


XXXII CONGRESSO NAZIONALE AIRO  
XXXIII CONGRESSO NAZIONALE AIRB  
XII CONGRESSO NAZIONALE AIRO GIOVANI

# AIRO2022

Radioterapia di precisione per un'oncologia innovativa e sostenibile

BOLOGNA, 25-27 NOVEMBRE  
PALAZZO DEI CONGRESSI

 Associazione Italiana  
Radioterapia e Oncologia clinica

 Società Italiana di Radiobiologia

 Associazione  
Italiana  
Radioterapia  
e Oncologia  
clinica  






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# AIRO2022

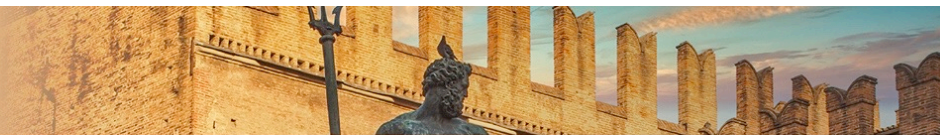
Radioterapia di precisione per un'oncologia innovativa e sostenibile

BOLOGNA, 25-27 NOVEMBRE  
PALAZZO DEI CONGRESSI

## SESSIONE 10 - MAMMELLA: RADIOTERAPIA DOPO CHEMIOTERAPIA NEOADIUVANTE “Volumi e dosi”

27/11/2022 h 10.30-10.45

**Dott.ssa Samantha Dicuonzo - Istituto Europeo di Oncologia – IRCCS- Milano**



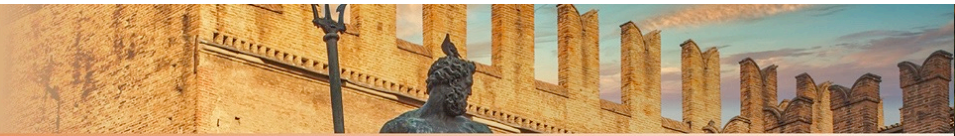
## DICHIARAZIONE

Relatore: Dott.ssa Samantha Dicuonzo

Come da nuova regolamentazione della Commissione Nazionale per la Formazione Continua del Ministero della Salute, è richiesta la trasparenza delle fonti di finanziamento e dei rapporti con soggetti portatori di interessi commerciali in campo sanitario.

- Posizione di dipendente in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Consulenza ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Fondi per la ricerca da aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Partecipazione ad Advisory Board **(NIENTE DA DICHIARARE)**
- Titolarità di brevetti in compartecipazione ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Partecipazioni azionarie in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Altro





JOURNAL OF CLINICAL ONCOLOGY

REVIEW



**Buchholz, 2008**

Statement of the Science Concerning Locoregional Treatments After Preoperative Chemotherapy for Breast Cancer: A National Cancer Institute Conference

is indicated for all patients treated with breast conservation. For patients treated with mastectomy, chest-wall and regional nodal radiation should be considered for those who present with clinical stage III disease or have histologically positive lymph nodes after preoperative chemotherapy. Additional prospective studies are needed to determine the value of postmastectomy radiation for patients with stage II breast cancer who have negative lymph nodes after chemotherapy.

**cT3 N1, any cT4, any cN2, any cN3, ypN+**

The unmet clinical need

cT1-2N1/cT3N0

ypN+

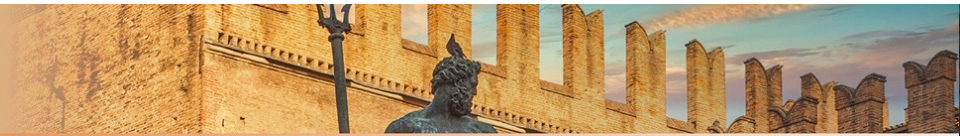
ypN0



# AIRO2022

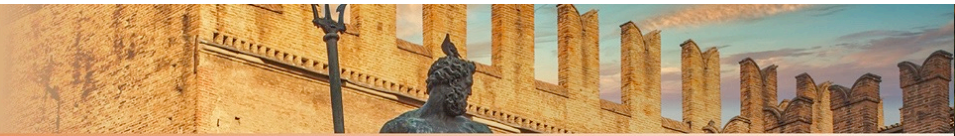
XXXII CONGRESSO NAZIONALE AIRO  
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Radioterapia di precisione per un'oncologia innovativa e sostenibile

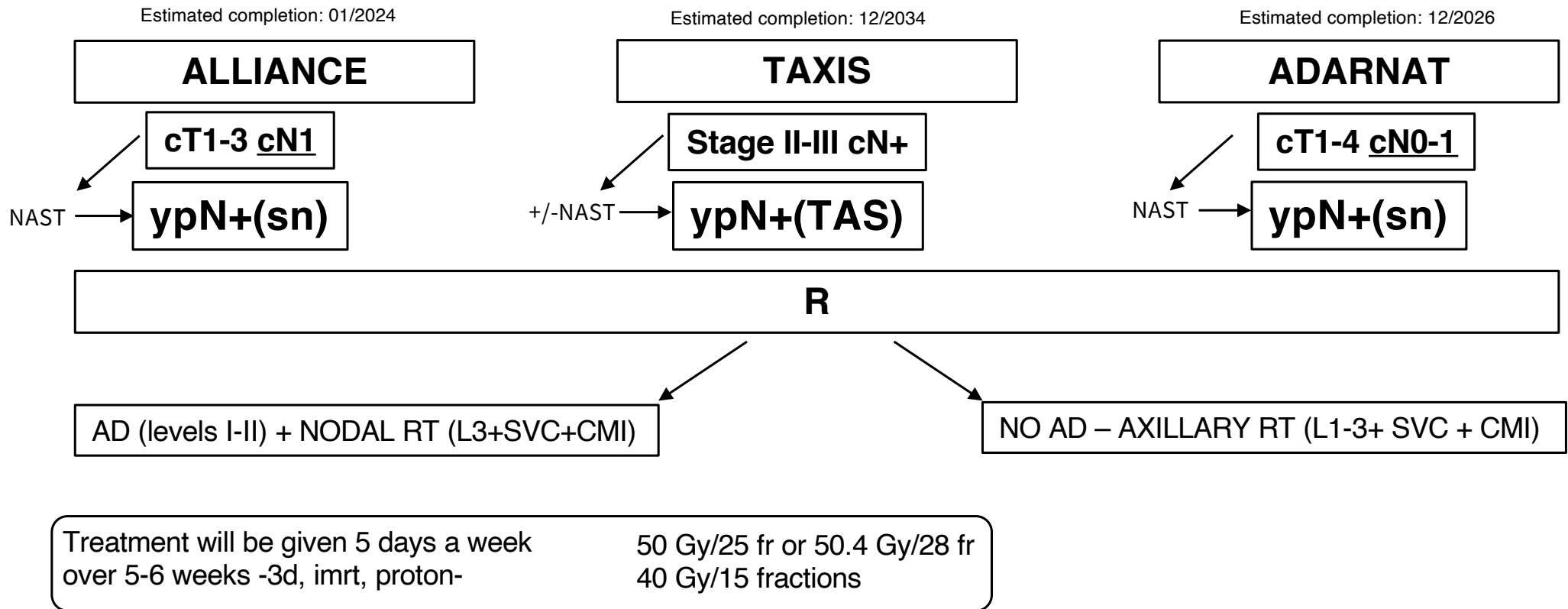


## ypN+ after NAST





## WAITING FOR...

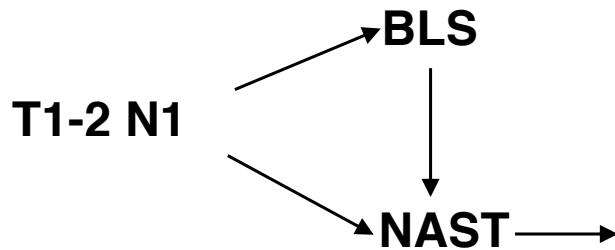




## De-escalation of radiotherapy after primary chemotherapy in cT1-2N1 breast cancer (RAPCHEM; BOOG 2010-03): 5-year follow-up results of a Dutch, prospective, registry study

