

XXXIII CONGRESSO NAZIONALE AIRO

AIRO2023

BOLOGNA,
27-29 OTTOBRE 2023

PALAZZO DEI CONGRESSI

Radioterapia Oncologica: l'evoluzione al servizio dei pazienti

Il paziente anziano: personalizzazione del trattamento

MAMMELLA

Francesca Cucciarelli
SOD Radioterapia

Azienda Ospedaliero Universitaria delle Marche

Che cosa si intende per paziente anziano?



CLASSIFICAZIONE OMS
Età media
45 - 59 anni



CLASSIFICAZIONE OMS
Anziani
60 - 74 anni

CLASSIFICAZIONE GERIATRICA
Giovani vecchi
65 - 74 anni

**SUDDIVISIONE DELLA POPOLAZIONE IN BASE ALL'ETA'
SECONDO L'OMS**



CLASSIFICAZIONE OMS
Vecchi
75 - 90 anni

CLASSIFICAZIONE GERIATRICA
Vecchi
75-84 anni



CLASSIFICAZIONE OMS
Grandi Vecchi
oltre i 90 anni

CLASSIFICAZIONE GERIATRICA
Vecchi vecchi
85+ anni

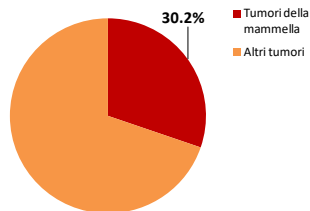
Courtesy Prof. Aristei



Proposta della SIGG di aggiornare il concetto di anzianità, portando a **75 anni** l'età ideale per definire una persona come anziana

Breast Cancer in Italy: Stage and Region Distribution

Lucia Mangone¹, Isabella Bisceglia¹, Maria Michiara², Antonino Musolino², Guido Mazzoleni³, Adele Caldarella⁴, Sante Minerba⁵, Giuseppe Cascone⁶, Francesca Bella⁷, Ylenia Dinaro⁷, Loredana Pau⁸, Carmine Pinto⁹



Nel 2022 circa 55.000 donne hanno ricevuto una diagnosi di tumore della mammella



150 casi al giorno

Cancer Registry (years)	Breast Cancer		Resident Population	Screening Coverage*
	n.	%		
Age				
<50	1132	21.8		
50-69	2395	46.2		
70+	1659	32.0		
Total	5186	100		

Breast Cancer: Targets and Therapy

Dovepress

open access to scientific and medical research

Open Access Full Text Article

ORIGINAL RESEARCH

Breast Cancer in Italy: Stage and Region Distribution

Lucia Mangone¹, Isabella Bisceglia¹, Maria Michiara², Antonino Musolino², Guido Mazzoleni³, Adele Caldarella⁴, Sante Minerba⁵, Giuseppe Cascone⁶, Francesca Bella⁷, Ylenia Dinaro⁷, Loredana Pau⁸, Carmine Pinto⁹*Suddivisione per stadio*

Stage	<50		50-69		70+		Italy	
	n.	%	n.	%	n.	%	n.	%
I	568	50.2	1357	56.7	687	41.4	2612	50.4
II	380	33.6	697	29.1	605	36.5	1682	32.4
III	121	10.7	206	8.6	232	14.0	559	10.8
IV	63	5.6	135	5.6	135	8.1	333	6.4
Total	1132	100	2395	100	1659	100	5186	100



Female breast cancer subtypes in the Romagna Unit of the Emilia-Romagna cancer registry, and estimated incident cases by subtypes and age in Italy in 2020

Emanuele Crocetti¹ · Alessandra Ravaoli¹ · Orietta Giuliani¹ · Lauro Bucchi¹ · Rosa Vattiatto¹ · Silvia Mancini¹ · Federica Zamagni¹ · Benedetta Vitali¹ · Chiara Balducci¹ · Flavia Baldacchini¹ · Fabio Falcini^{1,2}

Suddivisione per profilo biologico

Age Years	Breast cancer molecular subtypes				Unknown	Total
	HER2-/HR+	HER2+/HR+	HER2+/HR-	HER2-/HR-		
	<i>n./%</i>	<i>n./%</i>	<i>n./%</i>	<i>n./%</i>	<i>n./%</i>	<i>n.</i>
< 50	8666	1584	661	1180	628	12,718
	68.1%	12.5%	5.2%	9.3%	4.9%	
50–69	17,479	2044	1176	1809	1161	23,669
	73.8%	8.6%	5.0%	7.6%	4.9%	
70+	12,696	1037	444	1109	3303	18,589
	68.3%	5.6%	2.4%	6.0%	17.8%	
All	38,841	4665	2281	4098	5092	54,976
	70.7%	8.5%	4.1%	7.5%	9.3%	

EARLY BREAST CANCER

**ELDERLY
PATIENTS**



RT DOPO CHIRURGIA CONSERVATIVA



RT DOPO MASTECTOMIA

Lancet Oncol 2021; 22: e327-40

Updated recommendations regarding the management of older patients with breast cancer: a joint paper from the European Society of Breast Cancer Specialists (EUSOMA) and the International Society of Geriatric Oncology (SIOG)



Laura Biganzoli, Nicolò Matteo Luca Battisti, Hans Wildiers, Amelia McCartney, Giuseppe Colloca, Ian H Kunkler, Maria-João Cardoso, Kwok-Leung Cheung, Nienke Aafke de Glas, Rubina M Trimboli, Beatriz Korc-Grodzicki, Enrique Soto-Perez-de-Celis, Antonio Ponti, Janice Tsang, Lorenza Marotti, Karen Benn, Matti S Aapro, Etienne G C Brain

2012 recommendations by EUSOMA-SIOG

Radiotherapy

WBRT after BCS—with a boost to the tumour bed—should be considered in all older patients as it decreases risk of local relapse; there is no subgroup of healthy older patients in whom post-BCS WBRT can be systematically omitted; post-mastectomy chest wall radiation should be considered for older patients with four or more nodes or a pT3/4 tumour; hypofractionated radiation schedules offer similar local-regional control and adverse effects as standard WBRT; the evidence for PBI in older patients is not sufficiently robust to recommend it as standard therapy

2021 recommendations by EUSOMA-SIOG

WBRT remains the standard of care for most older patients following BCS and omission of radiotherapy in low-risk patients can be safe and reasonable (level 1); in patients older than 60 years, the use of a boost is advised only for those at higher risk of recurrence (level 1); PBI is recommended to women ≥ 50 years and grade 1–2, pN0, hormone receptor-positive, HER2-negative, tumours ≤ 30 mm with radial margins ≥ 1 mm (level 4) and the role of postmastectomy radiotherapy in patients with one to three positive nodes remains controversial; hypofractionated schedules (40 Gy in 15 fractions over 3 weeks, 42.5 Gy in 16 fractions over 3.5 weeks or 26 Gy in five fractions over 1 week) are recommended for older patients (level 4)



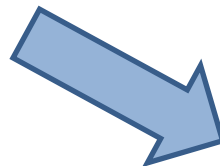
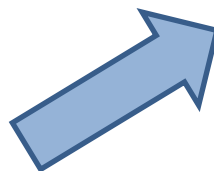
Breast-Conserving Surgery with or without Irradiation in Early Breast Cancer

Ian H. Kunkler, M.B., B.Chir., Linda J. Williams, Ph.D., Wilma J.L. Jack, M.B., Ch.B., David A. Cameron, M.D.,
and J. Michael Dixon, M.D.

