



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

AIRO2022

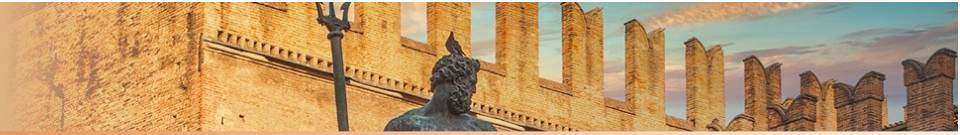
Radioterapia di precisione per un'oncologia innovativa e sostenibile

BOLOGNA, 25-27 NOVEMBRE
PALAZZO DEI CONGRESSI

**RITRATTAMENTO MAMMARIO DOPO SECONDA CHIRURGIA CONSERVATIVA IN
PAZIENTI AFFETTE DA NEOPLASIA MAMMARIA
STUDIO RETROSPETTIVO OSSERVAZIONALE MULTICENTRICO**

Antonella FONTANA

UOC Radioterapia Ospedale SM Goretti ASL di Latina



DICHIARAZIONE

Relatore: **Antonella FONTANA**

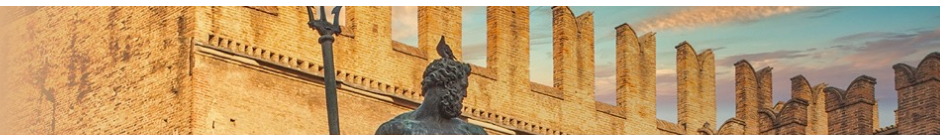
Come da nuova regolamentazione della Commissione Nazionale per la Formazione Continua del Ministero della Salute, è richiesta la trasparenza delle fonti di finanziamento e dei rapporti con soggetti portatori di interessi commerciali in campo sanitario.

- 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)**








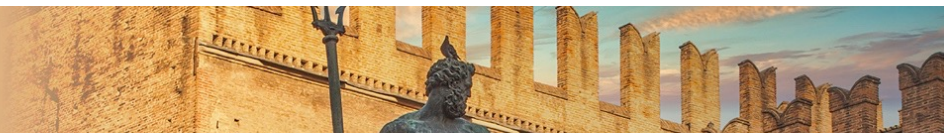
Salvage mastectomy has historically been considered the gold standard treatment for patients with breast recurrence after conservative treatment although no phase III studies are available comparing these two therapeutic approaches

In 2021 the Re-irradiation and the Breast Cancer Working Groups on behalf of AIRO proposed a survey to provide an overview of the current management of breast cancer re-irradiation among Italian radiation oncologists



Research questions

-  Which repeat BCT regimens are currently used for IBTR?
-  Which patients with IBTR are considered eligible for repeat BCT?
-  What is the IBTR-free, distant metastasis-free and overall survival after repeat BCT in the various treatment regimens?
-  What are the acute and late toxicity rates of re-irradiation of the breast in various radiotherapy regimens for IBTR?
-  How is the cosmetic outcome after repeat BCT for IBTR?



Background

European Journal of Surgical Oncology 45 (2019) 1317–1327



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

European Journal of Surgical Oncology

journal homepage: www.ejso.com



Repeat breast-conserving therapy for ipsilateral breast cancer recurrence: A systematic review

Coco J.E.F. Walstra ^{a,*}, Robert-Jan Schipper ^a, Ingrid G.M. Poodt ^a, Yvonne E. van Riet ^a,
 Adri C. Voogd ^{b,c,d}, Maurice J.C. van der Sangen ^e, Grard A.P. Nieuwenhuijzen ^a

^a Department of Surgery, Catharina Hospital Eindhoven, the Netherlands

^b Department of Epidemiology, Maastricht University Medical Center, Maastricht, the Netherlands

^c Department of Research, Netherlands Comprehensive Cancer Organisation (IKNL), Utrecht, the Netherlands

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Coco J.E.F. Walstra *EJSO* 2019, 45: 1317-27