Sabine R de Wild, Linda de Munck, Janine M Simons, Janneke Verloop, Thijs van Dalen, Paula H M Elkhuizen, Ruud M A Houben, A Elise van Leeuwen, Sabine C Linn, Ruud M Pijnappel, Philip M P Poortmans, Luc J A Strobbe, Jelle Wesseling, Adri C Voogd, Liesbeth J Boersma

|  | Radiotherapy after breast conserving therapy   | Radiotherapy after mastectomy  |
|--|--|--|
| <b>Low-risk group</b>  |  |  |
| ypN0 (ALND)  | Whole breast radiotherapy  | ..   |
| If SLNB before primary chemotherapy and no ALND: cN1mi (SLNB), no risk factor*; or if SLNB after primary chemotherapy and no ALND: ypN0 (SLNB)   | Whole breast radiotherapy  | ..   |
| <b>Intermediate-risk group</b>   |  |  |
| ypN1 (ALND)  | Whole breast radiotherapy  | Chest wall radiotherapy  |
| If SLNB before primary chemotherapy and no ALND†: cN1mi (SLNB), ≥1 risk factor*, or cN1 (SLNB), ≤2 macrometastases, no risk factor*; or if SLNB after primary chemotherapy and no ALND†: ypN1mi (SLNB), no risk factor*              | Whole breast radiotherapy; in addition axilla level I and II†                          | Chest wall radiotherapy; in addition axilla level I and II†                          |
| <b>High-risk group</b>   |  |  |
| ypN2-3 (ALND)  | Whole breast radiotherapy; axilla level III and IV                                     | Chest wall radiotherapy; axilla level III and IV                                     |
| If SLNB before primary chemotherapy and no ALND†: cN1 (SLNB), with ≤2 macrometastases and ≥1 risk factor*, or ≥3 macrometastases; or if SLNB after primary chemotherapy and no ALND†: ypN1mi (SLNB), ≥1 risk factor*, or ypN1 (SLNB) | Whole breast radiotherapy; axilla level III and IV; in addition axilla level I and II† | Chest wall radiotherapy; axilla level III and IV; in addition axilla level I and II† |



**Breast surgery + AD or SN  
OR  
Breast surgery alone in case of pre-BLS**



**Radiotherapy based on pathology findings**

**Low risk**

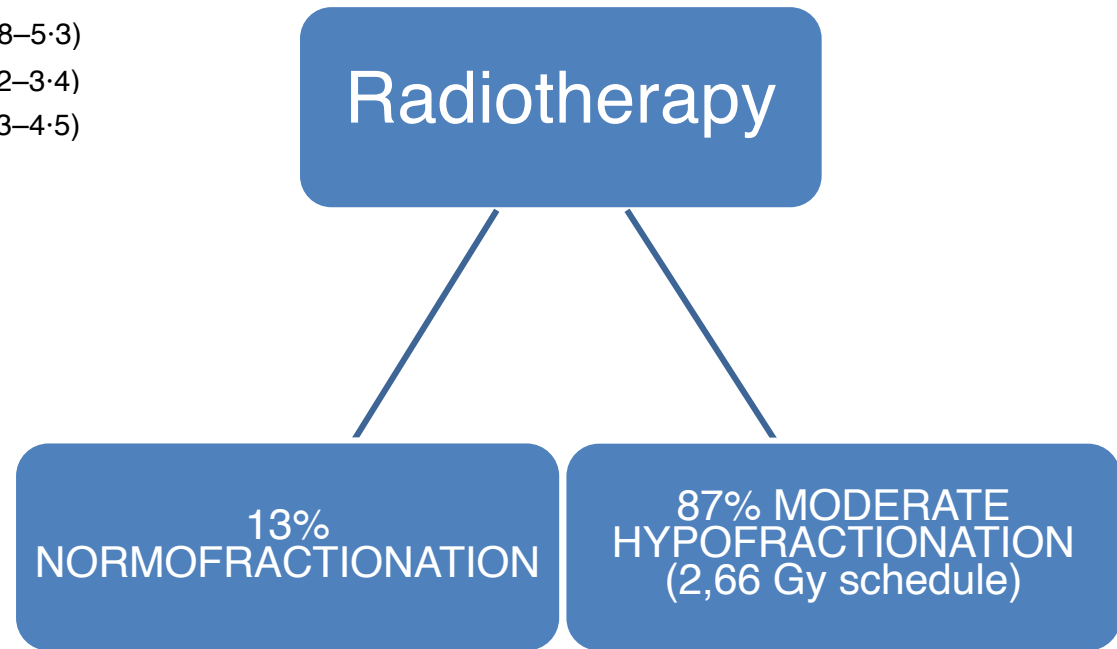
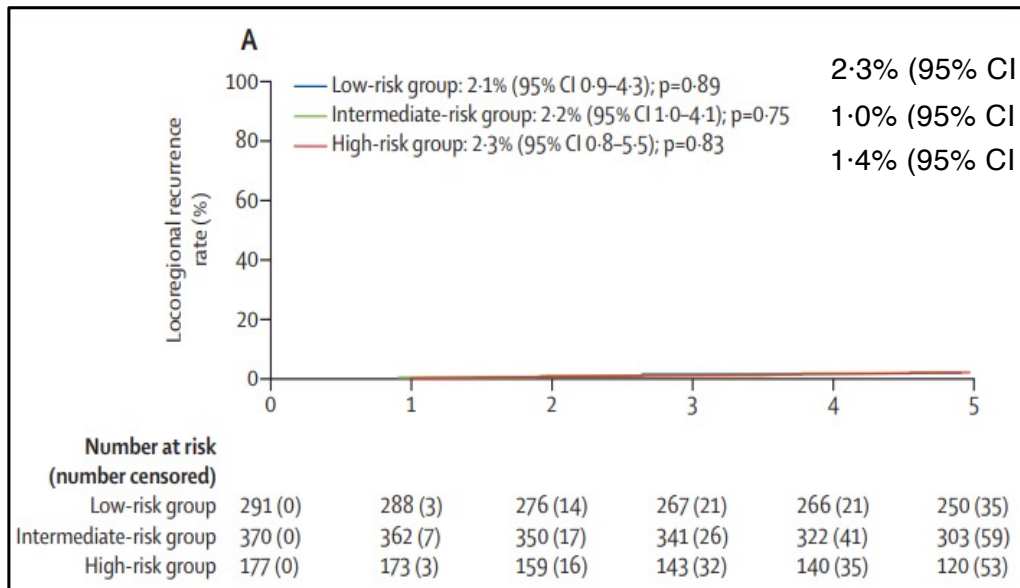
**Intermediate risk**

**High risk**





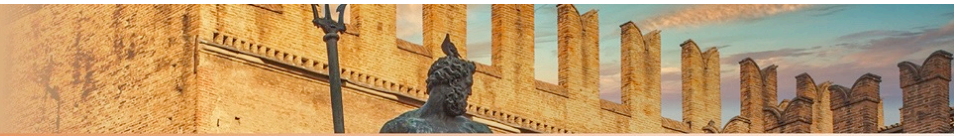
## RAPCHEM: locoregional recurrence



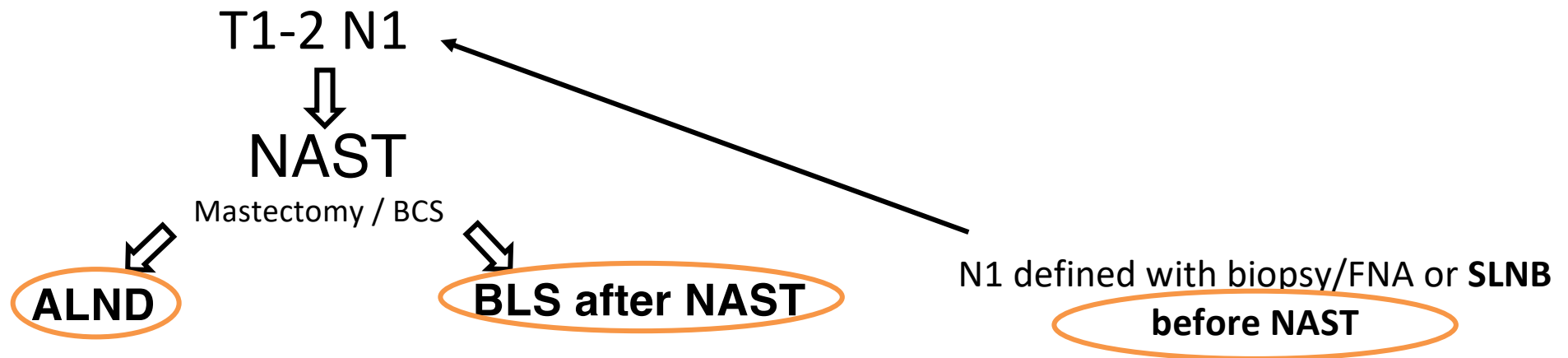
TB Boost: 54% patients

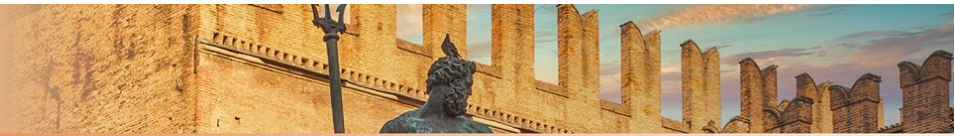
|                                   |           | LR        | IR        | HR        |          |
|-----------------------------------|-----------|-----------|-----------|-----------|----------|
| Radiotherapy                      | ..        |           |           |           | :0.0001† |
| According to study guideline      | 533 (64%) | 181 (62%) | 200 (54%) | 152 (86%) | ..       |
| Less than study guideline         | 90 (11%)  | 2 (1%)    | 63 (17%)  | 25 (14%)  | ..       |
| More than study guideline         | 214 (26%) | 108 (37%) | 106 (29%) | 0         | ..       |
| Less or more than study guideline | 1 (0%)    | 0         | 1 (0%)    | 0         | ..       |



