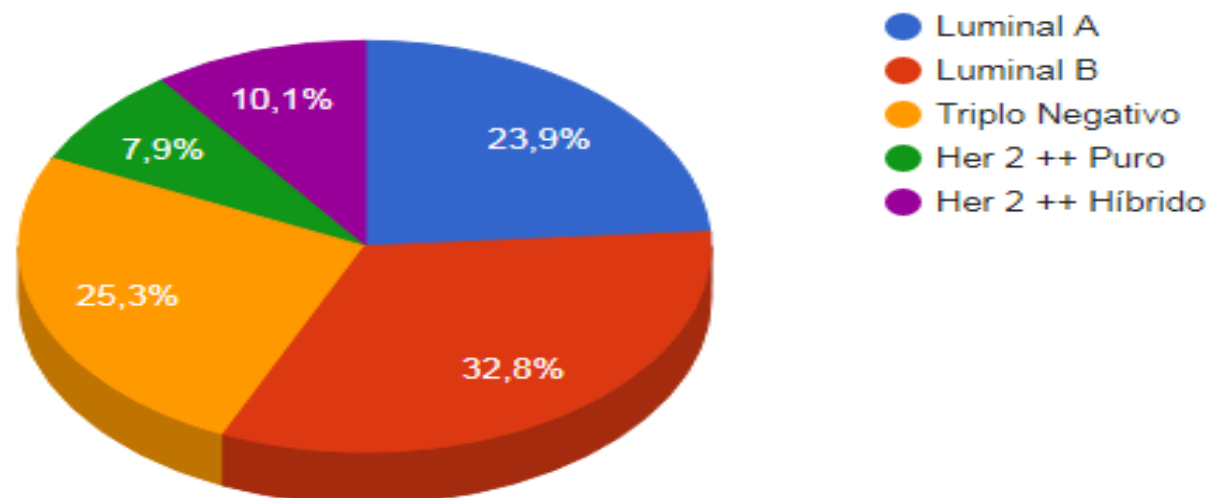
Clinical stage of the patients with Breast cancer treated in the Private Clinic (n=465)



Positivity of biomarkers of 9.421 women with breast cancer in Brazil

Imunohistoquímico	Casos
Luminal A	2197
Luminal B	3022
Triplo Negativo	2333
Her 2 ++ Puro	727
Her 2 ++ Híbrido	926