Studio randomizzato multicentrico di fase III

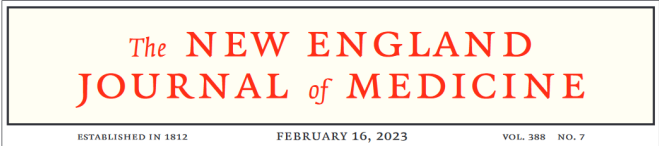
- ✓ 1326 pz
- ✓ ≥ 65 aa
- ✓ RO+
- ✓ T1-T2 ($T \leq 3$ cm)
- ✓ CH conservativa margini neg
- ✓ OT adiuvante

R
A
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D
O
M



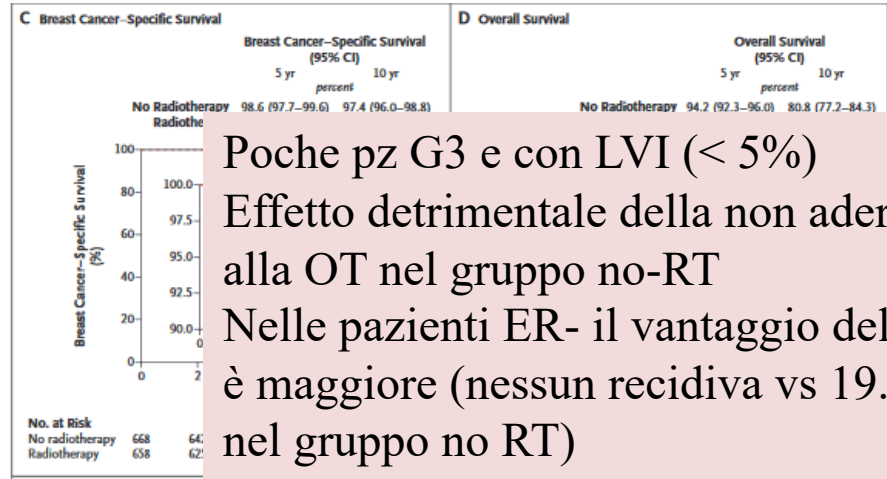
RT mammella in toto (40 – 50 Gy)
+/- boost 10-15 Gy con elettroni o BRT

No RT



Breast-Conserving Surgery with or without Irradiation in Early Breast Cancer

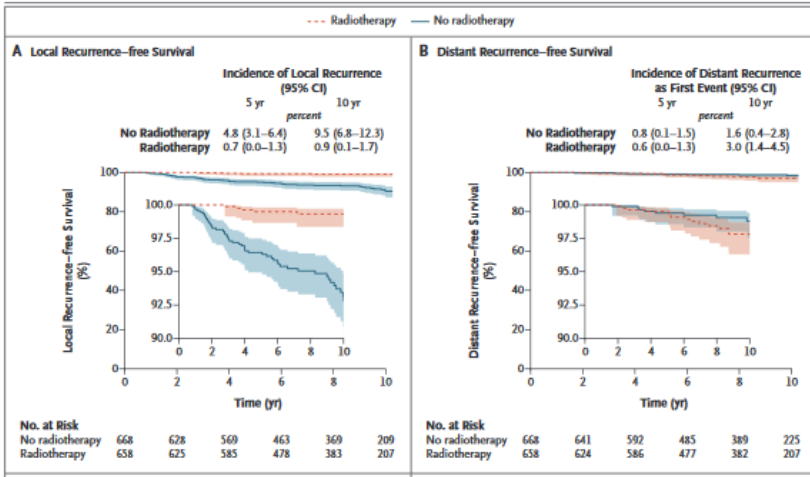
Ian H. Kunkler, M.B., B.Chir., Linda J. Williams, Ph.D., Wilma J.L. Jack, M.B., Ch.B., David A. Cameron, M.D.,
and J. Michael Dixon, M.D.



Poche pz G3 e con LVI (< 5%)
Effetto detrimentalmente della non aderenza
alla OT nel gruppo no-RT
Nelle pazienti ER- il vantaggio della RT
è maggiore (nessun recidiva vs 19.1%
nel gruppo no RT)

**Breast recurrence a 10 aa: 9,5% gruppo no RT vs 0,9%
gruppo RT**

**Distant recurrence come I evento e OS sono
sovrapponibili tra i 2 gruppi**



Ad un esame più approfondito

Commissione Formazione Airo

Pillole di Letteratura

Associazione Italiana
Radioterapia e Oncologia clinica

Categoria: Mammella

Breast-Conserving Surgery with or without Irradiation in Early Breast Cancer.

Ian H Kunkler, Linda J Williams, Wilma J L Jack, David A Cameron, J Michael Dixon
New England Journal of Medicine 388 (7): 585-94. <https://doi.org/10.1056/NEJMoa2207586>.Netto incremento del delta (Δ)[®] in termini di capacità di controllo locale in favore della radioterapia**NNT** → numero di casi da trattare per risparmiare una recidiva locale

- a 5 aa per il braccio WBI+AET è passato da 35,7 (dati presentati nel 2015) a 24,4 pz
- a 10 aa è stimato in circa 11,6 pz per il braccio WBI+AET

Obiettivi dello studio: omissione RT senza inficiare controllo locale

Differenza in termini di LR (endpoint primario) di almeno il 3% a 5 aa → differenza LR a 10 aa del 8,6% con un HR=10,4

Endpoints secondari (DRFS, OS, BCSS) → non pre-stimati, non potenziati e non corretti per test multipli

Publication bias nelle conclusioni a senso unico sull'omissione della RT

EDITORIAL



**Overcoming Resistance — Omission of Radiotherapy
for Low-Risk Breast Cancer**

Alice Y. Ho, M.D., and Jennifer R. Bellon, M.D.