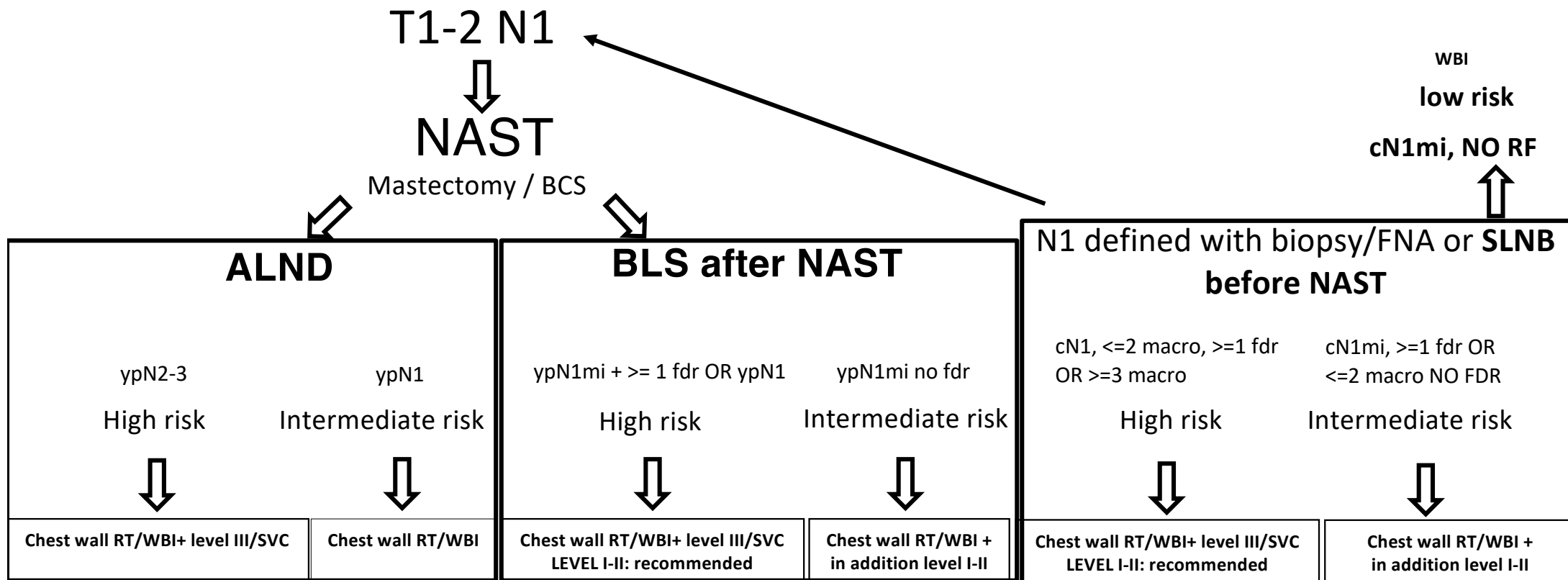


## RAPCHEM: positive nodes pts (no ypN0)

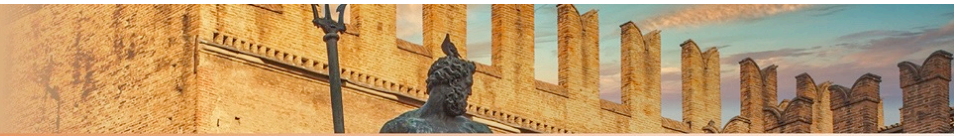




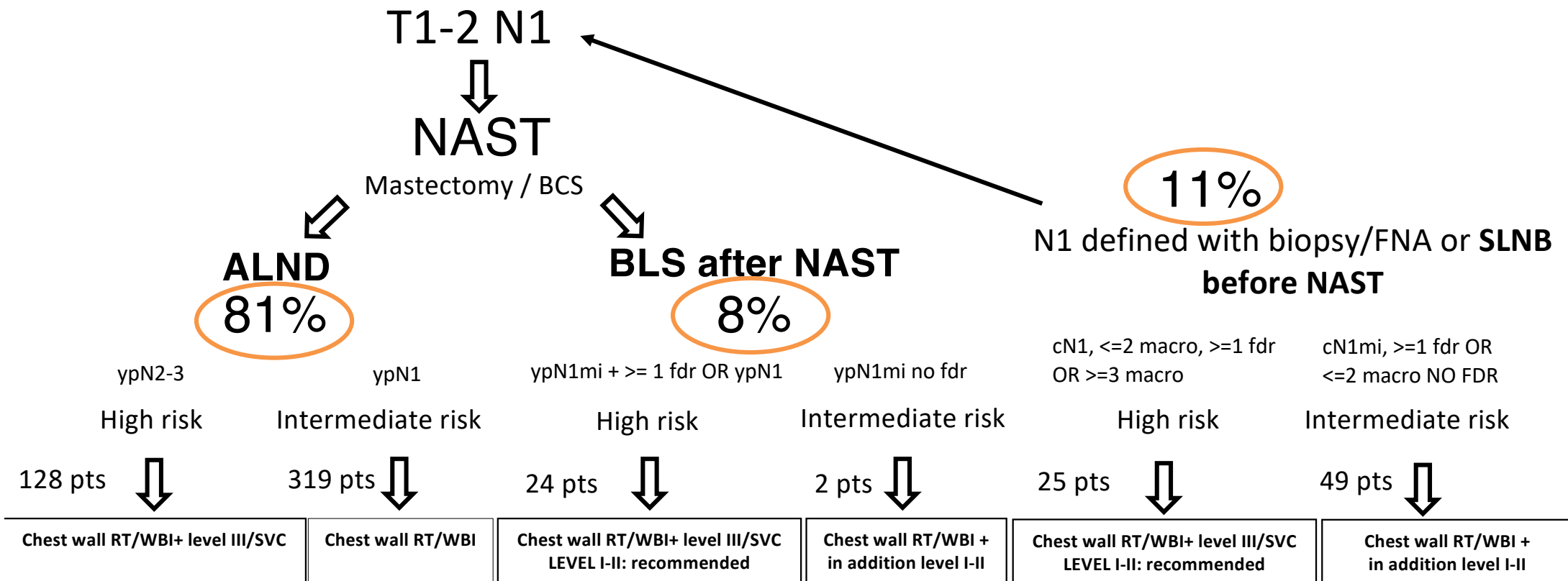
## RAPCHEM: positive nodes pts (no ypN0)