Perfil Imunohistoquímico

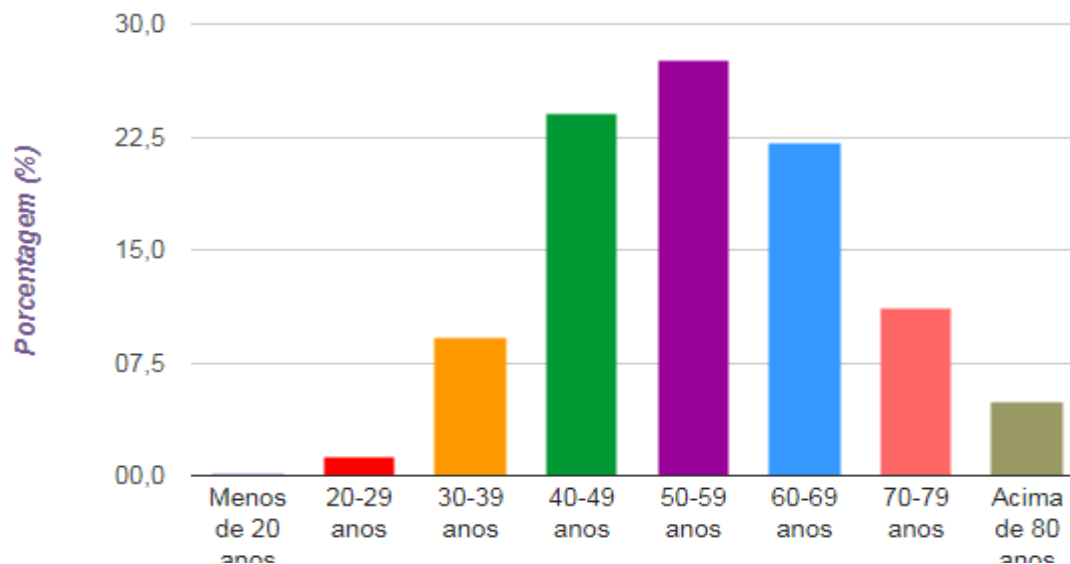


Age and IMC of the women with breast cancer in Brazil

Base de Diagnósticos: 9817

Faixa	Porcentagem
Menos de 20 anos	0,04
20-29 anos	1,17
30-39 anos	9,15
40-49 anos	24,02
50-59 anos	27,57
60-69 anos	22,03
70-79 anos	11,13
Acima de 80 anos	4,88

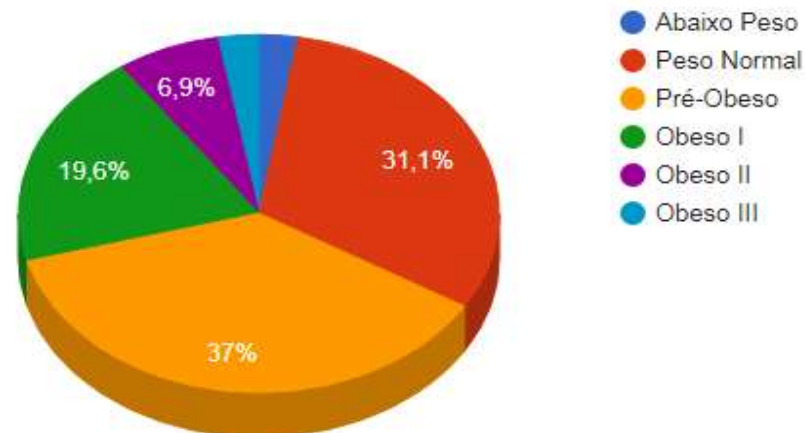
Idade no Diagnóstico



Base de Pacientes: 6876

Descrição	Quantidade	%
Abaixo Peso	181	2,63
Peso Normal	2136	31,06
Pré-Obeso	2544	37,00
Obeso I	1346	19,58
Obeso II	476	6,92
Obeso III	193	2,81

IMC (Peso/Altura²)

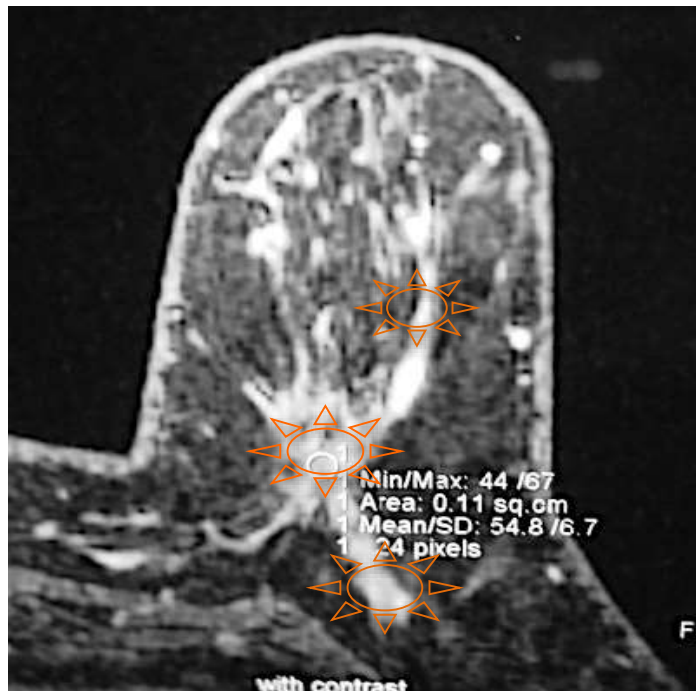


Indications of MRI in NAT

- 1- Conservative surgery
- 2- Breast dense
- 3- Difficulty in measuring the diameter
- 4- Evaluation of type of the response

