

Role Of Radiotherapy In The Management Of Metastatic Breast Cancer

Afsaneh Maddah MD

Assistant Professor at Tehran university of medical science

Introduction

The management of stage IV breast cancer focuses on systemic therapy for distant sites

- ▶ The underlying assumption is that such therapy will control the primary tumor sufficiently well for the remainder of the patient's life

This concept is being re-evaluated because of The clinical course of metastatic breast cancer is changing

- ▶ Lengthening survival of stage IV patients
- ▶ Tendency towards decreasing metastatic disease burden at diagnosis
- ▶ Accumulating data suggesting that local therapy for the primary site may be beneficial

Therapeutic Goal For Local Therapy

Palliation

Increasing local control and potentially prolonging survival

Radiotherapy in metastatic breast cancer

Primary Site

The diagram consists of two horizontal bars. The top bar is dark blue with rounded ends and contains the text 'Primary Site'. The bottom bar is orange with rounded ends and contains the text 'Metastatic Site'. Both bars are connected to a vertical line on the left side of the slide.

Metastatic Site

LOCAL MANAGEMENT OF THE PRIMARY

The primary role of local treatment → **Palliation**

- ▶ Control local complications from the cancer
 - Bleeding
 - Infection
 - wound management



Radiotherapy of
the primary site
to patients
asymptomatic at
the primary site

E2108: Study Design

Randomized phase III trial (enrollment from 2011-2015)

Patients with de novo MBC
without progression of distant
disease after 4-8 mos of optimal
systemic therapy
(N = 258*)

Early Local Therapy[†] +
Optimal Systemic Therapy
(n = 125)

Continuation of Optimal
Systemic Therapy[‡]
(n = 131)