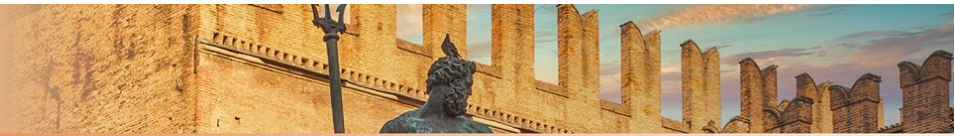






## RAPCHEM: positive nodes pts (no ypN0)





# RAPCHEM: positive nodes pts (no ypN0)

T1-2 N1  
 ↓  
 NAST

## Maybe results only for ALND-PTS????

ALND  
 81%

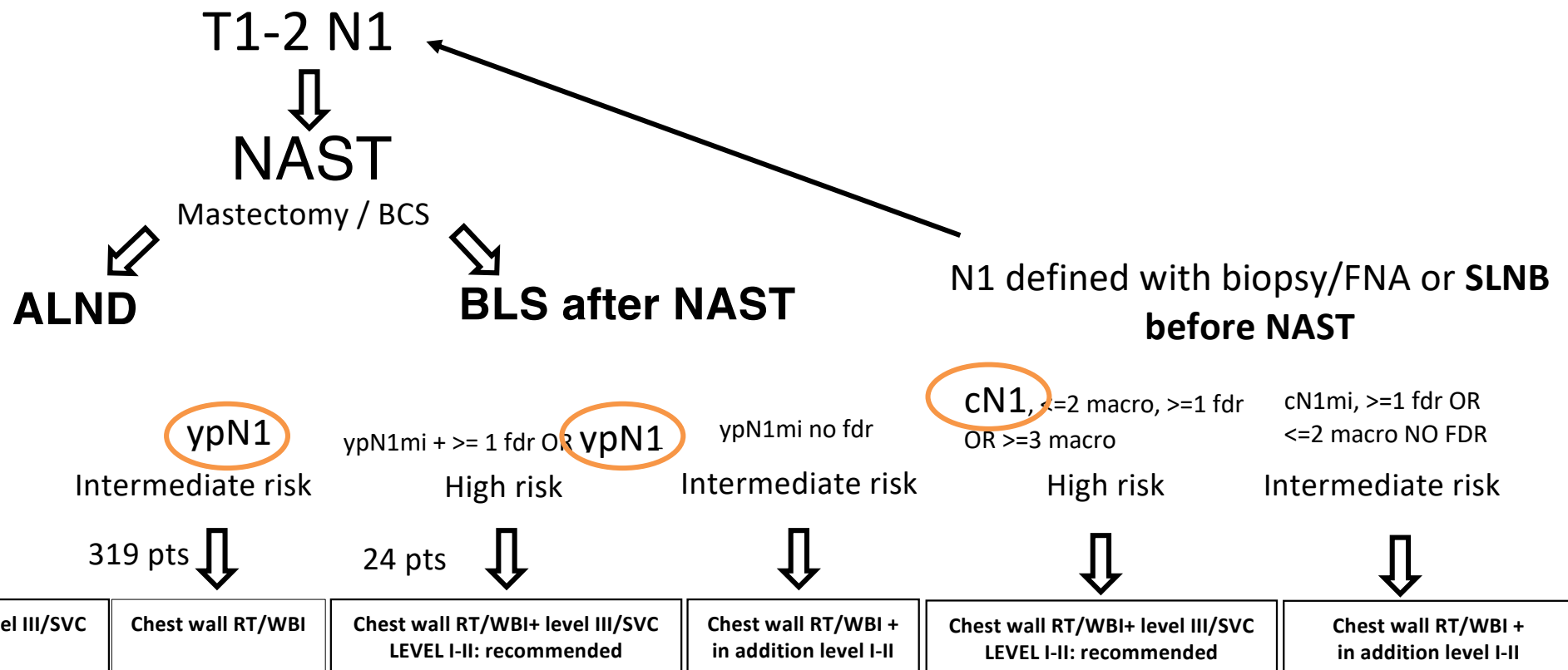
DLB after NAST  
 8%

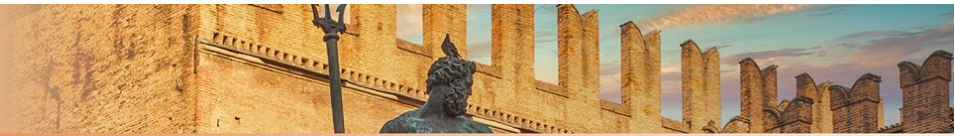
before NAST

|                                  |                   |   |   |   |   |
|----------------------------------|-------------------|---|---|---|---|
| ypN2-3                           | ypN1              | ypN1mi + >= 1 fdr OR ypN1                                   | ypN1mi no fdr                                 | cN1, <=2 macro, >=1 fdr<br>OR >=3 macro                     | cN1mi, >=1 fdr OR<br><=2 macro NO FDR         |
| High risk                        | Intermediate risk | High risk   | Intermediate risk                             | High risk   | Intermediate risk                             |
| 128 pts ↓                        | 319 pts ↓         | 24 pts ↓  | 2 pts ↓                                       | 25 pts ↓  | 49 pts ↓                                      |
| Chest wall RT/WBI+ level III/SVC | Chest wall RT/WBI | Chest wall RT/WBI+ level III/SVC<br>LEVEL I-II: recommended | Chest wall RT/WBI +<br>in addition level I-II | Chest wall RT/WBI+ level III/SVC<br>LEVEL I-II: recommended | Chest wall RT/WBI +<br>in addition level I-II |

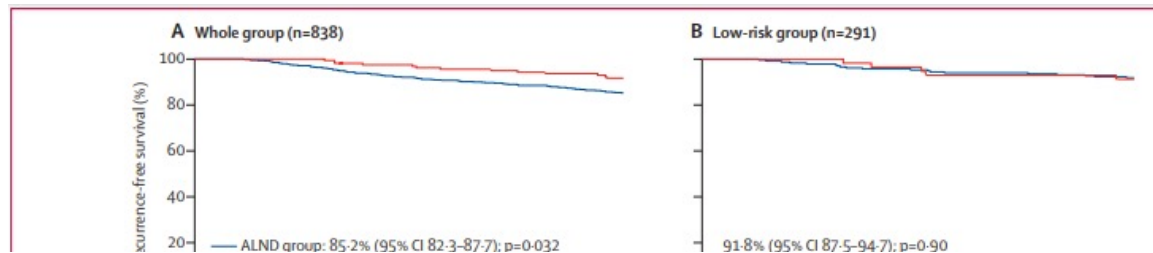


## RAPCHEM: positive nodes pts (no ypN0)

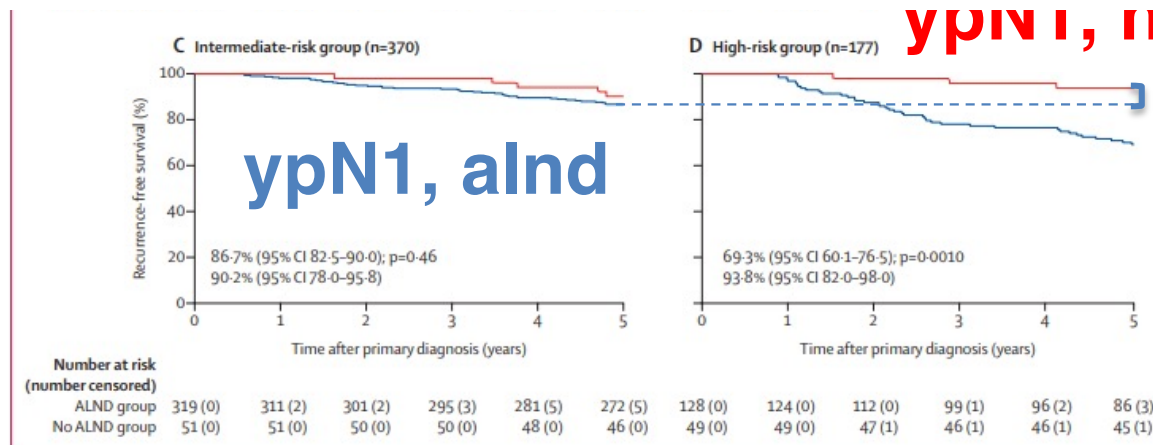




## RAPCHEM: ypN1, impact of axillary surgery



## Avoid ALND for ypN1????







## MESSAGE FROM RAPCHEM (ypN+)

Very low locoregional recurrence rates (less than 4% for the whole group and for each risk group)

It seems oncologically safe to de-escalate locoregional radiotherapy based on ypN status following ALND, in particular for ypN1 pts (maybe they could avoid ALND...)

Moderate hypofractionation also after NAST



BUT

No toxicity data

In each risk group, the actual sample size treated according to the study guideline was smaller than required based on the power calculation

Single arm





Contents lists available at ScienceDirect

Radiotherapy and Oncology

journal homepage: [www.thegreenjournal.com](http://www.thegreenjournal.com)



Original Article

## Predictors of positive axillary non-sentinel lymph nodes in breast cancer patients with positive sentinel lymph node biopsy after neoadjuvant systemic therapy



Maria Cristina Leonardi <sup>a</sup>, Camilla Arrobbio <sup>a,b,1</sup>, Sara Gandini <sup>c</sup>, Stefania Volpe <sup>a,b,\*</sup>, Francesca Colombo <sup>a,b</sup>, Eliana La Rocca <sup>a,b</sup>, Viviana Galimberti <sup>d</sup>, Sabrina Kahler-Ribeiro-Fontana <sup>d</sup>, Cristiana Fodor <sup>a</sup>, Samantha Dicuonzo <sup>a</sup>, Damaris Patricia Rojas <sup>a</sup>, Maria Alessia Zerella <sup>a</sup>, Anna Morra <sup>a</sup>, Emilia Montagna <sup>e</sup>, Marco Colleoni <sup>e</sup>, Giovanni Mazzarol <sup>f</sup>, Laura Lavinia Travaini <sup>g</sup>, Mattia Zaffaroni <sup>a</sup>, Paolo Veronesi <sup>b,d</sup>, Roberto Orecchia <sup>h</sup>, Barbara Alicja Jereczek-Fossa <sup>a,b</sup>

**But.....Is SLNB safe after NAST for ypN1(sn) pts?**



265 women





Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Radiotherapy and Oncology

journal homepage: [www.thegreenjournal.com](http://www.thegreenjournal.com)



Original Article

Predictors of positive axillary non-sentinel lymph nodes in breast cancer patients with positive sentinel lymph node biopsy after neoadjuvant systemic therapy



165/265 pts had additional positive non SLNs in axilla (62.3%) after NAST

cN1 pts (131/265) had greater incidence of other positive non-SLNs at AxLND (n = 93,71%)

### Variables significantly associated with positive non SLNs at MVA

age (p = 0.025, risk increased as age increased)

initial clinical axillary status (p = 0.002, positive versus negative is directly associated with positive non-SLNs)