(RECIST x PERCIST)

(Kitajima et al, 2018)



Conservative surgery

- 1. Decision of the patient**
2. Reduction of diameter of the tumour or CR
- 3. Resection of clipped area (CR)**
4. Skin removal (?)
- 5. Favorable cosmetics results**
6. Oncoplastic surgery

Risk factors for locoregional disease recurrence after breast-conserving therapy in patients after NAT

N= 4.125 (9 studies)

LR= 6,5% ; LRR=10,3% (10 years)

Factors of higher risk:

1.ER –

2.cN+

3.Lack of PCR in axila (pN0)

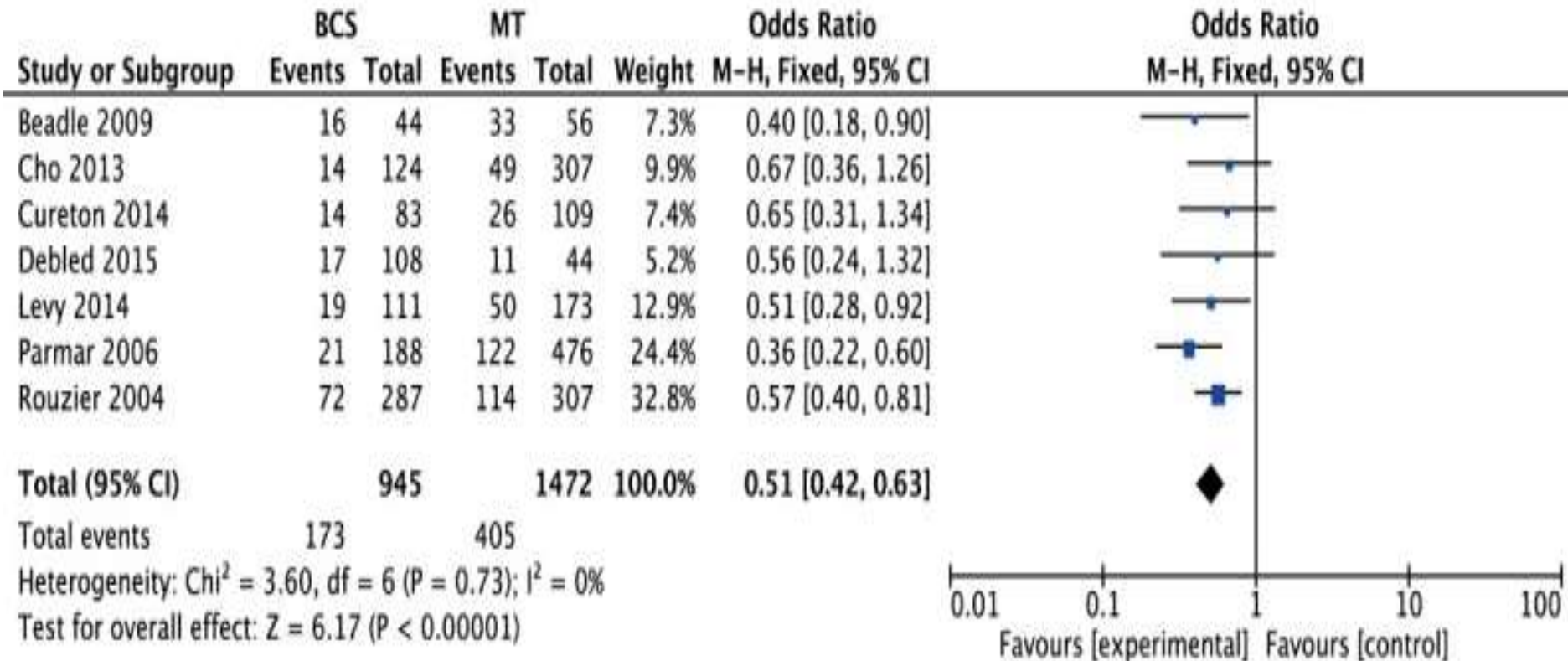
4.pN2/3

Comparison of breast-conserving surgery with mastectomy in locally advanced breast cancer after good response to neoadjuvant chemotherapy