Table 3
 Studies with repeat BCS followed by reirradiation.

| Study | N | Inclusion criteria | Median FU | Treatment | Systemic therapy | 5-yr OS | 5-yr DDFS | 5-yr IBTRFS | 10-yr OS | 10-yr DDFS | 10-yr IBTRFS | Toxicity | Cosmesis |
|------------------------|-----|--|-----------|--|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|----------------------------------|
| Mullen 1997 [86] | 16 | NR | 55 mo | Repeat BCS + WBI | Adj ET 63% Adj CT 6% | 70% | 69% | 68% | NR | NR | NR | No grade III-IV | NR |
| Deutsch 2002 [87] | 39 | NR | 52 mo | Repeat BCS + WBI | Adj ET 49% Adj CT 7% | 78% | NR | NR | NR | NR | NR | NR | Excellent-good 75% |
| Resch 2002 [88] | 17 | Small tumours | 59 mo | Repeat BCS + WBI&IBT or PDR | Adj ET 18% Adj CT 29% Adj CT + ET 12% | NR ^a | NR ^a | NR ^a | NR ^a | NR ^a | NR ^a | No grade III-IV | Excellent-good 29%, moderate 47% |
| Hannoun-Levi 2004 [89] | 69 | Denied mastectomy | 50 mo | Repeat BCS + IBT | NR | 92% | 87% | 77% | NR | NR | NR | Acute: no grade III-IV Late: 10% grade III, (unclear which) | NR |
| Hannoun-Levi 2013 [93] | 217 | M0, no skin involvement | 47 mo | Repeat BCS + IBT (low-, PDR and high-dose) | NR | 89% | 89% | 94% | 77% | 80% | 93% | Late: 10% grade III, 1% grade IV (unclear which) | Excellent-good 85% |
| Trombetta 2014 [57] | 18 | NR, 2 with primary tumour after EBT for Hodgkin lymphoma | 40 mo | Repeat BCS + HDR | NR | NR ^a | NR ^a | NR ^a | NR ^a | NR ^a | NR ^a | No grade III-IV | Excellent-good 83% |
| Merino 2015 [94] | 13 | NR | 17 mo | Repeat BCS + WBI | Unclear | NR | NR | NR | NR | NR | NR | Acute: 8% grade III, 2% grade IV dermatitis | NR |

Coco J.E.F. Walstra *EJSO* 2019, 45: 1317-27



BACHGROUND

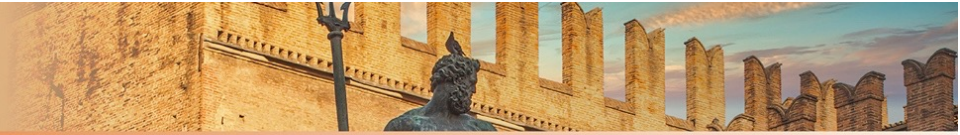
Repeat BCS followed by re-irradiation: 10 yrs results

93% Local Control

80% Distant-metastasis free survival

77% Overall Survival

Coco J.E.F. Walstra EJSO 2019, 45: 1317-27



QoL

Repeat BCT vs salvage mastectomy

Significantly better score in women after repeat BCT for:

Body image

Overall QoL

no differences in anxiety, depression and fear of progression

Coco J.E.F. Walstra EJSO 2019, 45: 1317-27



Oncoplastic surgery

is an important component of repeat BCT,
as the breast is even more mutilated than during primary BCS.