SLN ECE (p < 0.001, present versus absent is directly associated with positive non SLNs)

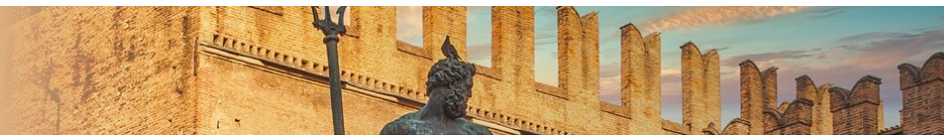
ratio of positive SLNs/total SLNs excised (p = 0.016, the higher the ratio the higher the risk)

If simultaneous combination of all the four high-risk features → amount of positive non-SLNs in the I, II and III levels was to 78.9%, 79% and 63.2%, respectively

# AIRO2022

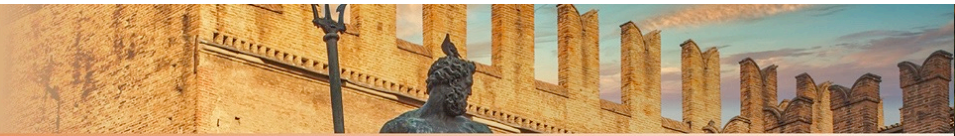
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## ypN0 after NAST





## WAITING FOR...

Estimated completion: 08/2028

**NSABP B-51/RTOG 1304**

N  
A  
S  
T

cT1-3 cN1

ypN0(SN/ALND)

BCS

MASTECTOMY

R

R

1a WBI+ boost

2a nothing

1b WBI+ boost  
+ RNI

2b CW+ RNI

3D-IMRT 25 fractions

Estimated completion: 02/2030

**ATNEC**

N  
A  
S  
T

cT1-3 cN1

ypN0(SN)

R

Axillary  
treatment  
(RT or  
ALND)

NO  
Axillary  
treatment

Estimated completion: 06/2025

**OBSERB**

N  
A  
S  
T

cT1-3 cN1

ycN0(radiological)

R

SLNB

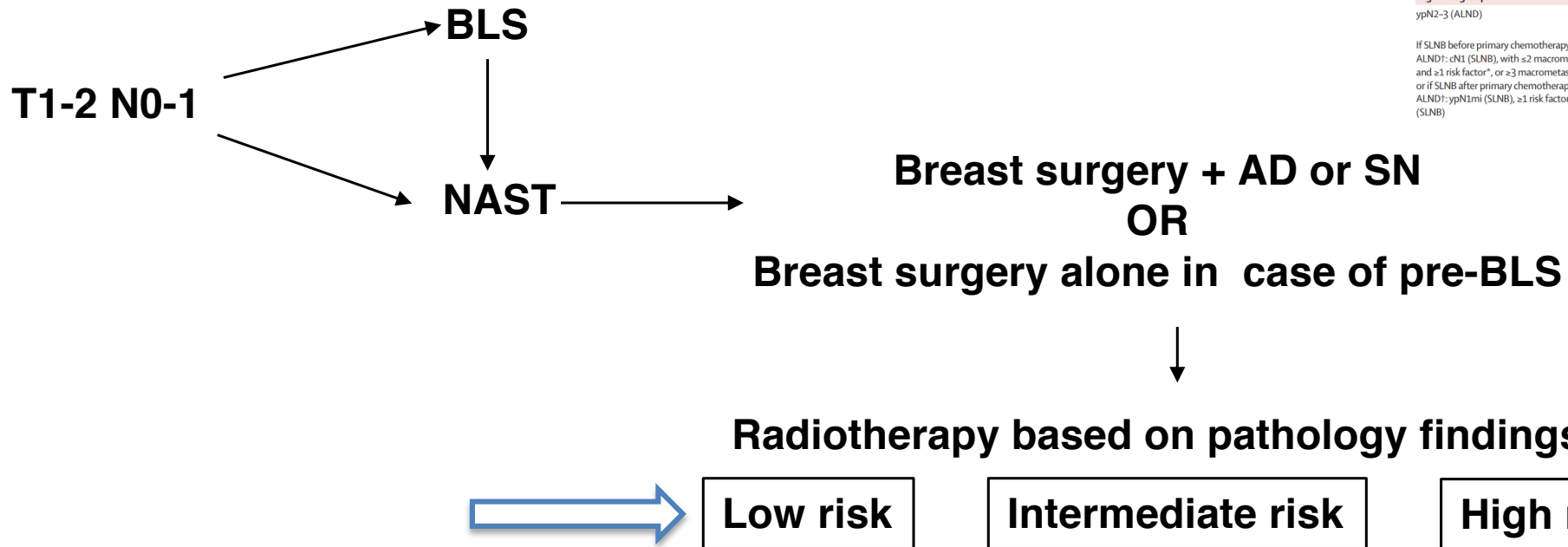
RNI

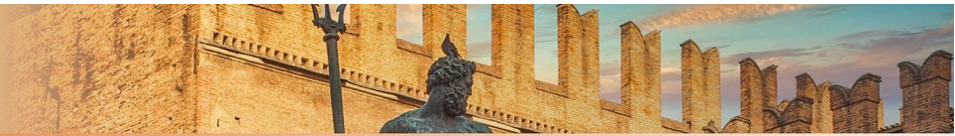
Lancet Oncol 2022 August 8

## De-escalation of radiotherapy after primary chemotherapy in cT1-2N1 breast cancer (RAPCHEM; BOOG 2010-03): 5-year follow-up results of a Dutch, prospective, registry study

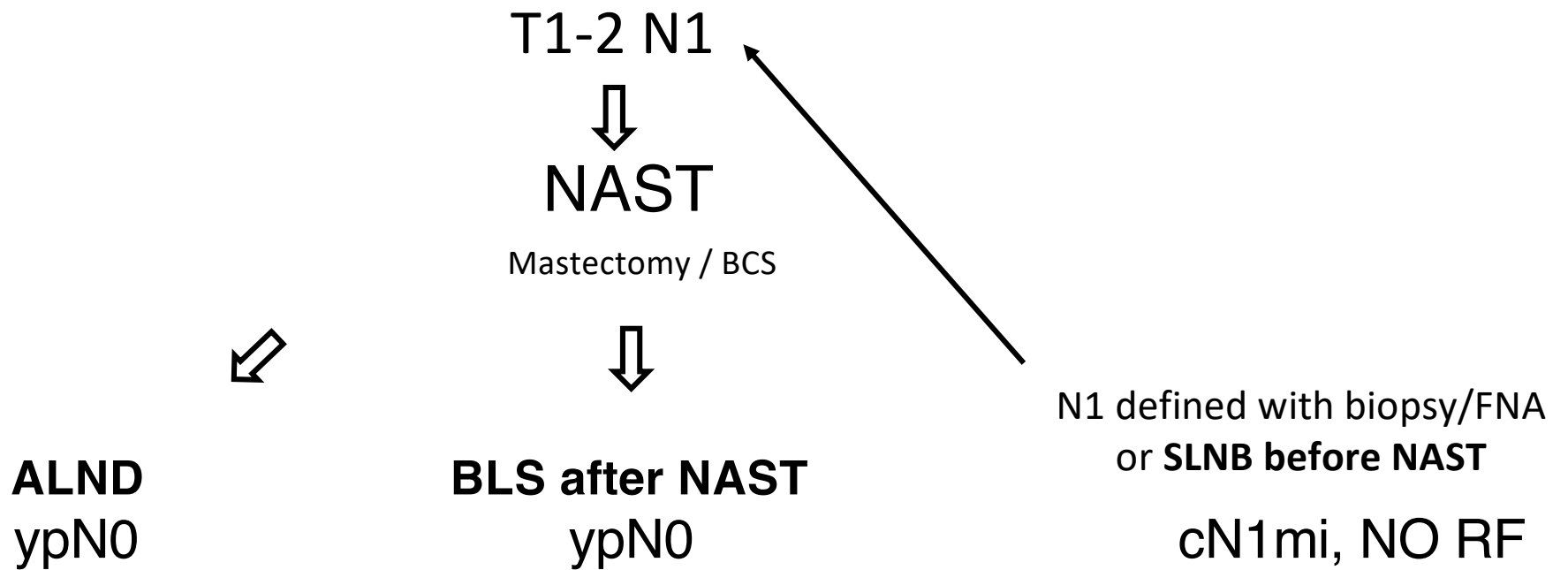
Sabine R de Wild, Linda de Munck, Janine M Simons, Janneke Verloop, Thijs van Dalen, Paula H M Elkhuizen, Ruud M A Houben, A Elise van Leeuwen, Sabine C Linn, Ruud M Pijnappel, Philip M P Poortmans, Luc J A Strobbe, Jelle Wesseling, Adri C Voogd, Liesbeth J Boersma