I risultati dello Studio PRIME II confermano i risultati del CALGB 9343:

- Incidenza LR a 10 aa 0,9% RT group vs 9.5% no-RT group PRIME II
- Incidenza LR a 10 aa 2% RT group vs 9% no-RT group CALGB 9343

These results do not undermine the value of radiotherapy in enhancing local control, which is a compelling end point in and of itself, particularly now that radiotherapy can be delivered in less burdensome ways.^{3,4}

In entrambi i trial questo non si riflette su distant recurrence e su OS

Non presenti G3 e LVI nel CALGB 9343; < 5% nel PRIME II

Nelle pz ER- LR elevata = 19.1% no-RT group

No aderenza OT → alta incidenza di LR nel no-RT group; short course RT valida alternativa



ELSEVIER

Contents lists available at ScienceDirect

The Breast

journal homepage: www.elsevier.com/brst

Factors influencing five-year adherence to adjuvant endocrine therapy in breast cancer patients: A systematic review

Izzati Yussof ^{a, b}, Nor Asyikin Mohd Tahir ^a, Ernieda Hatah ^a, Noraida Mohamed Shah ^{a, *}

^a Centre of Quality Management of Medicines, Faculty of Pharmacy, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

^b Pharmaceutical Services Division, Kuala Lumpur & Putrajaya Health Department, Ministry of Health, Malaysia



26 Studi

Aderenza alla OT:

- Implementation phase: 33.3% - 88.6% (mean 66.2%, SD 17.3%)
- Persistence over 5 years: 45.2% - 87.4% (mean 66.8%, SD 14.5%)

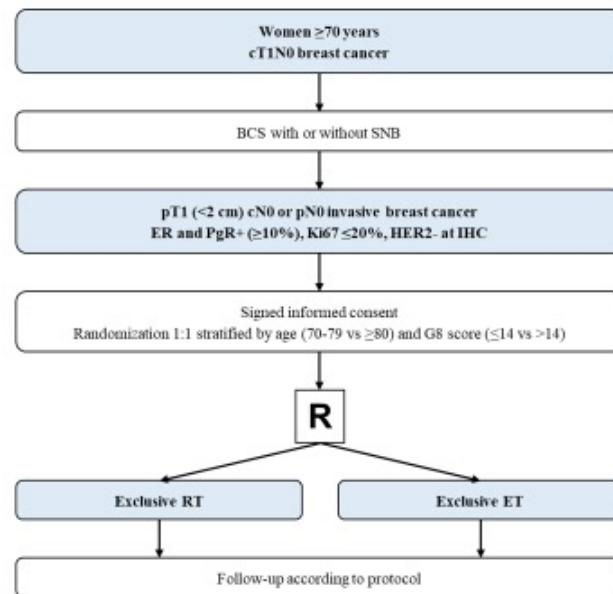
In media, l'aderenza scende del **25.5%** (SD 9.3%) dal I al V anno (circa 1/3 dei pazienti non aderente al trattamento entro il V anno)

Fattori più legati a scarsa aderenza: **età** (**older pts > 65-80 aa**, young pts < 40-50 aa), fattori socioeconomici, depressione/ansia, **comorbidità**, effetti collaterali)



Ongoing

ExclUusive endocRine therapy Or radiation therAPy for women aged ≥ 70 years with luminal A-like early stage breast cancer (EUROPA): a randomized phase 3 trial



51

Endpoints primari dello studio:

- tasso di recidiva locale (IBTR) RT esclusiva vs ET esclusiva dopo BCS in pazienti con tumore mammario precoce a basso rischio di età ≥ 70 anni; tasso di IBTR a 5 anni
- valutazione della qualità di vita mediante questionari EORTC QLQ-C30 e QLQ- BR45.

DE-ESCALATION RT

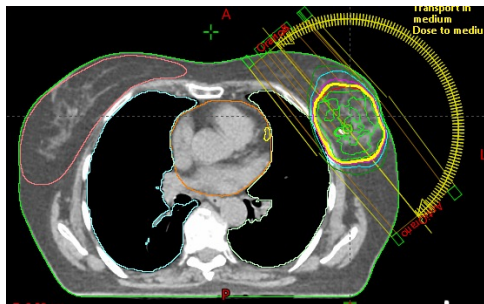
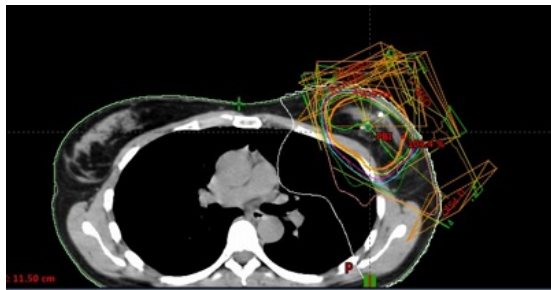
❖ PARTIAL BREAST IRRADIATION (PBI)

❖ WHOLE BREAST IRRADIATION IN 5 FRACTIONS

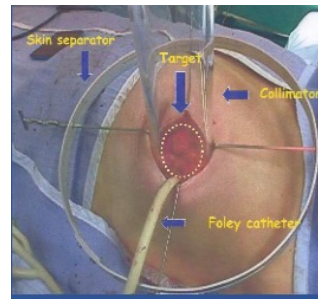


PARTIAL BREAST IRRADIATION (PBI)

Brachiterapia interstiziale



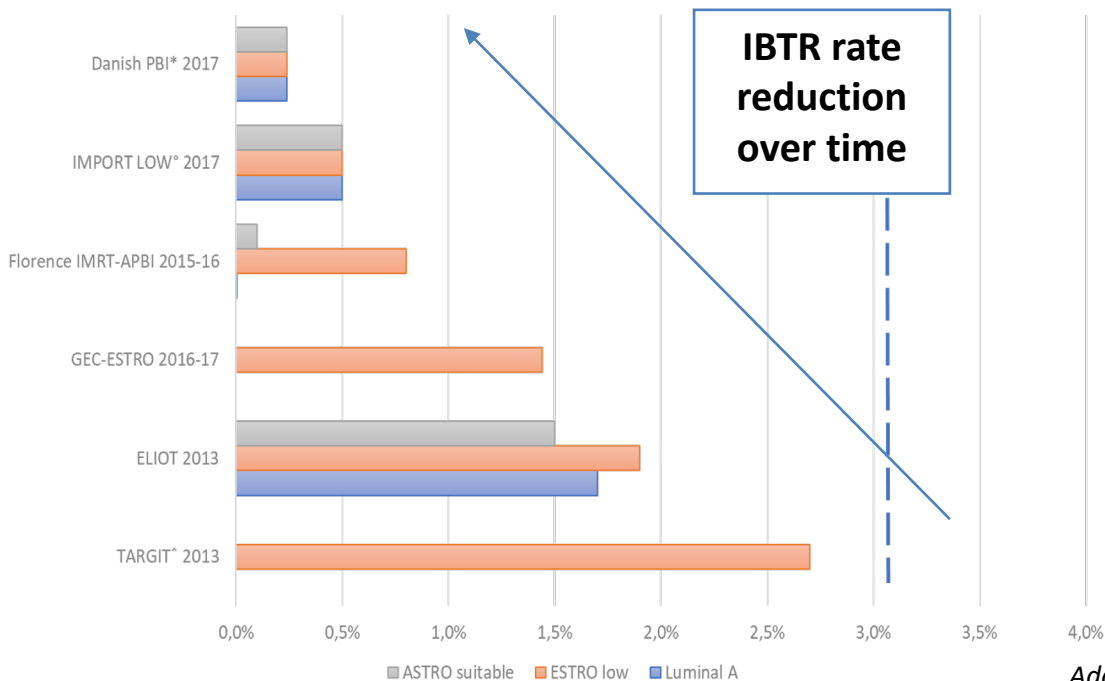
RTE



IORT

Accurata selezione delle pazienti

5-year IBTR rate stratified by low risk-groups



**IBTR rate
reduction
over time**

* 3-year IBTR rate
° 5-year estimated rate
^ Pre-pathology group

Adapted from Meattini I et al, Breast 2018

European Society for Radiotherapy and Oncology Advisory Committee in Radiation Oncology Practice consensus recommendations on patient selection and dose and fractionation for external beam radiotherapy in early breast cancer



