

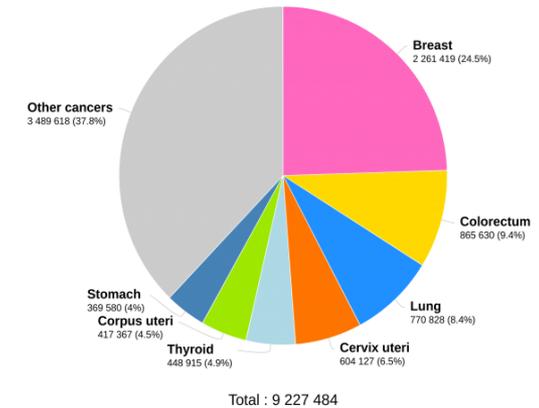
Contrast Enhanced Mammography - A potential game-changer for breast conservation surgery in developing nations

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Introduction

Breast cancer is the commonest malignancy in both developed and developing nations.

Estimated number of new cases in 2020, worldwide, females, all ages



Data source: Globocan 2020
Graph production: Global Cancer Observatory (<https://gco.iarc.fr>)

International Agency for Research on Cancer
World Health Organization

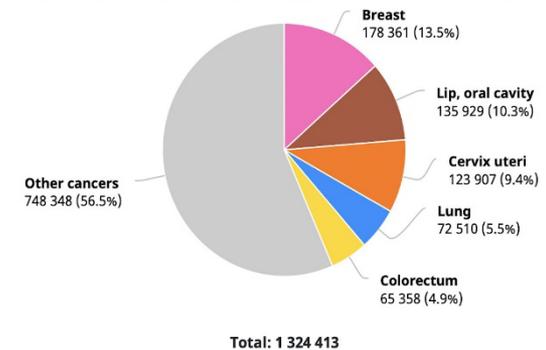
International Agency for Research on Cancer



India

Source: Globocan 2020

Number of new cases in 2020, both sexes, all ages



Problems in developing nations

- Lack of facilities in the public hospitals.
- Inability to pay medical bills and lack of medical insurance in private hospitals
- Mastectomy is done for many early breast cancers which are eligible for breast conservation.
 - Inadequate preoperative staging
 - Poor compliance to re-surgery
- MRI
 - Limited availability
 - Expense
 - Lack of expertise for reporting at all centers

Contrast Enhanced Mammography

- Easy to implement
- Not too steep learning curve for reporting
- Marginal increase in cost over regular mammogram
- Decision on surgical option on the same day – reduced hospital visits and associated cost

Methods

Done in Breast Imaging division in an urban tertiary care hospital in India.

Patients: 161 women with breast cancer who have underwent Contrast Enhanced Mammography(CEM).

The type of surgery was decided based on CEM and after discussion with the patient.