|   | Radiotherapy after breast conserving therapy   | Radiotherapy after mastectomy  |
|---|--|--|
| <b>Low-risk group</b>   |  |  |
| ypN0 (ALND)   | Whole breast radiotherapy  | ..   |
| If SLNB before primary chemotherapy and no ALND: cN1mi (SLNB), no risk factor*;<br>or if SLNB after primary chemotherapy and no ALND: ypN0 (SLNB)   | Whole breast radiotherapy  | ..   |
| <b>Intermediate-risk group</b>  |  |  |
| ypN1 (ALND)   | Whole breast radiotherapy  | Chest wall radiotherapy  |
| If SLNB before primary chemotherapy and no ALND: cN1mi (SLNB), ≥1 risk factor*, or cN1 (SLNB), ≥2 macrometastases, no risk factor*;<br>or if SLNB after primary chemotherapy and no ALND: ypN1mi (SLNB), no risk factor*              | Whole breast radiotherapy; in addition axilla level I and II†                          | Chest wall radiotherapy; in addition axilla level I and II†                          |
| <b>High-risk group</b>  |  |  |
| ypN2-3 (ALND)   | Whole breast radiotherapy; axilla level III and IV                                     | Chest wall radiotherapy; axilla level III and IV                                     |
| If SLNB before primary chemotherapy and no ALND: cN1 (SLNB), with ≥2 macrometastases and ≥1 risk factor*, or ≥3 macrometastases;<br>or if SLNB after primary chemotherapy and no ALND: ypN1mi (SLNB), ≥1 risk factor*, or ypN1 (SLNB) | Whole breast radiotherapy; axilla level III and IV; in addition axilla level I and II† | Chest wall radiotherapy; axilla level III and IV; in addition axilla level I and II† |

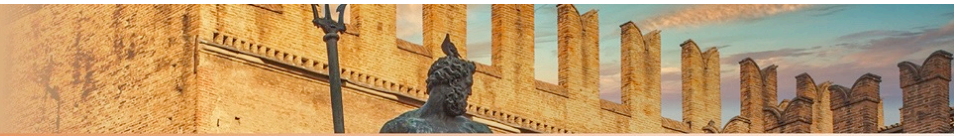




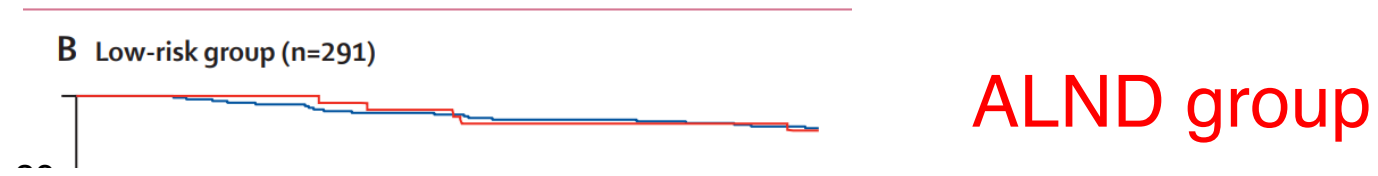
## RAPCHEM: negative nodes pts (ypN0)



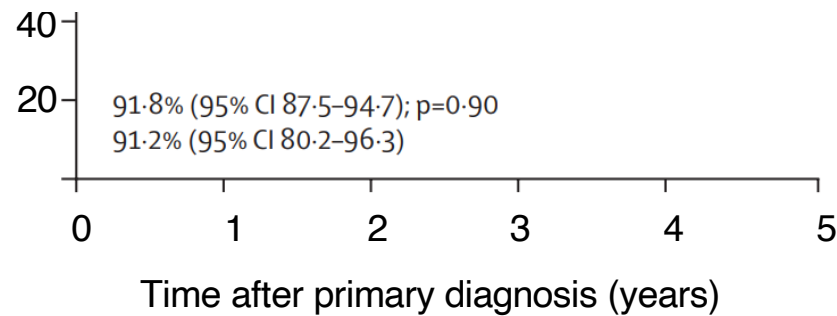


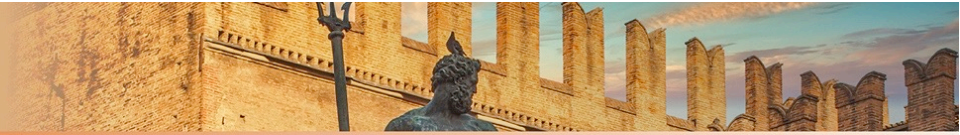


# RAPCHEM: negative nodes pts (ypN0) Recurrence-free survival (%)



## Avoid ALND and RNI for ypN0????





## MESSAGE FROM RAPCHEM (ypN0)

Very low locoregional recurrence rates: 2.1% for the low risk group

It seems oncologically safe to de-escalate locoregional radiotherapy based on ypN status following ALND, also for ypN0 pts (maybe they could avoid ALND...and RNI)

BUT

No toxicity data

In each risk group, the actual sample size treated according to the study guideline was smaller than required based on the power calculation

Single arm



## But.....Is SLNB safe after NAST for ypN0(sn) pts?

JAMA Oncology | Brief Report

### Nodal Recurrence in Patients With Node-Positive Breast Cancer Treated With Sentinel Node Biopsy Alone After Neoadjuvant Chemotherapy—A Rare Event

**CONCLUSIONS AND RELEVANCE** This cohort study found that in patients with cN1 disease rendered cN0 with NAC, with 3 or more negative SLNs with SLNB alone, nodal recurrence rates were low, without routine nodal clipping. These findings potentially support omitting ALND in such patients.

Sentinel-lymph-node biopsy in patients with breast cancer before and after neoadjuvant chemotherapy (SENTINA): a prospective, multicentre cohort study



Thörssten Baehre, Ingo Bauerjandl, Tanja Fehrer, Barbara Flöge, Maria Hauschild, Gisela Häms, Annette Leberer, Cornelia Liedtke, Gunter von Minckwitz, Valentina Peklajová, Sabine Schneidlich, Peter Schenk, Annette Stadler, Michael Untch

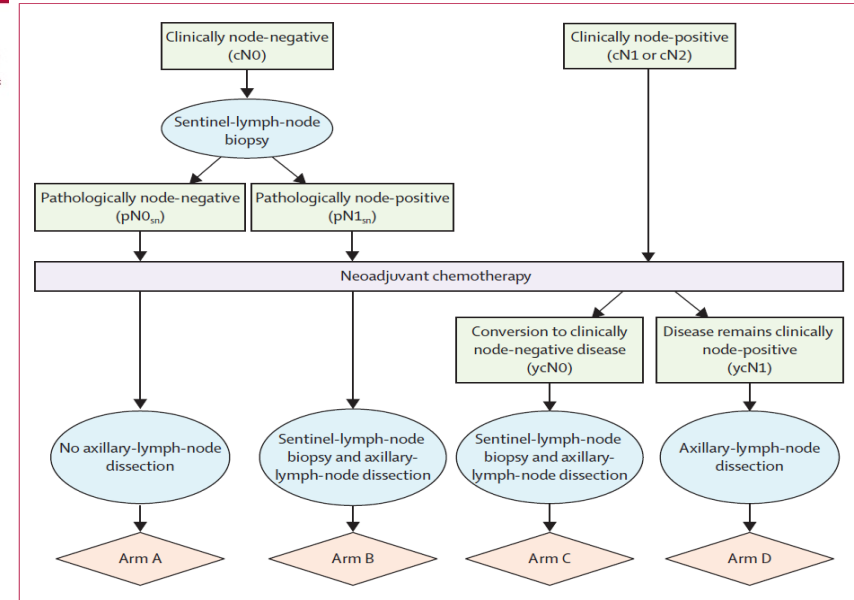


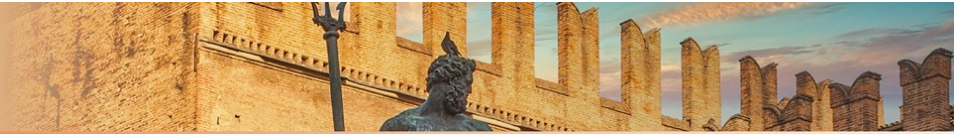
Figure 1: SENTINA trial design

**> 2 Sentinel-lymph-nodes**

|  | Arm B (n=64)             | Arm C (n=226)            |
|--|--------------------------|--------------------------|
| Overall false-negative rate (n/N; 95% CI)                          | 51.6% (33/64; 38.7–64.2) | 14.2% (32/226; 9.9–19.4) |
| False-negative rate, according to number of sentinel nodes removed |                          |                          |
| 1  | 66.7% (16/24)            | 24.3% (17/70)            |
| 2  | 53.8% (7/13)             | 18.5% (10/54)            |
| 3  | 50.0% (5/10)             | 7.3% (3/41)              |
| 4  | 50.0% (3/6)              | 0.0% (0/28)              |
| 5  | 18.2% (2/11)             | 6.1% (2/33)              |