CONSENSUS ESTRO-ACROP 2022

Panel: Final consensus statements

1. Whole breast irradiation

- a Moderate hypofractionated whole breast irradiation should be offered regardless of age at breast cancer diagnosis, pathological tumour stage, breast cancer biology, surgical margins status, tumour bed boost, breast size, invasive or pre-invasive ductal carcinoma in situ (DCIS) disease, oncoplastic breast conserving surgery, and use of systemic therapy
- b Ultrahypofractionated (26 Gy in five fractions) whole breast irradiation can be offered as (1) standard of care or (2) within a randomised controlled trial or prospective registration cohort

2. Chest wall irradiation

- a Moderate hypofractionation can be offered for chest wall irradiation without breast reconstruction
- b Moderate hypofractionation can be offered for chest wall irradiation regardless of time and type of breast reconstruction
- c Ultrahypofractionation (26 Gy in five fractions) for chest wall irradiation without breast reconstruction can be offered as (1) standard of care or (2) within a randomised controlled trial or prospective registration cohort
- d Ultrahypofractionation (26 Gy in five fractions) for chest wall irradiation after breast reconstruction can be offered within a randomised controlled trial or prospective registration cohort

3. Nodal irradiation

- a Moderate hypofractionation should be offered for nodal irradiation
- b Ultrahypofractionation (26 Gy in five fractions) should not be offered for nodal irradiation until ongoing trials results are reported

4. Partial breast irradiation–patient selection for external beam radiotherapy

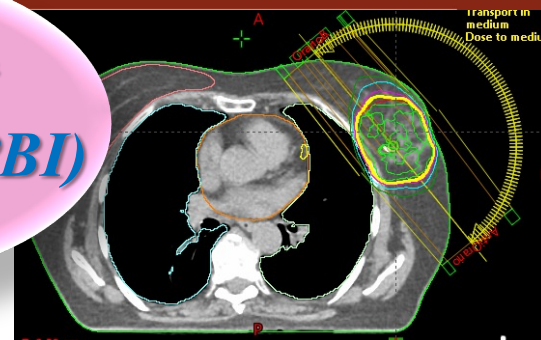
Low risk-features suitable for partial breast irradiation are: luminal-like subtypes small tumour (≤ 3 cm), absence of lymph vascular space invasion, non-lobular invasive carcinoma, tumour grade 1-2, low-to-intermediate grade DCIS (sized ≤ 2.5 cm with clear surgical margins ≥ 3 mm), age at diagnosis 50 years or more, unicentric or unifocal lesion, clear surgical margins (> 2 mm), node negative (including isolated tumour cells), and no use of primary systemic therapy and neoadjuvant chemotherapy

5. Partial breast irradiation–dose and fractionation

- a Moderate hypofractionation (40 Gy in 15 fractions) and ultrahypofractionation (26–30 Gy in five fractions) represent acceptable schedules for external beam partial breast irradiation
- b Twice a day external beam partial breast irradiation dose and fractionations similar to those used in the RAPID trial should not be offered

DCIS=ductal carcinoma in situ.

Partial breast irradiation (PBI)



- ✓ Età \geq 50 anni
- ✓ Carcinoma mammario invasivo monocentrico/ monofocale
- ✓ Non lobulare
- ✓ Stadio iniziale ($T \leq 3$ cm)
- ✓ Linfonodi negativi
- ✓ Grado nucleare 1-2
- ✓ Recettori estrogenici positivi
- ✓ HER2 negativo
- ✓ Assenza di Angioinvasione
- ✓ Sottoposte a chirurgia conservativa con almeno di 2 millimetri di margini chirurgici
- ✓ Duttale in situ G1 G2, con estensione $< 2,5$ cm , margini chirurgici $>$ di 3 mm
- ✓ Pz non sottoposte a terapie sistemiche e chemioterapie adiuvanti

Partial-breast radiotherapy after breast conservation surgery for patients with early breast cancer (UK IMPORT LOW trial): 5-year results from a multicentre, randomised, controlled, phase 3, non-inferiority trial

Charlotte E Coles, Clare L Griffin, Anna M Kirby, Jenny Tiley, Rajiv K Agrawal, Abdulla Alhassan, Indrani S Bhattacharya, Adrian M Brunt, Laura Curlikonis, Charlie Chan, Ellen M Donovan, Marie A Emson, Adrian N Hammett, Joanne SHaviland, Penelope Hopwood, Monica L Jefford, Ronald Kaggawa, Elinor J Sowter, Isabel Syndikus, Yat M Tsang, Duncan A Wheatley, Maggie W Cox, John R Yarnold*, Judith M Bliss*, on behalf of the IMPORT Trialists†

Accelerated Partial-Breast Irradiation Compared With Whole-Breast Irradiation for Early Breast Cancer: Long-Term Results of the Randomized Phase III APBI-IMRT-Florence Trial

Icro Meattini, MD^{1,2}; Livia Marrazzo, MS²; Calogero Saieva, MD¹; Isacco Desideri, MD^{1,2}; Vieri Scotti, MD²; Gabriele Simontacchi, MD²; Pierluigi Bonomo, MD²; Daniela Greto, MD²; Monica Mangoni, MD, PhD^{1,2}; Silvia Scoccianti, MD²; Sara Lucidi, MD¹; Lisa Paoletti, MD¹; Massimiliano Fambriani, MD^{1,2}; Marco Bemini, MD, PhD²; Luis Sanchez, MD²; Lorenzo Orzalesi, MD^{1,2}; Jacopo Nori, MD²; Simonetta Bianchi, MD^{1,2}; Stefania Pallotta, MS^{1,2}; and Lorenzo Livi, MD^{1,2}



The Italian Association for Radiotherapy and Clinical Oncology (AIRO) position statements for postoperative breast cancer radiation therapy volume, dose, and fractionation

Icro Meattini^{1,2} · Isabella Palumbo³ · Carlotta Becherini² · Simona Borghesi⁴ · Francesca Cucciarelli⁵ ·
Samantha Dicuonzo⁶ · Alba Fiorentino⁷ · Ruggero Spoto⁸ · Philip Poortmans^{9,10} · Cynthia Aristei³ · Lorenzo Livi^{1,2}