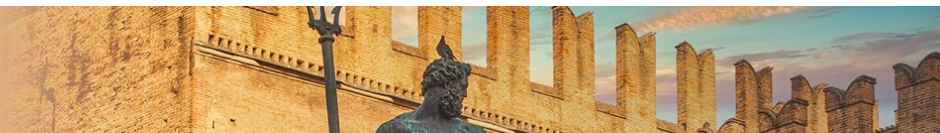
oncoplastic surgery is considered a relative contraindication for external beam
PBI since the tumour bed volume can no longer be estimated reliably

Coco J.E.F. Walstra EJSO 2019, 45: 1317-27

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Radioterapia di precisione per un'oncologia innovativa e sostenibile



The Breast 49 (2020) 274–280

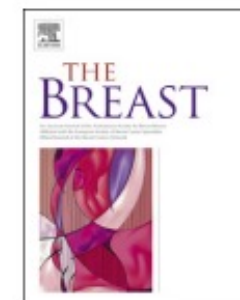


ELSEVIER

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

The Breast

journal homepage: www.elsevier.com/brst



2022

Review

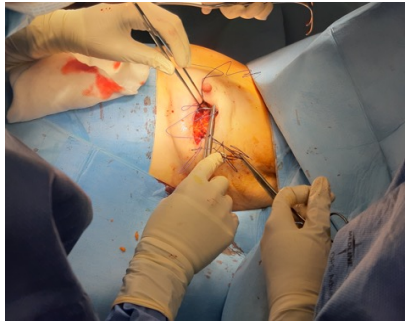
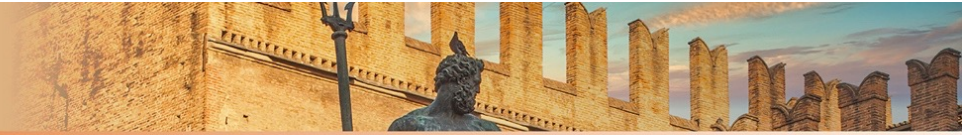
Second conservative treatment for second ipsilateral breast tumor event: A systematic review of the different re-irradiation techniques

Lucile Montagne ^a, Arthur Hannoun ^b, Jean-Michel Hannoun-Levi ^{a, *}

^a Department of Radiation Oncology, Antoine Lacassagne Cancer Center, University of Cote D'Azur, Nice, France

^b University of Lyon 2, Lyon, France

Lucile Montagne THE BREAST 2020, 49: 274-280



II BCS

MIB



**HDR 32Gy
(2Gy BID)**

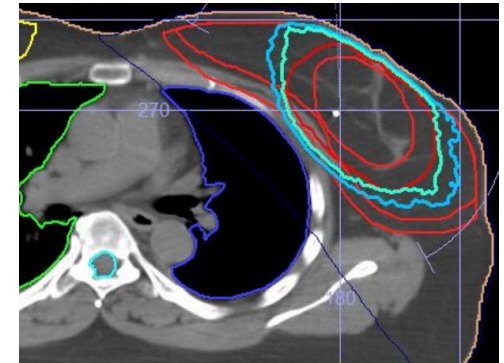
PBI

IORT



**20Gy
isodose 90%**

VMAT



**40.05/15 fr
30 Gy/5 fr**

Lucile Montagne THE BREAST 2020, 49: 274-280

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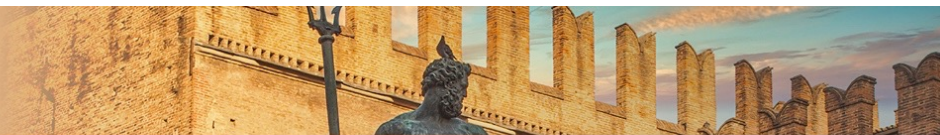
17 – 21 March 2021, online worldwide

17TH ST. GALLEN INTERNATIONAL BREAST CANCER CONFERENCE 2021

Primary Therapy of Early Breast Cancer. Evidence, Controversies, Consensus

Thank you
for your
contribution!