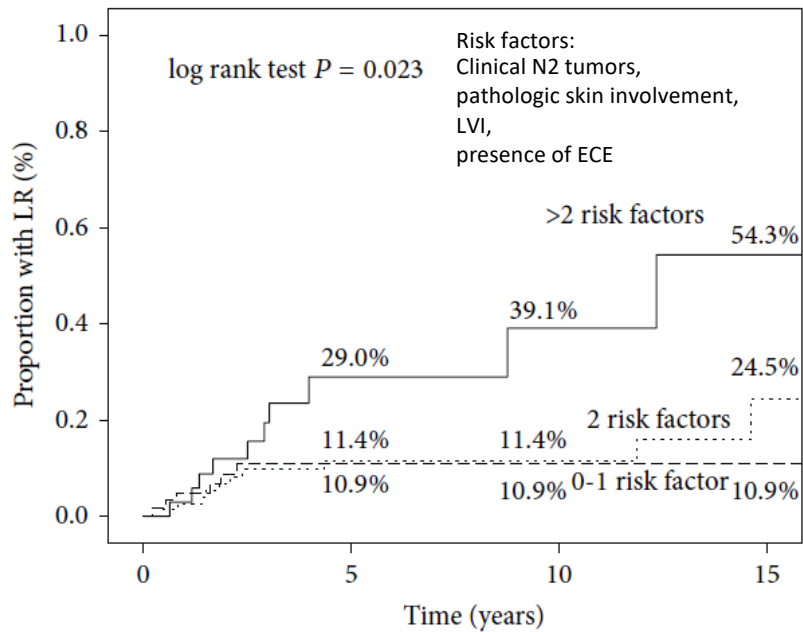
## RT after NAST: TO DO OR NOT TO DO?

### Risk Factors

Clinical Study

Meattini 2014

### Postmastectomy Radiotherapy for Locally Advanced Breast Cancer Receiving Neoadjuvant Chemotherapy

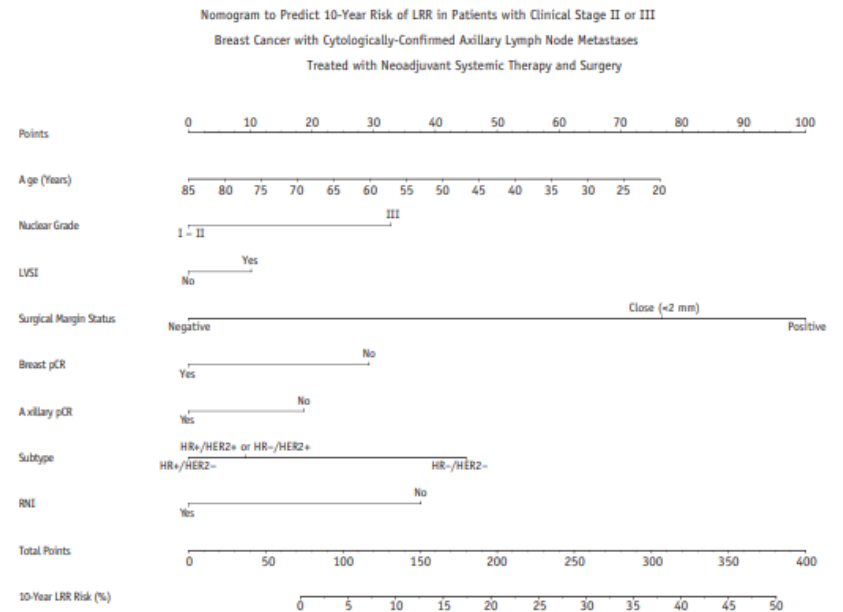


Nomogram to Predict 10-Year Risk of LRR in Patients with Clinical Stage II or III

Breast Cancer with Cytologically-Confirmed Axillary Lymph Node Metastases

Treated with Neoadjuvant Systemic Therapy and Surgery

Stecklein 2018





## RT after NAST: TO DO OR NOT TO DO? Risk Factors

Original Research

Factors predictive of locoregional recurrence following neoadjuvant chemotherapy in patients with large operable or locally advanced breast cancer: An analysis of the EORTC 10994/BIG 1-00 study

### Potential predictive factors

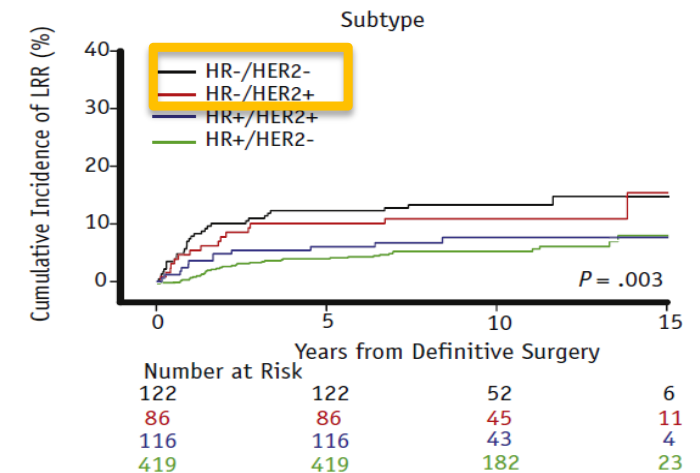
#### Breast cancer subtype/trastuzumab

|                   | HR (95% CI)       | 2-sided p-Value (Gray test) |
|-------------------|-------------------|-----------------------------|
| Luminal A         | 1.00              | <b>&lt; 0.0001</b>          |
| Luminal B (HER2-) | 2.29 (0.76-6.97)  |                             |
| HER2+ Trastu-     | 6.26 (2.81-13.93) |                             |
| HER2+ Trastu+     | 3.37 (1.10-10.34) |                             |
| Triple negative   | 6.44 (2.83-14.69) |                             |
| Unknown           | 2.28 (0.93-5.63)  |                             |

Clinical Investigation

### Long-Term Impact of Regional Nodal Irradiation in Patients With Node-Positive Breast Cancer Treated With Neoadjuvant Systemic Therapy

Shane R. Stecklein, MD, PhD,\* Minjeong Park, PhD,<sup>†</sup> Diane D. Liu, MS,<sup>†</sup> Janeiro J. Valle Goffin, MD,<sup>†</sup> Abigail S. Caudle, MD, MS,<sup>†</sup> Elizabeth A. Mittendorf, MD, PhD,<sup>‡</sup> Carlos H. Barcenas, MD, MSc,<sup>‡</sup> Sarah Mougalian, MD,<sup>†</sup> Wendy A. Woodward, MD, PhD,\* Vicente Valero, MD,<sup>†</sup> Aysegul A. Sahin, MD,<sup>†</sup> Wei T. Yang, MD,<sup>†</sup> and Simona F. Shaitelman, MD, EdM\*





## SPECIAL ARTICLE

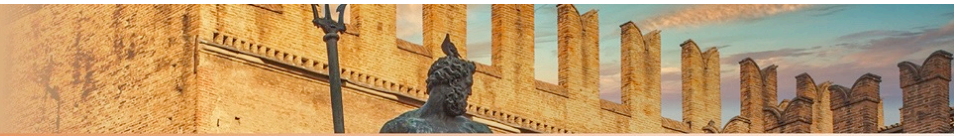
### Customizing local and systemic therapies for women with early breast cancer: the St. Gallen International Consensus Guidelines for treatment of early breast cancer 2021

H. J. Burstein<sup>1\*</sup>, G. Curigliano<sup>2\*</sup>, B. Thürlimann<sup>3</sup>, W. P. Weber<sup>4</sup>, P. Poortmans<sup>5</sup>, M. M. Regan<sup>1</sup>, H. J. Senn<sup>6</sup>, E. P. Winer<sup>1</sup> & M. Gnant<sup>7</sup>, Panelists of the St Gallen Consensus Conference<sup>†</sup>

<sup>1</sup>Dana-Farber Cancer Institute, Harvard Medical School, Boston, USA; <sup>2</sup>European Institute of Oncology, University of Milan, Milan, Italy; <sup>3</sup>Cantonal Hospital, St. Gallen; <sup>4</sup>University of Basel, Basel, Switzerland; <sup>5</sup>University of Antwerp, Antwerp, Belgium; <sup>6</sup>St. Gallen Oncology Conferences (Foundation SONK), St. Gallen, Switzerland; <sup>7</sup>Medical University of Vienna, Vienna, Austria

... the Panel recommended against RNI in women with triple-negative or HER2-positive tumors, presenting with T2 stage tumors but a clinically negative axilla, who achieve a pCR to neoadjuvant treatment. However, the Panel **strongly favored RNI** for patients who initially presented with a clinically positive axillary node(s), even when such patients achieve a pCR with neoadjuvant therapy