Factor	Selection criteria
Patient-related	Age 50 years or more
Tumour-related	Luminal-like subtypes small tumour (≤ 3 cm) Clear surgical margins (> 2 mm) Node negative (including isolated tumour cells) Absence of lymph vascular space invasion Non-lobular invasive carcinoma Tumour grade 1–2 Low-to-intermediate grade DCIS, sized ≤ 2.5 cm, clear surgical margins (≥ 3 mm) Unicentric or unifocal
Treatment-related	No use of primary systemic therapy and neoadjuvant chemotherapy

Hypofractionated breast radiotherapy for 1 week versus 3 weeks (FAST-Forward): 5-year efficacy and late normal tissue effects results from a multicentre, non-inferiority, randomised, phase 3 trial

FAST-Forward

Control Group

40.05 Gy in 15 Fr
3 weeks
2.67 Gy/F

Test Group 1

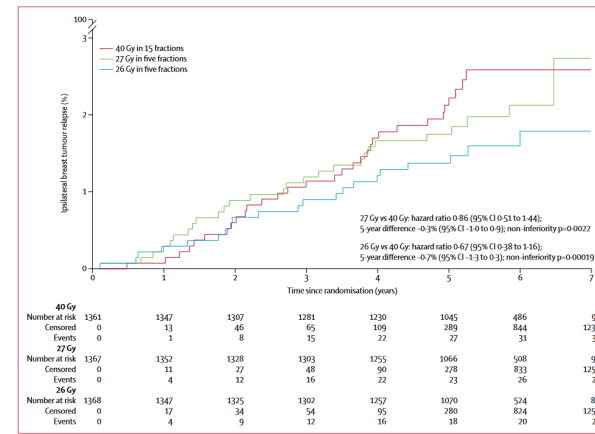
27.0 Gy in 5 Fr
1 week
5.4 Gy/F

Test Group 2

26.0 Gy in 5 Fr
1 week
5.2 Gy/F

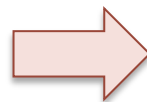
4096 pz

La schedula di trattamento: 26 Gy in 5 frazioni WB

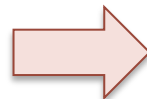


- ✓ Non è inferiore al trattamento standard in termini di controllo locale
- ✓ E' sicuro in termini di effetti collaterali

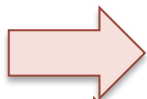
Histological type			
Infiltrating ductal	1084 (79.6%)	1096 (80.2%)	1086 (79.4%)
Lobular	144 (10.6%)	139 (10.2%)	127 (9.3%)
Mixed	51 (3.7%)	63 (4.6%)	65 (4.8%)
Other	82 (6.0%)	69 (5.0%)	87 (6.4%)
Unknown	0	0	3 (0.2%)
ER and HER2 status			
ER positive HER2 positive	103 (7.6%)	103 (7.5%)	93 (6.8%)
ER positive HER2 negative	1108 (81.4%)	1130 (82.7%)	1097 (80.2%)
ER negative HER2 positive	32 (2.4%)	34 (2.5%)	42 (3.1%)
ER negative HER2 negative	111 (8.2%)	96 (7.0%)	128 (9.4%)
Not known	7 (0.5%)	4 (0.3%)	8 (0.6%)
Tumour grade			
1	315 (23.1%)	315 (23.0%)	300 (21.9%)
2	660 (48.5%)	663 (48.5%)	690 (50.4%)
3	386 (28.4%)	389 (28.5%)	378 (27.6%)
Lymphovascular invasion			
Present	186 (13.7%)	178 (13.0%)	202 (14.8%)
Absent	1085 (79.7%)	1084 (79.3%)	1055 (77.1%)
Uncertain	34 (2.5%)	40 (2.9%)	51 (3.7%)
Unknown	56 (4.1%)	65 (4.8%)	60 (4.4%)
Pathological node status			
Positive	257 (18.9%)	243 (17.8%)	256 (18.7%)
Negative	1103 (81.0%)	1124 (82.2%)	1110 (81.1%)
Unknown	1 (0.1%)	0	2 (0.1%)



Inclusa anche istologia lobulare



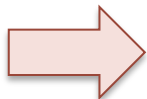
Incluse anche pz non Luminali



Incluse anche pz G3



Incluse anche pz con LVI



Incluse anche pz N+

European Society for Radiotherapy and Oncology Advisory Committee in Radiation Oncology Practice consensus recommendations on patient selection and dose and fractionation for external beam radiotherapy in early breast cancer



CONSENSUS ESTRO-ACROP 2022

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DCIS=ductal carcinoma in situ.

La radiologia medica
<https://doi.org/10.1007/s11547-022-01563-9>

POSITION PAPER



The Italian Association for Radiotherapy and Clinical Oncology (AIRO) position statements for postoperative breast cancer radiation therapy volume, dose, and fractionation

Icro Meattini^{1,2} · Isabella Palumbo³ · Carlotta Becherini² · Simona Borghesi⁴ · Francesca Cucciarelli⁵ ·
Samantha Dicuonzo⁶ · Alba Fiorentino⁷ · Ruggero Spoto⁸ · Philip Poortmans^{9,10} · Cynthia Aristei³ · Lorenzo Livi^{1,2}

	50 Gy in 25 fractions	40–42.5 Gy in 15–16 fractions	26 Gy in 5 fractions
Whole breast irradiation	Not recommended	Recommended ^o	Recommended ^o
Partial breast irradiation	Not recommended	Recommended ^o	Recommended ^{o*}
Chest wall irradiation without reconstruction	Not recommended [^]	Recommended ^o	Recommended
Chest wall irradiation with reconstruction	Not recommended [^]	Recommended ^o	Not recommended
Regional nodal irradiation	Not recommended [^]	Recommended ^o	Not recommended

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Radioterapia Oncologica:
l'evoluzione al servizio dei pazienti