Repeat BCS could be an effective option



BREAST RE-IRRADIATION AFTER SECOND CONSERVATIVE SURGERY IN PATIENTS WITH IPSILATERAL BREAST CANCER RECURRENCE: MULTICENTRIC OBSERVATIONAL RETROSPECTIVE STUDY



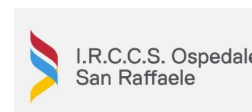
A. Fontana (1), A. D. Andrulli (2), A. Argenone (3), M. Pasetti (4)

UOC RADIOTERAPIA ONCOLOGICA OSPEDALE SM GORETTI (1);

UOC RADIOTERAPIA ONCOLOGICA OSPEDALE S. GIOVANNI ADDOLORATA (2);

UOC RADIOTERAPIA ONCOLOGICA OSPEDALE SAN PIO (3);

UOC RADIOTERAPIA ONCOLOGICA OSPEDALE SAN RAFFAELE (4)



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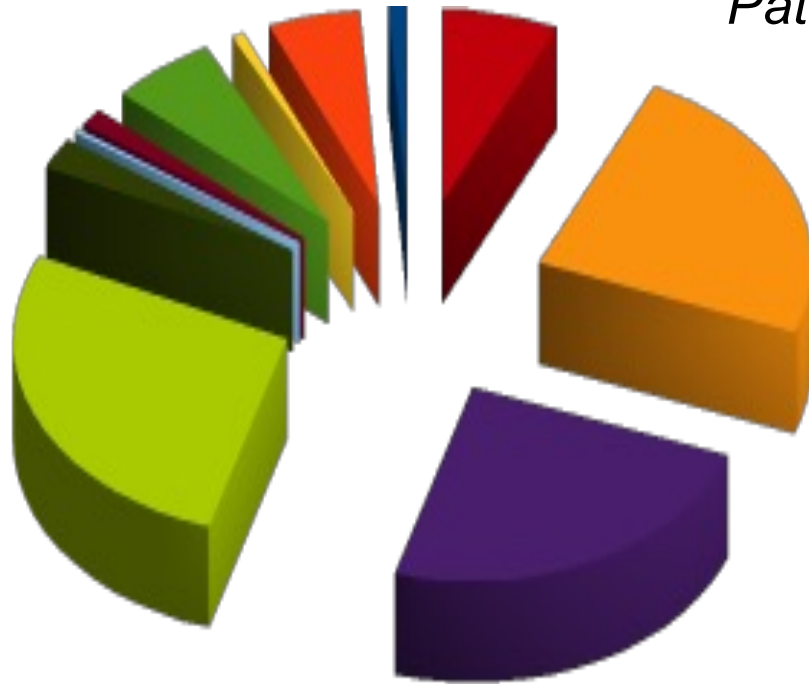


This Italian multicentre observational retrospective study was designed in order to evaluate the different breast re-irradiation techniques available on the national territory as an alternative to rescue mastectomy and to summarize the respective oncological, toxicity and cosmetic outcomes



Pattern of practice of re-irradiation for IBTR in Italy

TECHNIQUE



- X-ray IORT
- Electron beam IORT
- Multi-catheter interstitial brachytherapy LDR
- Multi-catheter interstitial brachytherapy HDR
- Multi-catheter interstitial brachytherapy PDR
- Balloon based brachytherapy
- Cyberknife
- 3D-CRT
- IMRT
- VMAT
- Tomoterapia

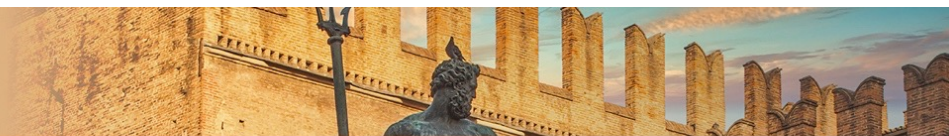
ERT

Survey by AIRO 2019-2020



IBTR managed with second conservative surgery

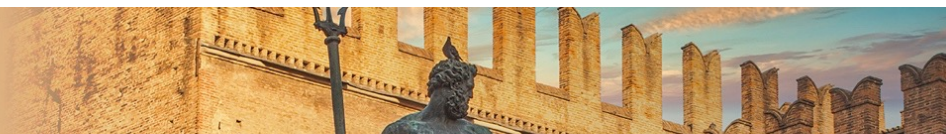
| ERT | DOSE/fr |
|----------------|------------------|
| Dose tot | Fractionation |
| 26 Gy | 5.2 Gy/die |
| 30 Gy | 6 Gy/die |
| 40.05-42.56 Gy | 2.66-2.67 Gy/die |
| 50 Gy | 2 Gy/die |