A PRISMA-compliant systematic review and meta-analysis

Yixuan Sun^a, Mingjuan Liao, MD, PhD^b, Liu He, MD^{c,*}, Chenfang Zhu, MD, PhD^{c,*}

Loco-regional recurrence

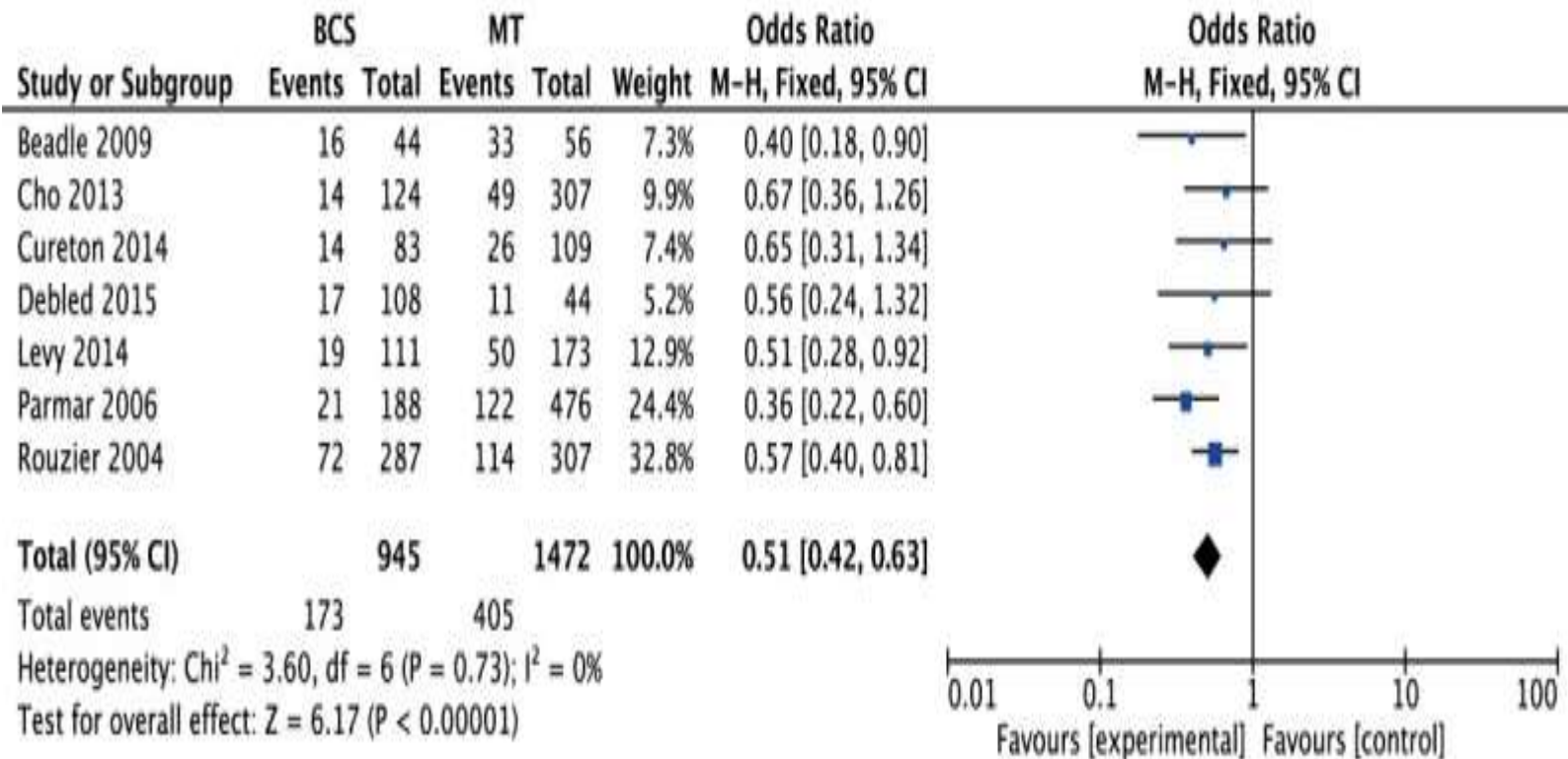


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Overall survival and metastasis