	Number of patients reporting moderate or marked event at baseline/total*	Number of moderate or marked events/total number of assessments over 3-60 months follow-up	Odds ratio for schedule (95% CI)	p value for comparison with 40 Gy	p value for comparison between 27 Gy and 26 Gy	Odds ratio for years of follow-up (95% CI); p value
European Organisation for Research and Treatment of Cancer QLQ-BR23 items						
Breast pain	..	..	..	..	..	0.96 (0.94-0.99); 0.011
40 Gy	53/583 (9.1%)	338/2538 (13.3%)	1 (ref)	..	..	..
27 Gy	42/590 (7.1%)	428/2601 (16.5%)	1.23 (0.98-1.54)	0.068	..	..
26 Gy	53/588 (9.0%)	417/2597 (16.1%)	1.23 (0.98-1.53)	0.074	0.96	..
Breast swollen	..	..	..	..	..	0.84 (0.80-0.89); <0.0001
40 Gy	56/583 (9.6%)	122/2538 (4.8%)	1 (ref)	..	..	..
27 Gy	43/589 (7.3%)	236/2597 (9.1%)	1.46 (1.10-1.94)	0.0080	..	..
26 Gy	47/589 (8.0%)	192/2599 (7.4%)	1.27 (0.95-1.69)	0.11	0.22	..
Breast oversensitive	..	..	..	..	..	0.96 (0.93-0.99); 0.0097
40 Gy	57/579 (9.8%)	283/2528 (11.2%)	1 (ref)	..	..	..
27 Gy	42/584 (7.2%)	334/2596 (12.9%)	1.10 (0.87-1.40)	0.43	..	..
26 Gy	62/586 (10.6%)	319/2587 (12.3%)	1.11 (0.88-1.41)	0.37	0.91	..
Skin problems in breast	..	..	..	..	..	0.96 (0.92-1.01); 0.11
40 Gy	26/582 (4.5%)	156/2539 (6.1%)	1 (ref)	..	..	..
27 Gy	24/290 (4.1%)	209/2596 (8.0%)	1.25 (0.95-1.65)	0.11	..	..
26 Gy	18/590 (3.0%)	164/2592 (6.3%)	0.98 (0.73-1.31)	0.90	0.084	..
Arm or shoulder pain	..	..	..	..	..	1.00 (0.97-1.03); >0.99
40 Gy	66/582 (11.3%)	401/2537 (15.8%)	1 (ref)	..	..	..
27 Gy	78/591 (13.2%)	441/2601 (17.0%)	1.12 (0.91-1.37)	0.29	..	..
26 Gy	81/589 (13.7%)	455/2599 (17.5%)	1.14 (0.93-1.40)	0.2006	0.83	..



Arm or hand swollen	..	..	..	..	..	1.06 (1.00-1.11); 0.031
40 Gy	24/582 (4.1%)	101/2536 (4.0%)	1 (ref)	..	..	..
27 Gy	17/588 (2.9%)	103/2600 (4.0%)	0.95 (0.66-1.36)	0.77	..	..
26 Gy	22/590 (3.7%)	124/2592 (4.8%)	1.14 (0.80-1.62)	0.46	0.31	..
Difficulty raising arm	..	..	..	..	..	1.04 (0.99-1.08); 0.089
40 Gy	27/582 (4.6%)	171/2533 (6.7%)	1 (ref)	..	..	..
27 Gy	36/589 (6.1%)	209/2599 (8.0%)	1.24 (0.94-1.63)	0.12
26 Gy	37/587 (6.3%)	188/2596 (7.2%)	1.12 (0.85-1.48)	0.42	0.46	..



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The Breast

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Original article

Acute toxicity and health-related quality of life after accelerated whole breast irradiation in 5 fractions with simultaneous integrated boost

Hans Van Hulle^{a,*}, Vincent Vakaet^{a,b}, Chris Monten^{a,b}, Pieter Deseyne^{a,b},
Max Schoepen^{a,c}, Cato Colman^a, Leen Paelinck^b, Annick Van Greveling^b, Giselle Post^a,
Bruno Speleers^a, Katrien Vandecasteele^{a,b}, Marc Mareel^a, Wilfried De Neve^{a,b},
Liv Veldeman^{a,b}



Health-related quality of life.

	Baseline		p-value ^a	2–4 weeks after RT		p-value ^e	Clinically important deterioration		p-value ^b
	Mean score (SD)			Mean score (SD)			5-fraction schedule	15-fraction schedule	
	5-fraction schedule	15-fraction schedule		5-fraction schedule	15-fraction schedule		5-fraction schedule	15-fraction schedule	
N	105	94		105	94		105	94	
EORT QLQ-C30/BR23									
Global health status (QL) ^c	71.9 (17.2)	72.9 (19.2)	p = 0.8	73.9 (14.8)	67.4 (20.5)	p = 0.01	16 (15%)	30 (32%)	p = 0.005
Functional scales^c									
Physical functioning (PF2)	85.1 (16.4)	89.4 (11.6)	p = 0.1	87.0 (15.2)	86.8 (13.6)	p = 0.6	7 (7%)	23 (24%)	p = 0.0005 ^e
Social functioning (SF)	85.1 (21.5)	84.4 (22.5)	p = 0.9	87.6 (20.4)	83.0 (21.9)	p = 0.03	12 (11%)	29 (31%)	p = 0.0007 ^e
Future perspective (BRFU)	60.6 (26.9)	63.1 (26.1)	p = 0.5	66.3 (22.9)	59.9 (24.7)	p = 0.06	13 (12%)	20 (21%)	p = 0.09
Symptom scales^d									
Fatigue (FA)	27.5 (19.6)	26.7 (22.6)	p = 0.5	28.7 (22.2)	35.2 (23.4)	p = 0.07	31 (30%)	47 (50%)	p = 0.003 ^e
Pain (PA)	18.7 (21.3)	15.4 (17.7)	p = 0.3	16.2 (18.1)	20.2 (21.7)	p = 0.2	23 (22%)	35 (37%)	p = 0.02
Arm symptoms (BRAS)	10.4 (13.7)	10.4 (15.4)	p = 0.7	9.6 (13.2)	9.1 (14.0)	p = 0.6	18 (17%)	21 (22%)	p = 0.4
Breast symptoms (BRBS)	16.7 (15.6)	15.8 (16.6)	p = 0.5	23.7 (17.6)	32.8 (19.9)	p = 0.001 ^e	31 (30%)	56 (60%)	p = 0.0002 ^e
BREAST-Q									
Satisfaction with breast ^c	74.1 (16.8)	71.6 (17.7)	p = 0.5	72.9 (17.5)	67.4 (17.5)	p = 0.04	19 (18%)	30 (32%)	p = 0.02
Physical well-being ^d	14.2 (16.5)	12.6 (14.1)	p = 0.5	18.4 (18.8)	27.4 (20.3)	p = 0.001 ^e	28 (27%)	45 (48%)	p = 0.002 ^e

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OSPEDALE SANTA MARIA DELLA MISERICORDIA
S.C. RADIOTERAPIA ONCOLOGICA

RADIOTERAPIA ADIUVANTE IPOFRAZIONATA SECONDO SCHEMA ULTRA-IPOFRAZIONATO DOPO CHIRURGIA CONSERVATIVA IN PAZIENTI AFFETTE DA NEOPLASIA DELLA MAMMELLA

CENTRO PROMOTORE E COORDINATORE
Prof.ssa Cynthia Aristei (Sperimentatore Principale)
Dr.ssa Isabella Palumbo (Co-Sperimentatore Principale)
S.C. Radioterapia Oncologica
Dipartimento di Medicina e Chirurgia
Università degli Studi di Perugia e Azienda Ospedaliera di Perugia

Ongoing

Studio **osservazionale retrospettivo e prospettico** di tipo “no profit” per valutare **fattibilità, efficacia, tossicità, risultato cosmetico e qualità di vita**, nelle pazienti affette da carcinoma della mammella che dopo chirurgia conservativa devono essere irradiate solamente a livello della ghiandola mammaria residua con schema di irradiazione ultra-ipo frazionato secondo **protocollo “FAST-forward”**.