## RT after NAST: is it possible to reduce toxicity?(1)



Original Article  
**ESTRO ACROP consensus guideline for target volume delineation in the setting of postmastectomy radiation therapy after implant-based immediate reconstruction for early stage breast cancer**

Orit Kaidar-Person<sup>a,\*,1</sup>, Birgitte Vrou Offeren<sup>b,1</sup>, Sandra Hol<sup>c</sup>, Meritxell Arenas<sup>d</sup>, Cynthia Aristei<sup>e</sup>, Celine Bourgier<sup>f</sup>, Maria Joao Cardoso<sup>g</sup>, Boon Chua<sup>h</sup>, Charlotte E. Coles<sup>i</sup>, Tine Engberg Damsgaard<sup>j</sup>, Dorota Gabrys<sup>k</sup>, Reshma Jaggi<sup>l</sup>, Rachel Jimenez<sup>m</sup>, Anna M. Kirby<sup>n</sup>, Carine Kirkove<sup>o</sup>, Youlia Kirova<sup>p</sup>, Vassilis Kouloulis<sup>q</sup>, Tanja Marinko<sup>r</sup>, Icro Meattini<sup>s</sup>, Ingvil Mjaaland<sup>t</sup>, Gustavo Nader Marta<sup>u,v</sup>, Petra Witt Nystrom<sup>w</sup>, Elzbieta Senkus<sup>x</sup>, Tanja Skyttä<sup>y</sup>, Tove F. Tvedskov<sup>z</sup>, Karolien Verhoeven<sup>aa</sup>, Philip Poortmans<sup>ab</sup>

**Table 2**

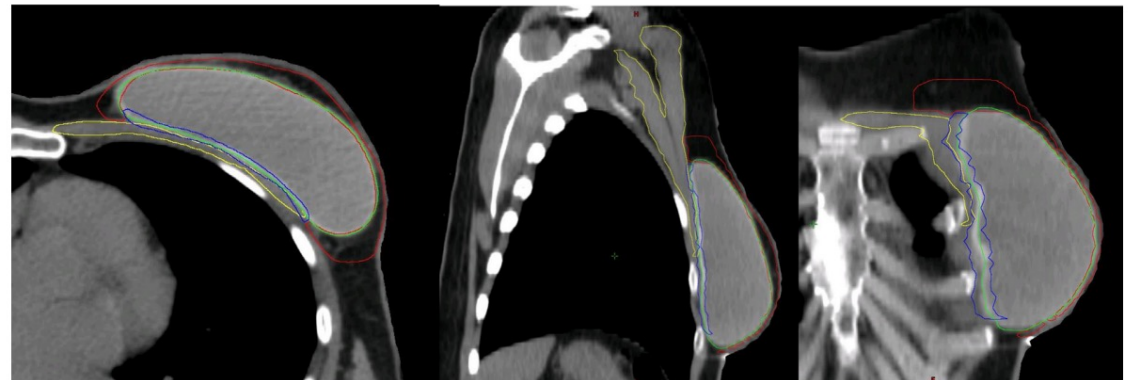
Indications for including a volume posterior to the implant in the CTV<sub>p</sub>\_chestwall.

Partial inclusion in retro-pectoral implant positioning: in case of the presence of adverse factors and/or if the tumour was localised in areas within the breast close to the dorsal fascia that was not covered by the initial position of the major pectoral muscle: separate volume (blue volume in Fig. 4B)

Complete inclusion in pre-pectoral implant positioning: in case of the presence of adverse factors (blue in Fig. 4C)

Adverse prognostic tumour characteristics include:

Large primary breast cancer (pT3) treated by mastectomy and IBR  
 Locally advanced breast cancer (LABC) with non-pathological complete response to primary systemic therapy  
 Invasion of the major pectoral muscle and/or the chest wall



**Fig. 4c.** CTV<sub>p</sub>\_chestwall with a ventral (red) and dorsal (blue) part in cases with a prepectoral implant (green). Pectoral muscles (yellow).



# RT after NAST: is it possible to reduce toxicity?(2)

## FULL PAPER

### Comparison of two radiation techniques for the breast boost in patients undergoing neoadjuvant treatment for breast cancer

<sup>1</sup>MARIA C DE SANTIS, MD, <sup>2</sup>LUIGIA NARDONE, MD, <sup>1</sup>BARBARA DILETTO, MD, <sup>2</sup>ROBERTA CANNA, MD, <sup>1</sup>MICHELA DISPINZIERI, MD, <sup>3</sup>LORENZA MARINO, MD, <sup>1</sup>LAURA LOZZA, MD and <sup>2</sup>VINCENZO VALENTINI, PhD

### IOERT as anticipated tumor bed boost during breast-conserving surgery after neoadjuvant chemotherapy in locally advanced breast cancer—Results of a case series after 5-year follow-up

Gerd Fastner<sup>1</sup>, Roland Reitsamer<sup>2</sup>, Ingrid Ziegler<sup>1</sup>, Franz Zehentmayr<sup>1</sup>, Christoph Fussl<sup>1</sup>, Peter Kopp<sup>1</sup>, Florentia Peintinger<sup>2</sup>, Richard Greil<sup>3</sup>, Thorsten Fischer<sup>2,4</sup>, Heinrich Deutschmann<sup>1</sup> and Felix Sedlmayer<sup>1</sup>

BreastCare

#### Editorial

Breast Care 2017;12:314-316  
DOI: 10.1159/000479726

Published online: October 27, 2017

### Targeted Intraoperative Radiotherapy Tumour Bed Boost during Breast-Conserving Surgery after Neoadjuvant Chemotherapy

Jayant S. Vaidya Jeffrey S. Tobias

Division of Surgery and Interventional Science, University College London, London, United Kingdom

## Technical note

### Post-chemotherapy target volumes are safe as boost volume for intact breast radiotherapy in locally advanced breast cancer\*

Sushma Agrawal<sup>a,\*</sup>, Waseem Raza<sup>a</sup>, Punita Lal<sup>a</sup>, K.J. Maria Das<sup>a</sup>, Gaurav Agarwal<sup>b</sup>

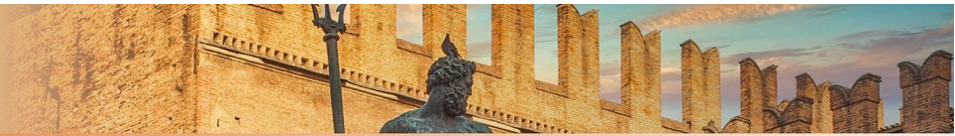
<sup>a</sup> Departments of Radiotherapy, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India

<sup>b</sup> Endocrine Surgery, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, India

## Original article

### Is tumor bed boost necessary in patients who achieved ypCR following neoadjuvant chemotherapy and breast conserving therapy? (KROG 12-05 and 16-16)

Won Kyung Cho<sup>a</sup>, Won Park<sup>a,\*</sup>, Doo Ho Choi<sup>a</sup>, Yong Bae Kim<sup>b</sup>, Chang-Ok Suh<sup>b</sup>, Kyung Hwan Shin<sup>c,q</sup>, Eui Kyu Chie<sup>c</sup>, Jin Ho Kim<sup>c,\*\*</sup>, Seung Do Ahn<sup>d</sup>, Su Ssan Kim<sup>d</sup>, Kyubo Kim<sup>e</sup>, Jin Hee Kim<sup>f</sup>, Sung Ja Ahn<sup>g</sup>, Sun Young Lee<sup>h</sup>, Jeongshim Lee<sup>i</sup>, Sang-Won Kim<sup>j,k</sup>, Jeanny Kwon<sup>l</sup>, Ki Jung Ahn<sup>m</sup>, Hyun Soo Shin<sup>n</sup>, Hyung Sik Lee<sup>o</sup>, Nam Kwon Lee<sup>p</sup>



## Conclusions

Based on available data, postoperative RT after NAST

Clinical Stage III: ok for N2-N3

Clinical Stage II (T3N1?):

|           | RAPCHEM            | ST GALLEN/ BUCHOLZ/ETC.. |
|-----------|--------------------|--------------------------|
| YPN1 ALND | WBI/PMRT<br>NO RNI | WBI/PMRT<br>RNI          |
| YPN1 SLNB | WBI/PMRT<br>RNI    | =                        |

Maybe not ready for de-escalation?



## Ongoing randomized trials awaited/new translational perspectives

|          | NO RNI                        |  |
|----------|-------------------------------|--|
| YPN0 BLS | ONLY WBI<br>NO PMRT<br>NO RNI | RT for high risk pts (TN, HER2) from St.Gallen |

Maybe ready for de-escalation according the risk factor only if sn 3 or more?

ESTRO contouring: why not?

Hypofractionation: why not?




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XXXIII CONGRESSO NAZIONALE AIRB  
XII CONGRESSO NAZIONALE AIRO GIOVANI

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Radioterapia di precisione per un'oncologia innovativa e sostenibile

BOLOGNA, 25-27 NOVEMBRE  
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## THANK YOU

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