**74 patients (68%) received
locoregional radiotherapy**

*Follow-up
for 5 yrs*

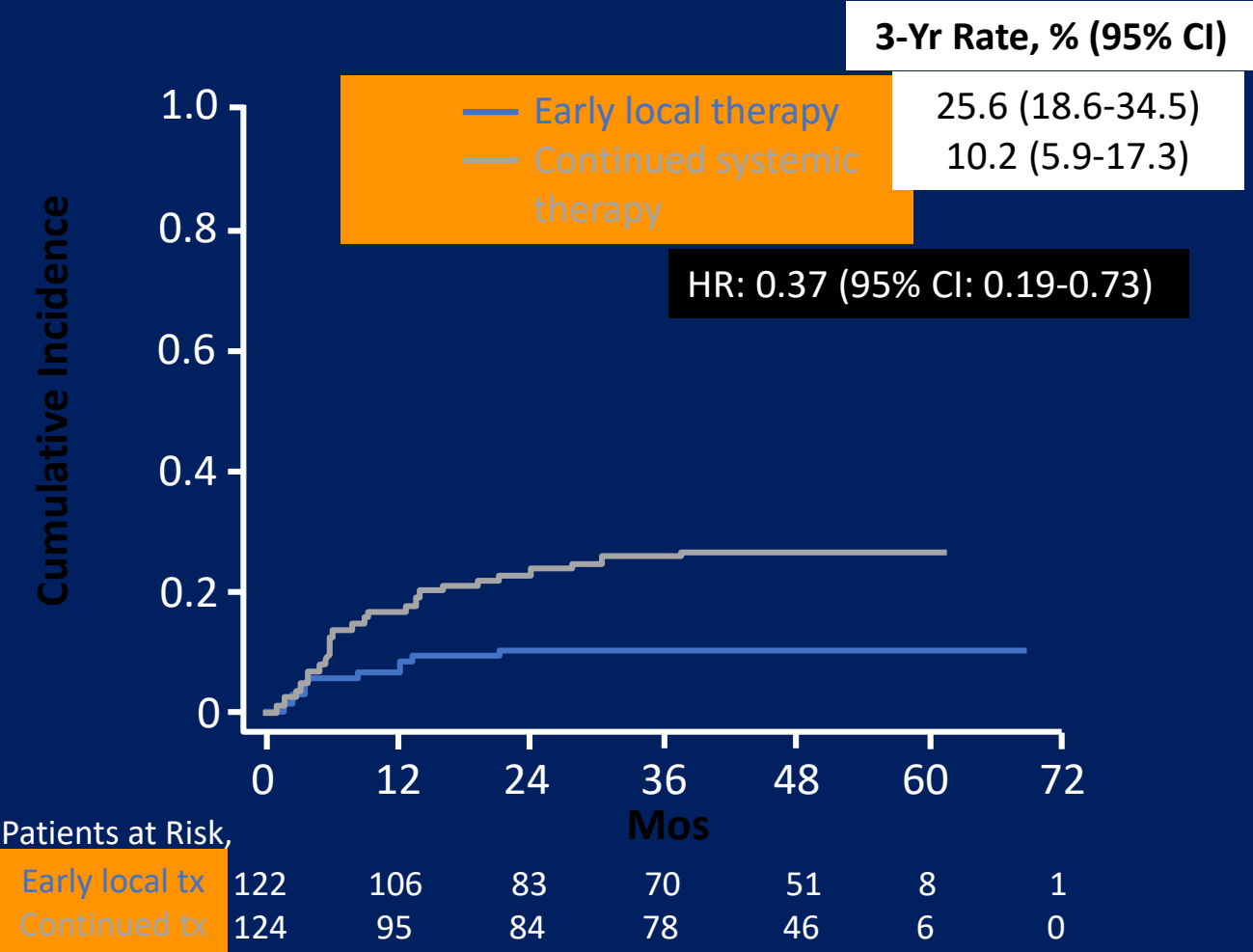
*14%
crossover*

n = 109 received surgery, 87 with free surgical margins, 74 needing locoregional RT; n = 14 did not receive surgery. [‡]n = 25 received surgery during disease course

Primary endpoint: OS

Secondary endpoint: Time to locoregional progression, HRQoL (by FACT-B TOI)

E2108: Locoregional Progression

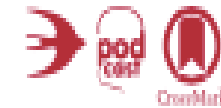


- Definitions of locoregional progression:
 - Continued systemic therapy: presentation of symptoms that would prompt local therapy
 - Early local therapy: regional node progression or chest wall disease/invasive breast recurrence
- Report of later locoregional progression/recurrence not precluded by occurrence of distant progression

ECOG-ACRIN 2108 study gives important data in terms of local control

It is important to achieve local control in oligometastatic cases,
especially in patients with bone only metastases

Locoregional treatment versus no treatment of the primary tumour in metastatic breast cancer: an open-label randomised controlled trial



Rajendra Badwe, Rahini Hawaldar, Nita Nair, Rucha Kaushik, Vani Parmar, Shabina Siddique, Ashwini Budrukkar, Indraneel Mittra, Sudeep Gupta

Summary

Background The role of locoregional treatment in women with metastatic breast cancer at first presentation is unclear. Preclinical evidence suggests that such treatment might help the growth of metastatic disease, whereas many retrospective analyses in clinical cohorts have suggested a favourable effect of locoregional treatment in these patients. We aimed to compare the effect of locoregional treatment with no treatment on outcome in women with metastatic breast cancer at initial presentation.

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[http://dx.doi.org/10.1016/S1470-2045\(15\)00135-7](http://dx.doi.org/10.1016/S1470-2045(15)00135-7)