- OBIETTIVO PRIMARIO** → valutazione della fattibilità del trattamento in termini di **TOSSICITÀ ACUTA e CRONICA**
- OBIETTIVI SECONDARI** → valutazione della fattibilità del trattamento in termini di **SOPRAVVIVENZA** (globale e libera da malattia), **INCIDENZA di RECIDIVA** (locale, loco-regionale e a distanza)
- valutazione del **RISULTATO ESTETICO** e della **QUALITÀ di VITA**

EARLY BREAST CANCER

**ELDERLY
PATIENTS**



RT DOPO CHIRURGIA CONSERVATIVA



RT DOPO MASTECTOMIA



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Postmastectomy radiation therapy and survival outcome in older patients with T1-2N1 breast cancer

Chuanxu Luo^a, Xiaorong Zhong^a, Ting Luo^{b,*}, Hong Zheng^a

^a Laboratory of Molecular Diagnosis of Cancer & Breast Medical Oncology, Clinical Research Center for Breast, West China Hospital, Sichuan University, Chengdu, China

^b Department of Head, Neck and Mammary Gland Oncology, Cancer Center, West China Hospital, Sichuan University, Chengdu, China



7052 pz \geq 70 aa T1-2N1 breast cancer
SEER database

BCM endpoint primario

Analisi per sottogruppi: a seconda del diametro tumorale (< 2 cm, 2-5 cm) e N linf + (1, 2 o 3)

Ad un F.U. mediano di 5 aa: 723 pz (11.1%) decedute. All'analisi multivariata: PMRT correlata significativamente ad una più lunga breast-cancer specific survival

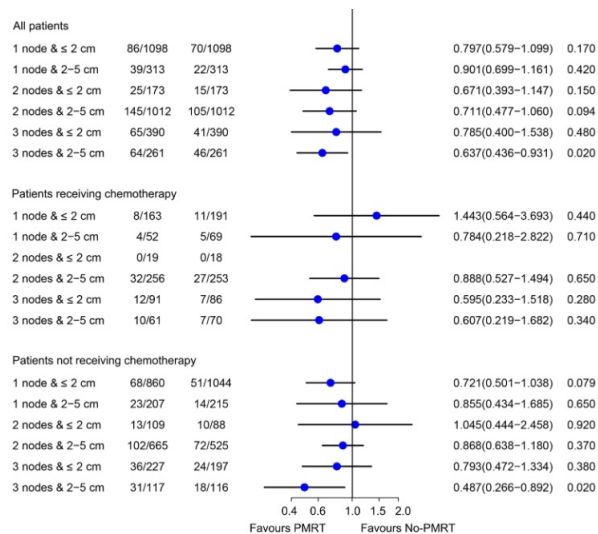


Postmastectomy radiation therapy and survival outcome in older patients with T1-2N1 breast cancer

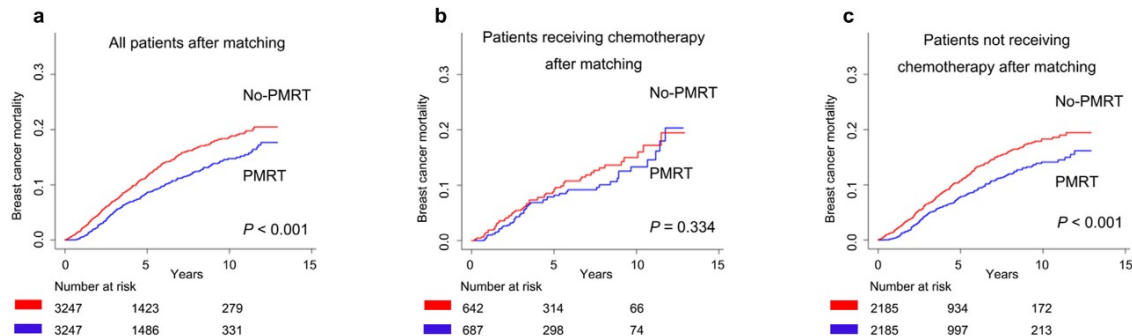
Chuanxu Luo^a, Xiaorong Zhong^a, Ting Luo^{b, *}, Hong Zheng^a

^a Laboratory of Molecular Diagnosis of Cancer & Breast Medical Oncology, Clinical Research Center for Breast, West China Hospital, Sichuan University, Chengdu, China

^b Department of Head, Neck and Mammary Gland Oncology, Cancer Center, West China Hospital, Sichuan University, Chengdu, China



Radioterapia Oncologica: l'evoluzione al servizio dei pazienti



PMRT è associata ad una riduzione della BCM in pz che non avevano ricevuto chemioterapia (incidenza cumulativa a 5aa: 10.8 vs 7.9%)

All'analisi per sottogruppi: riduzione della BCM in pz con T2 e con 3LN+, ma beneficio limitato alle pz no-chemioterapia

RESEARCH

Open Access



The trade-off of post-mastectomy radiotherapy usage for the breast cancer patients aged 70 years or older: a study based on SEER database

Jingyi Lin^{1,2,3}, Shiping Luo^{1,3}, Jie Zhang^{1,2,3} and Chuangui Song^{1,2,3*}

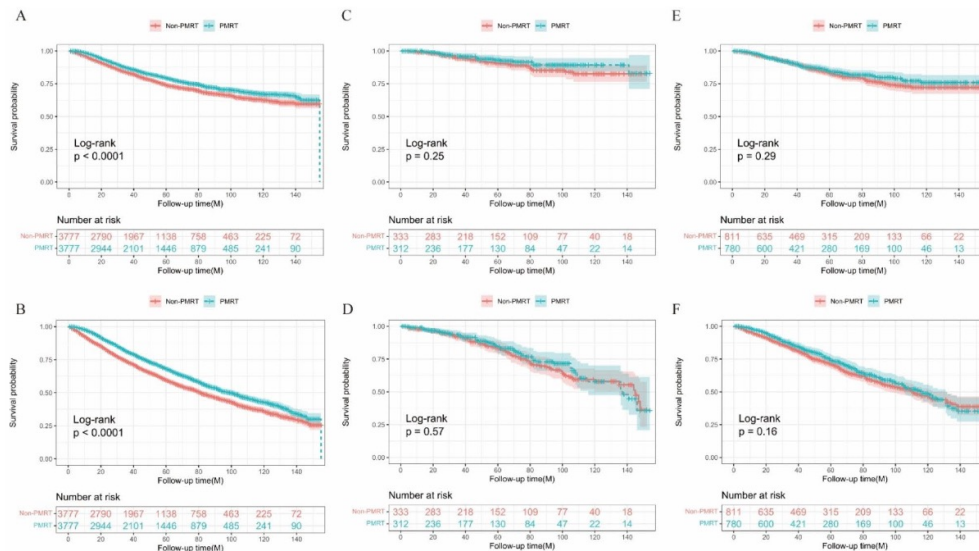
Subgroup analysis:

BCSS and OS benefit were not significant in patients with T1N1 tumor (BCSS: HR = 0.716, $p = 0.249$; OS: HR = 0.908, $p = 0.572$), and T2N1 tumor (BCSS: HR = 0.866, $p = 0.289$; OS: HR = 0.879, $p = 0.166$)

HR+/HER-2- subtype and the HR-/HER-2- subtype (all $p < 0.001$) have a significant prolonged survival, yet not significant BCSS difference are shown in the HER-2 + tumor

27636 pts eligible

PMRT were associated with significant improvement in breast cancer-specific survival (BCSS) and OS ($p < 0.001$)



RESEARCH

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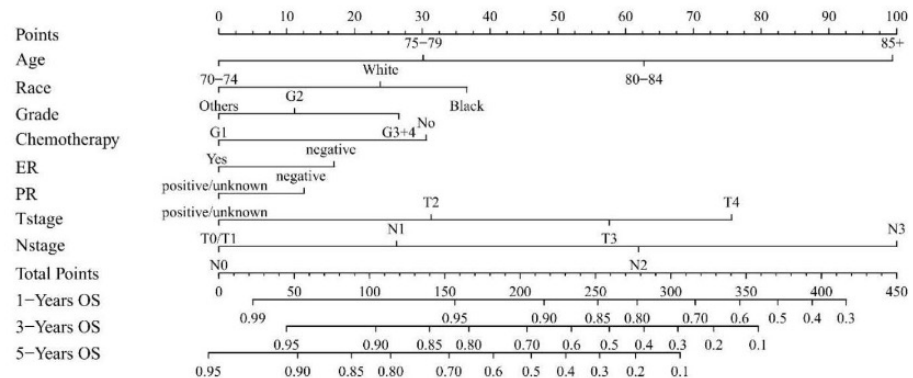


The trade-off of post-mastectomy radiotherapy usage for the breast cancer patients aged 70 years or older: a study based on SEER database

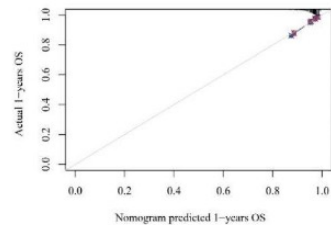
Jingyi Lin^{1,2,3}, Shiping Luo^{1,3}, Jie Zhang^{1,2,3} and Chuangui Song^{1,2,3*}

NOMOGRAMMA : puo' essere utilizzato nella decisione clinica, se omettere o meno la RT

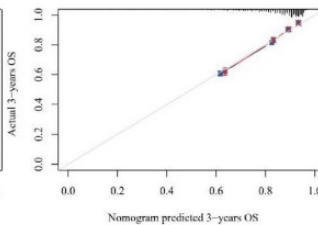
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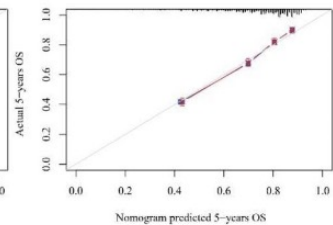
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C



D



La radiologia medica
<https://doi.org/10.1007/s11547-022-01563-9>

POSITION PAPER

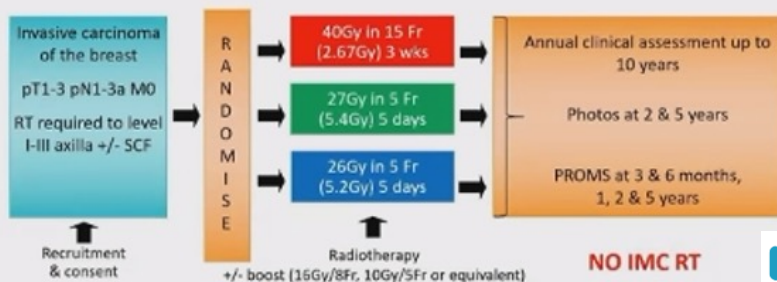


The Italian Association for Radiotherapy and Clinical Oncology (AIRO) position statements for postoperative breast cancer radiation therapy volume, dose, and fractionation

Icro Meattini^{1,2} · Isabella Palumbo³ · Carlotta Becherini² · Simona Borghesi⁴ · Francesca Cucciarelli⁵ ·
Samantha Dicuonzo⁶ · Alba Fiorentino⁷ · Ruggero Spoto⁸ · Philip Poortmans^{9,10} · Cynthia Aristei³ · Lorenzo Livi^{1,2}

	50 Gy in 25 fractions	40–42.5 Gy in 15–16 fractions	26 Gy in 5 fractions
Whole breast irradiation	Not recommended	Recommended ^o	Recommended ^o
Partial breast irradiation	Not recommended	Recommended ^o	Recommended ^{o*}
Chest wall irradiation without reconstruction	Not recommended [^]	Recommended ^o	Recommended
Chest wall irradiation with reconstruction	Not recommended [^]	Recommended ^o	Not recommended
Regional nodal irradiation	Not recommended [^]	Recommended ^o	Not recommended

Design of FAST-Forward Nodal Sub-study



Risultati preliminari a 2 aa presentati ad ESTRO
2022 incoraggianti

STUDY PROTOCOL

Open Access

RT mammella /parete toracica +/-
drenaggi linfonodali

Attendiamo i risultati definitivi

Hypofractionated radiation therapy comparing a standard radiotherapy schedule (over 3 weeks) with a novel 1-week schedule in adjuvant breast cancer: an open-label randomized controlled study (HYPORT-Adjuvant)—study protocol for a multicentre, randomized phase III trial



Sanjoy Chatterjee, Santam Chakraborty* and HYPORT Adjuvant Author Group



CONCLUSIONI



- ✓ La scelta terapeutica migliore nella pz anziana affetta da ca della mammella va valutata accuratamente, in base ai fattori di rischio per recidiva e in base alle comorbidità, qualità della vita ed aspettative della paziente/familiari
- ✓ L'omissione della RT nelle pz elderly affette da early stage breast cancer sottoposte a CH conservativa ed ET comporta un rischio significativo di recidiva locale
- ✓ Il ruolo della RT post-mastectomia nelle pazienti elderly T1-T2 N1 è ancora controverso
- ✓ La PBI in pazienti selezionate e la WB in 5 frazioni, con la moderna tecnologia, possono essere una valida alternativa alla WB con schema ipofrazionato moderato
- ✓ Sarebbe auspicabile una valutazione geriatrica multifunzionale e/o poter consultare un geriatra nelle discussioni della Breast Unit

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Radioterapia Oncologica:
l'evoluzione al servizio dei pazienti



Grazie per l'attenzione

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