Meta-analysis of neoadjuvant therapy and its impact in facilitating breast conservation in operable breast cancer.

(Karakatsanis et al 2018 -Br. J Surg . 105(5) 469.

- **N= 1452 de 07 RCTs**

BCS=30% of eligible patients

Only 41% BCS after CR

NSABP 18/ESMO X CALG-B 40601

- **Breast surgery after NAT does not reflect tumour response resulting in potentially unnecessary radical surgery**

Indications of radical surgery

1. Decision of the patient
2. **Progression or partial response**
3. Multifocality or extensive area with microcalcifications
4. **Skin involvement (T4b)**
5. Cosmetics results (size of the breast)
6. **Difficulties of RT or follow up**

Conservative or Radical ?

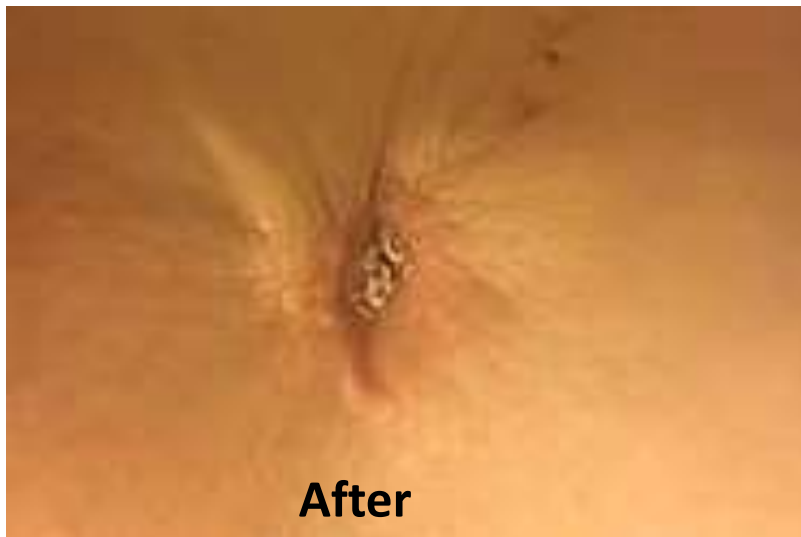
Nipple sparing mastectomy + RI



L H Gebrim-2018

Clinical Case:

Patient BS: 80 y T4BN1M0 cardiac pacemaker and anticoagulant use



AP: CDI Grade 1, ER +++, Pr+++, Ki,5% Her 2-Anastrozol 4 months

Complete pathological response (RPC) after neoadjuvant chemotherapy in the Perola Byington Hospital (n=117, Jan/dez 2017) (São Paulo-Brazil)

Tumours	PCR (%)
Triple negative	63
Luminal B	27,5
Her 2+	40,7
Luminal Hybrid	46

- Químio Neoadjuvante -

Base de Prontuários: 11593

Diagnósticos Câncer de Mama:

Típico Negativo

Total de Pacientes Químio Neoadjuvante + Triplo Negativo: 615

Descrição	Quantidade
Químio Neo + Triplo Negativo + TONO	117
Químio Neo + Triplo Negativo + Outras Respostas Patológicas	498

Her2 Positivo

Total de Pacientes Químio Neoadjuvante + Her2 Positivo: 253

Descrição	Quantidade
Químio Neo + Her2Pos + TONO	38
Químio Neo + Her2Pos + Outras Respostas Patológicas	215