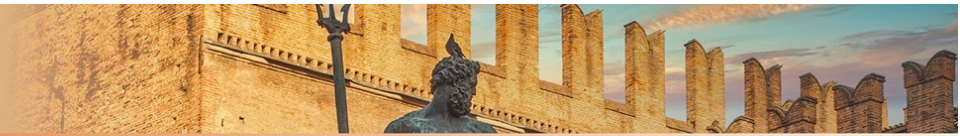
IBTR managed with second conservative surgery

VOLUME

| | |
|----------------------|-----|
| WBI | 19% |
| Tumor bed + 0.5-1 cm | 19% |
| Tumor bed + 1-2 cm | 47% |
| Tumor bed + 2 cm | 14% |
| Tumor bed | 0% |



| ORGANS AT RISK | OPTIMAL CONSTRAINT | ACCEPTABLE CONSTRAINT |
|------------------------|---|---------------------------------------|
| Heart Left breast | Mean dose <3,2 Gy V16 <5% V8 <30% | Mean dose <4 Gy V20 <5% V8 <35% |
| Heart Right breast | Dmax < 16 Gy V8 <10% | Dmax < 20 Gy V8 <15% |
| Lung omolateral | V16 <15% V8 <35% V4 <50% | V16 <20% V8 <40% V4 <55% |
| Lung controlateral | V4 <10% | V4 <15% |
| Breast (controlateral) | Dmax < 2,4 Gy | Dmax <3,8 Gy |



Population

Inclusion criteria

Patients with breast cancer undergoing breast retreatment after second conservative surgery from 2019 to 2021

Patients undergoing ERT

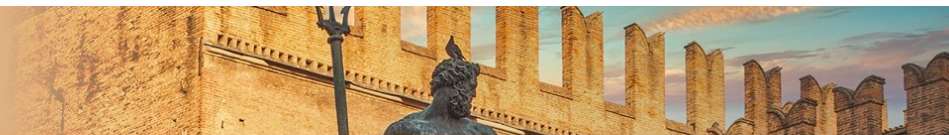
Written informed consent

Exclusion criteria

Patients undergoing mastectomy and inoperable patients

Patients undergoing brachytherapy or IORT

Absence of written informed consent



Secondary endpoint

Local control

Cosmesis

QOL



Statistic analysis

Evaluation of the relationship between outcomes and different types of retreatment

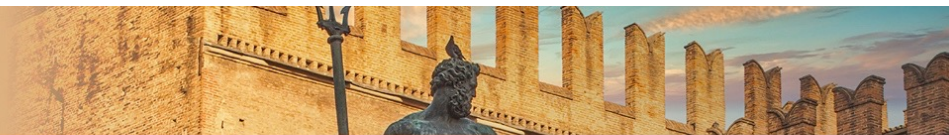
Evaluation of the relationship between outcome and irradiated breast volume

Use of descriptive statistics

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Radioterapia di precisione per un'oncologia innovativa e sostenibile



an.fontana@ausl.latina.it

**27 NOVEMBRE 2022 ore 9
SALA BIANCA**



**REIRRADIAZIONE DELLA RECIDIVA IPSILATERALE DI TUMORE
MAMMARIO IN ITALIA: SURVEY DELL'ASSOCIAZIONE ITALIANA DI
RADIOTERAPIA E ONCOLOGIA CLINICA (AIRO)**

Antonella FONTANA

UOC Radioterapia Ospedale SM Goretti ASL di Latina