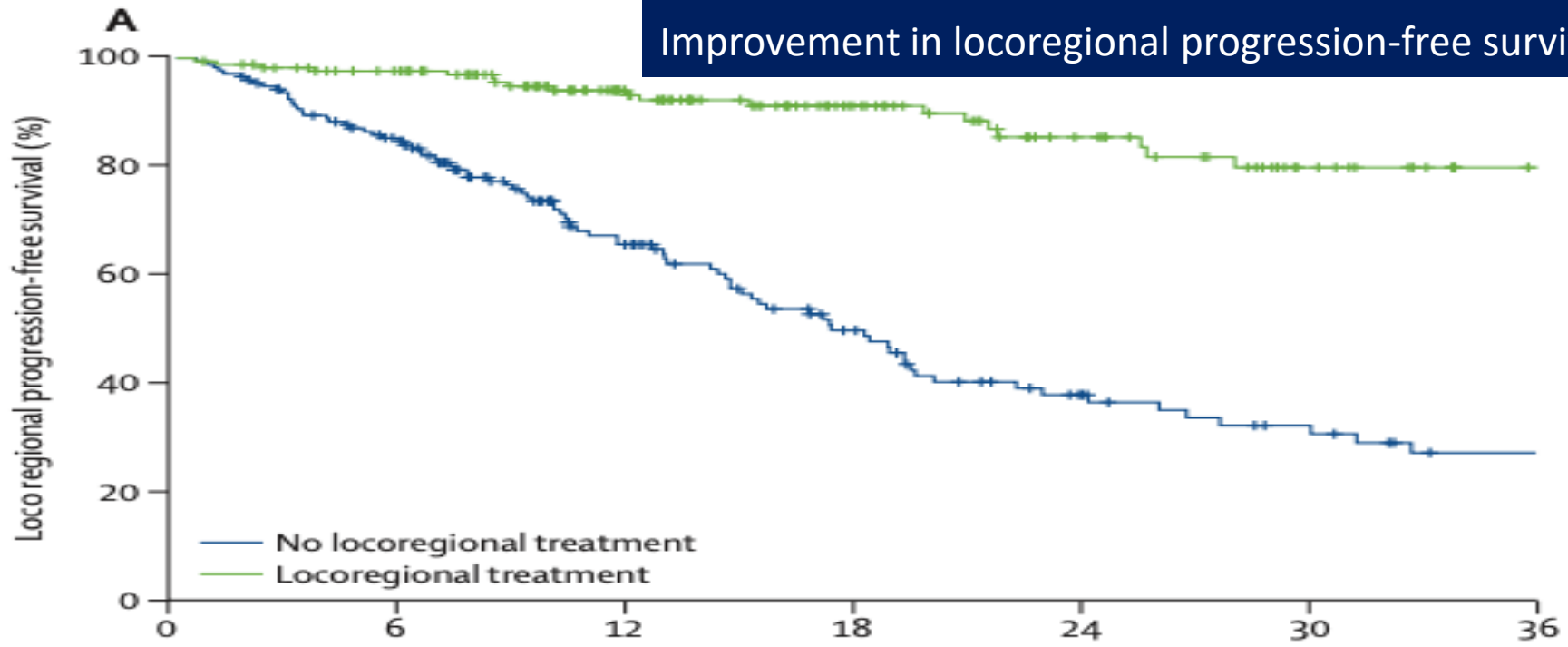
See Online/Comment

[http://dx.doi.org/10.1016/S1470-2045\(15\)00135-7](http://dx.doi.org/10.1016/S1470-2045(15)00135-7)

Surgery was followed by standard postoperative adjuvant radiation treatment to the chest wall or remaining breast as per standard institutional practice for non-metastatic patients

- ▶ All patients who underwent breast-conserving surgery received postoperative radiation
- ▶ In those patients who underwent mastectomy, those with a pre-chemotherapy tumour size of more than 5 cm or skin or chest wall involvement or axillary lymph node-positive disease received postoperative radiation