(Gebrim,L;Mattar, Shida J et al 2018)

Conservative surgery after neoadjuvant chemotherapy in the patients stage III

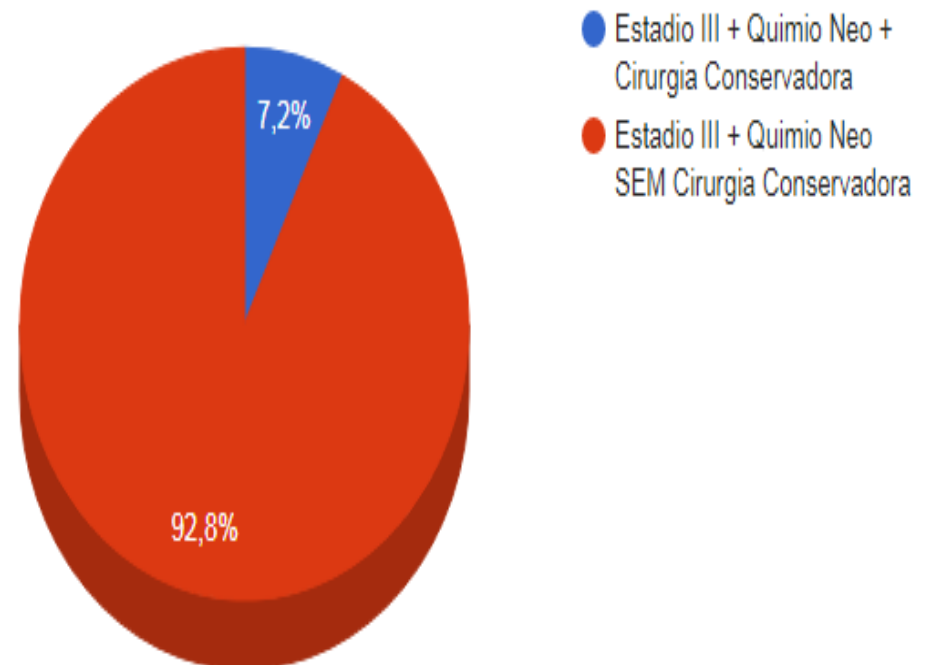
Perola Byington Hospital (São Paulo- Brazil)

Estadio III

Total de Pacientes Estadio III + Químio Neo: 1347

Descrição	Quantidade
Estadio III + Químio Neo + Cirurgia Conservadora	97
Estadio III + Químio Neo SEM Cirurgia Conservadora	1250

Estadio III + Químio Neoadjuvante + Cirurgia Conservadora



(Gebrim,L;Mattar, ShidaJ et al 2018)

Why conservative surgery is poorly indicated even after complete response?

- **Patient's desire**
- Fear of recurrence
- **CDIS**
- Gene mutation
- **Avoid RT** (prothesis)
- No interest in keeping the breast
- **Oncoplastic surgery** (NSM/cost)
- Gene mutation

(Cristiello et al 1985; Golshan et al 2015, Catanuto et al 2018))

Contemporary Evaluation of Breast Lymph Nodes in Anatomic Pathology

Beth T. Harrison, MD; Jane E. Brock, MBBS, PhD

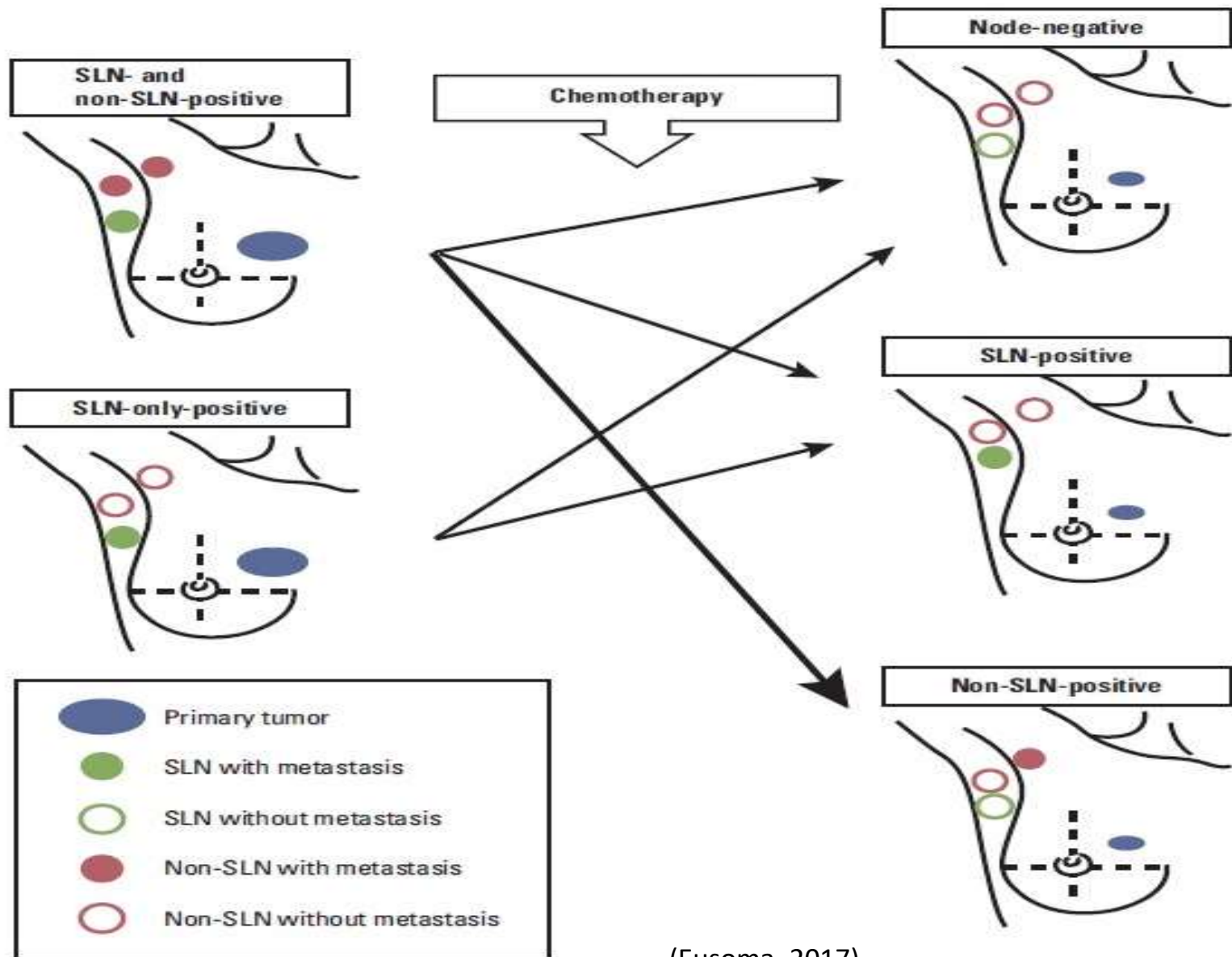
DISCLOSURES | Am J Clin Pathol. 2018;150(1):4-17.



Results ACOSOG Z0011, IBCSG 23–01, and AMAROS trials have shown that early-stage breast cancer patients who have limited metastatic involvement of the SLNs do not benefit from completion axillary dissections.

Conclusions It is not necessary for pathologists to search for all small metastases to predict non-SLN involvement, regional recurrence, or death due to disease. Processing should be designed with the goal of detecting macrometastases. Multiple levels, routine immunohistochemistry, and molecular testing are not recommended.