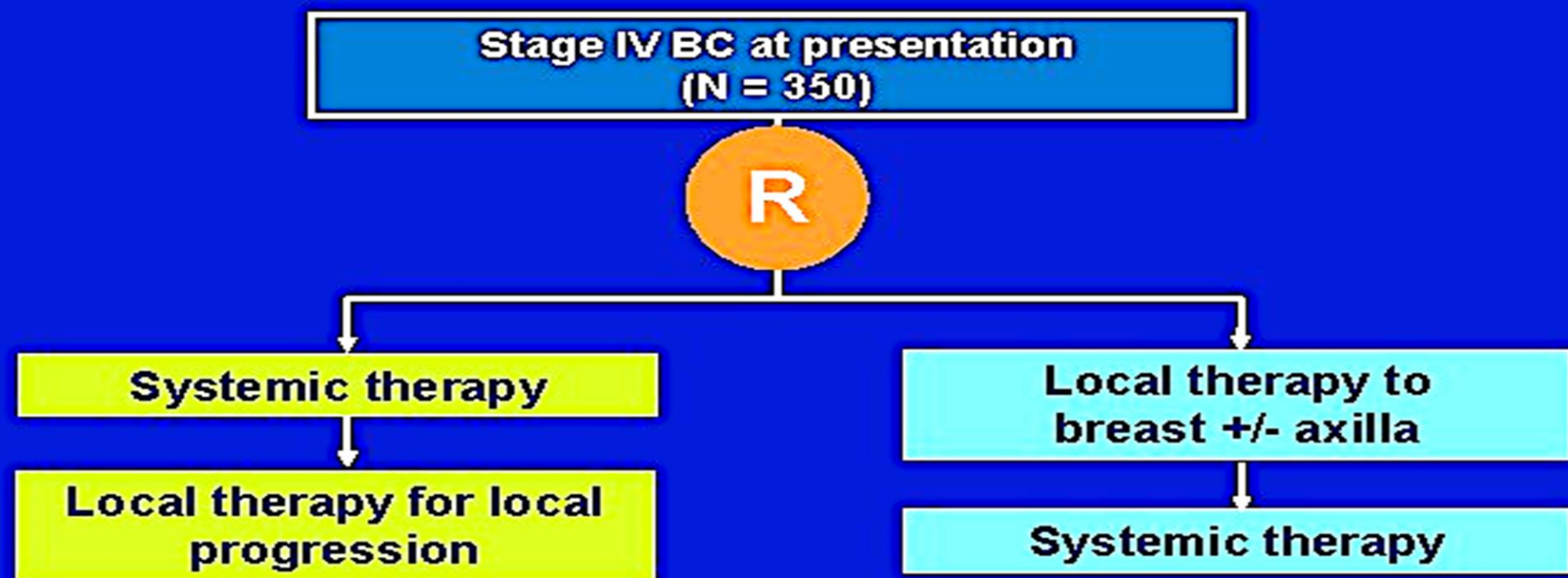
No difference between the two groups with regards to OS
Improvement in locoregional progression-free survival



Number at risk

No locoregional treatment	177	123	75	46	28	20	13
Locoregional treatment	173	134	91	65	45	28	20

Protocol MF07-01 (Turkish Trial)



	Locoregional therapy (n = 138)	No locoregional therapy (n = 136)	HR	p-value
Median OS	46 mo	37 mo	0.66	0.005

All the patients who underwent BCS received radiotherapy (RT) to the whole breast as indicated in early-stage BC unless the patient died earlier

Breast RT was planned to be administered within 3–6 months after surgery

•

Patients treated with local management experienced an **improvement in five-year survival** with locoregional treatment (46.4 versus 26.4 percent)

- ▶ patients in the surgical group had lower rates of triple-negative disease (7 versus 17 percent) and visceral metastases (29 versus 45 percent), and were more likely to have solitary bone metastases only (33 versus 20 percent)

In a post-hoc subgroup analysis, patients with **hormone-positive, HER2-negative disease**; those **younger than 55** years; and those with **solitary bone metastases** appeared to derive the greatest benefit from local management



Radiotherapy of
the primary site
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Primary Site

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Metastatic Site

LOCAL MANAGEMENT OF METASTASES

Symptomatic Metastases

- Pain
- Loss of function
- Oncologic emergency (eg, cord compression, mass effect due to brain metastases, pathologic fracture due to a bony metastasis)

Lack Of Symptomatic Metastases

Lack Of Symptomatic Metastases

While retrospective data suggest a survival benefit for aggressive local therapy in patients with oligometastatic disease ,Prospective data are not available

- ▶ RT is an option to potentially improve survival for patients with **oligometastatic disease** if few lesions and limited involvement

SUMMARY

Systemic therapy is first-line treatment for most patients with metastatic disease

- ▶ Local therapies such as surgery and/or radiation may be targeted to the breast/chest wall, regional lymph nodes or to distant metastatic

Goal may be symptom palliation or prolonging survival in situations such as oligometastatic disease

The background features four wireframe human figures arranged in a 2x2 grid. Each figure is composed of a light blue grid of lines. On the chest of each figure, there is a glowing orange sphere with a grid pattern, similar to the wireframe. The figures are shown from the waist up, with their arms slightly out to the sides. The overall aesthetic is futuristic and digital.

Thank you