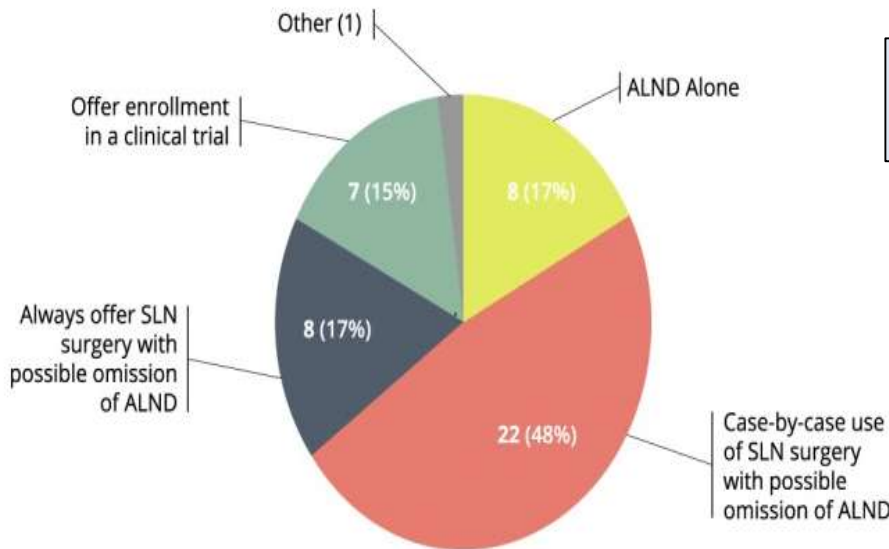
Sentinel lymph node biopsy management after NAC



(Eusoma, 2017)

Surgical Standards for Management of the Axilla in Breast Cancer Clinical Trials with Pathological Complete Response Endpoint

Judy C. Boughey,^{✉1} Michael D. Alvarado,² Rachael B. Lancaster,³ W. Fraser Symmans,⁴ Rita Mukhtar,²



Surgical standards for management of the axilla Initial Diagnosis (Baseline)

- 1- Clip in the tumour site (cs)
- 2- Clinical and axillary US
- 3- US cortex >3mm = (PAAF or Core)
- 4- Clip in the positive node (?)

False-negative of SNB after neoadjuvant treatment

Before NAC = 10-30% (retrospective studies)

- Takahashi : 24,5- 27,3% (T99m)
- Alvarado: 20,8% (T99m +Blue)

After NAC = 8,7% (prospective multicentric studies)

- **SENTINA= 9,6-14%** (N1-2 clinical ,25% FNA ,US - after(T99m and Blue)
- **ACOSOG Z1071=12,6%** (10% /03 LN T99m and Blue)
- **Z 1071 Clip + SLNs =170 ; FNR=2,4%**
- **Canadian SNB = 13,3% , 4,9%** (>2 LN)
- **Netherlands (MARI) radioactive n=70 FNR= 7%**

Surgical Management after Neoadjuvant therapy

- **Intra-operative clip localization** (Conservative surgery)
- Surgery : 3 -12 weeks after last dose of CT
- **In CR the totality remaining tumoral area doesn't need be excised**
- Multiple clips to map tumour : **Discouraged**
- **Clinically node negative (cN0)= SLN (>2LN)**
- All palpable nodes suspicious should be resected
- **Clinically node positive (cN1-3)(PAAF or Core) + clip**
- Clip not placed > 2 SLNs recommended
- **All patients (cN0 or cN+) with positive SLN= ALND**

(Boughey J C et al, 2018)

Surgical standards for management of the axilla

St Gallen *consensus*

- **SNB after NAC only for (cN1/2 > cN0)**
- **False negative high if <3 LN removed**
- **Axillary clearance: cN1/2 (unchanged clinical, US, PET)**
- **Axillary Lymphadenectomy improved survival (N2-3)**

(Park et al 2018)

Conclusions

- **Neoadjuvant treatment increases eligible patients to BCT.**
- **The preop. clip marking is important for BCS.**
- **The remotion of all extension of primary tumour after RC may not be necessary.**
- **The RC does not imply in conservative surgery**
- **SLNB may be performed in negative axila**
- **BLS + or Axila + = axillary clearence**
- **BCT after NCT appear to be oncologically safe for a large porcentage of patients.**



Thank you !