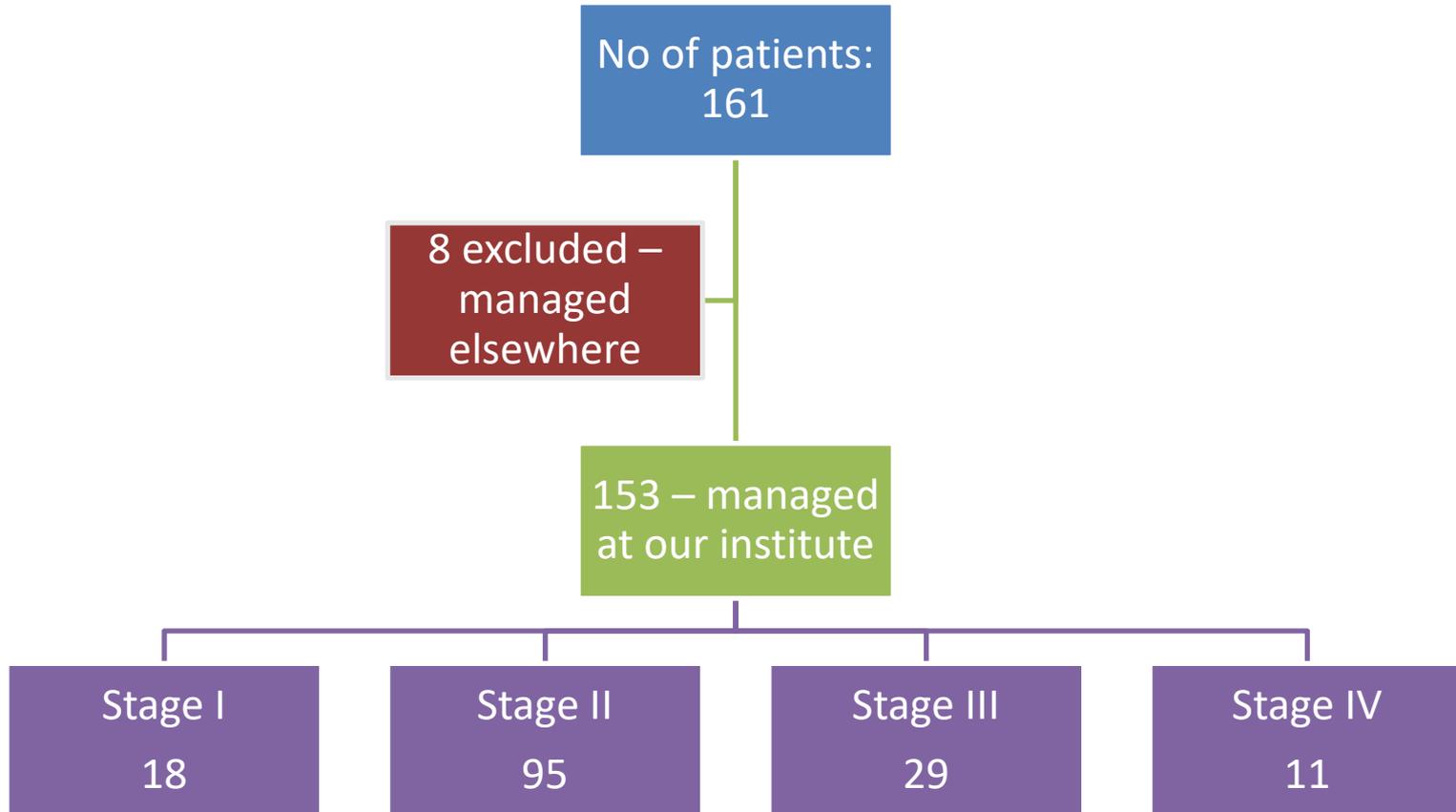
The following data were analyzed:

Rate of mastectomies

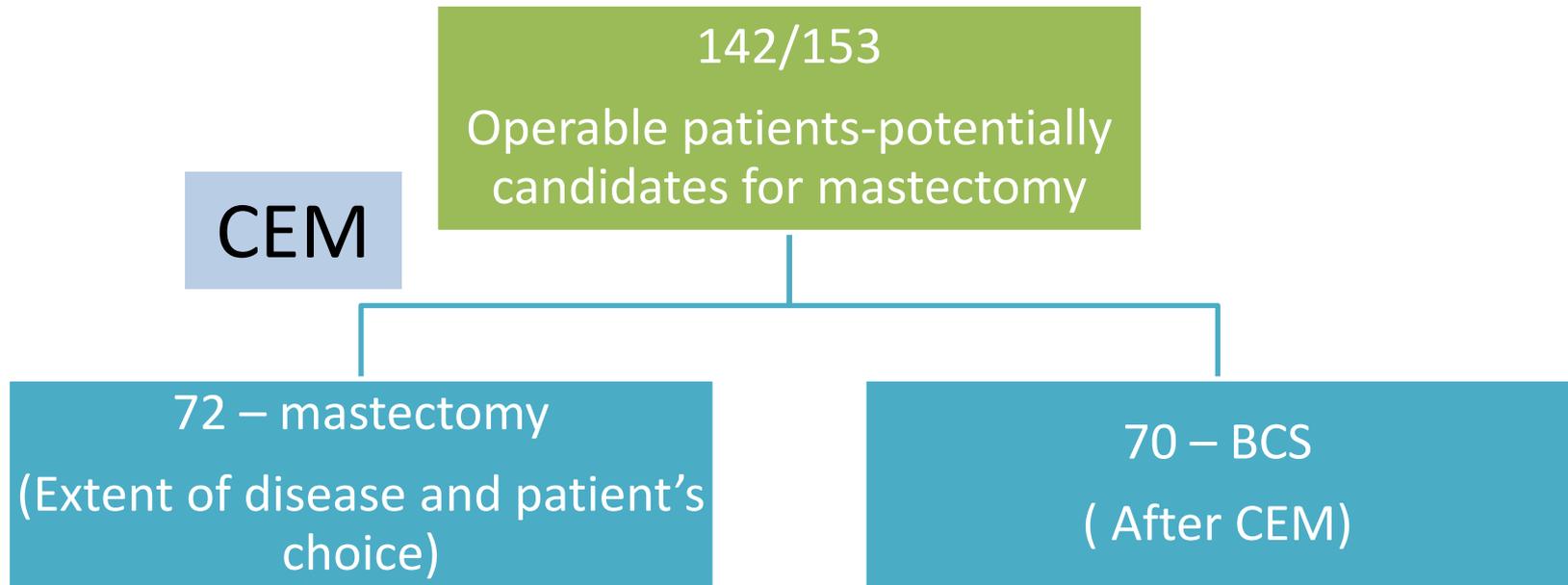
Rate of Breast
Conservation surgeries

Re-surgery rates

Results

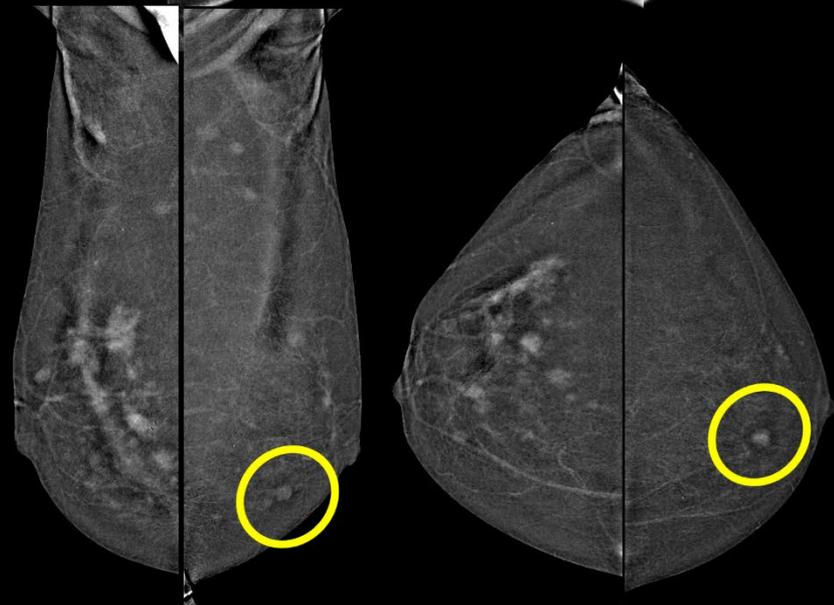
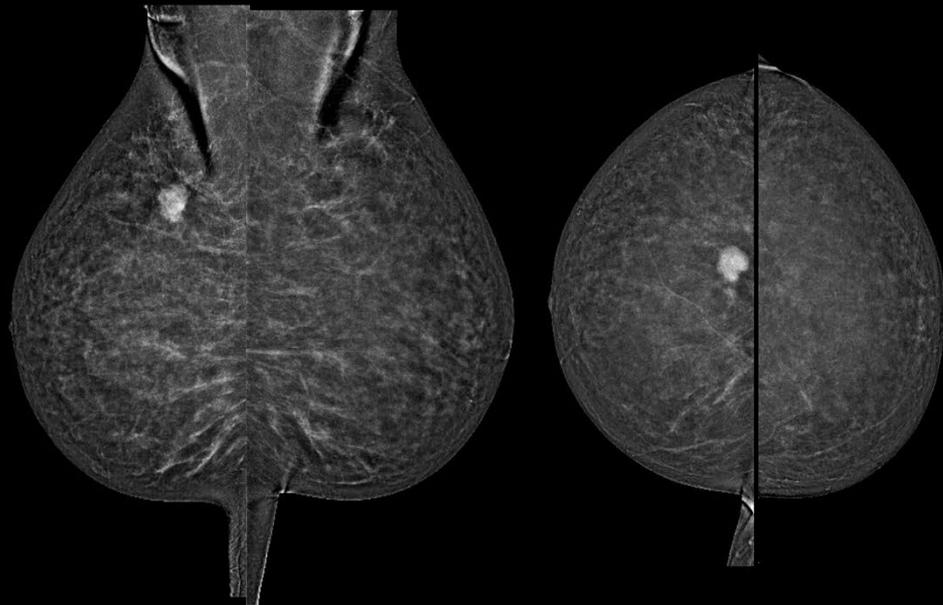
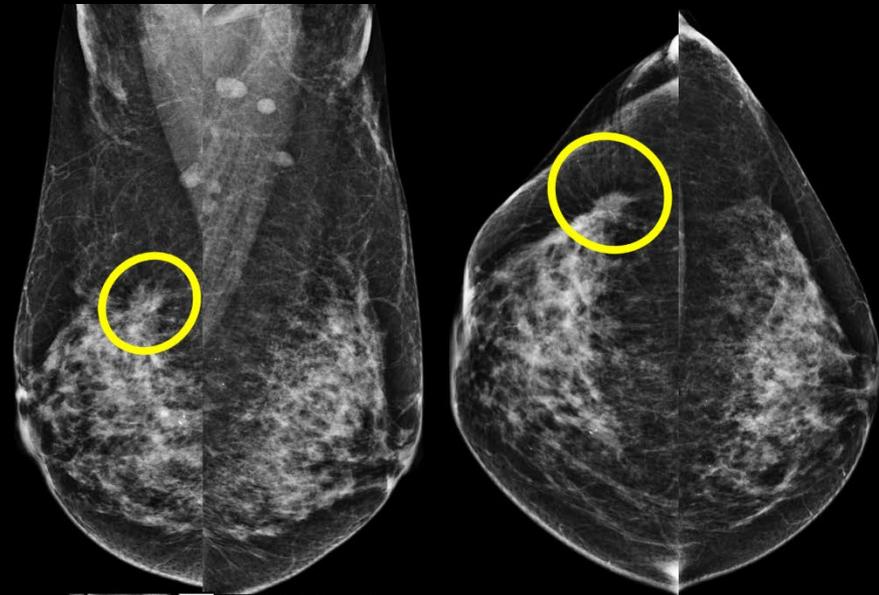
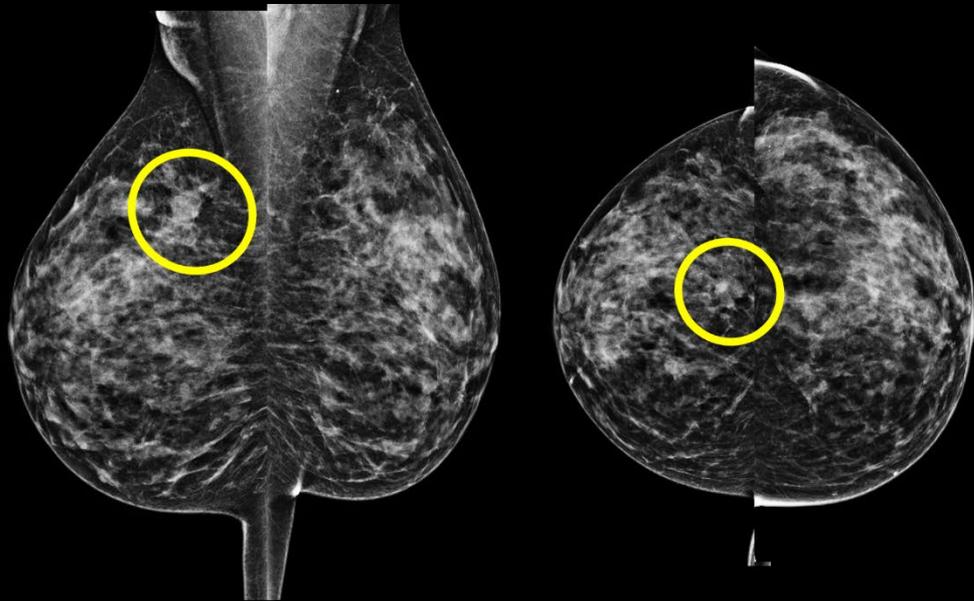


Change in surgical plan after CEM



Re-surgery Rate

3/70(4.28%) had re-surgeries due to positive margins. (As against 14-29% in the literature)



A 41- year- old lady with right breast lump – Unifocal Cancer demonstrated in

A 56-year-old lady with right breast lump – multi focal, multicentric cancer and contralateral high-risk lesion in CEM

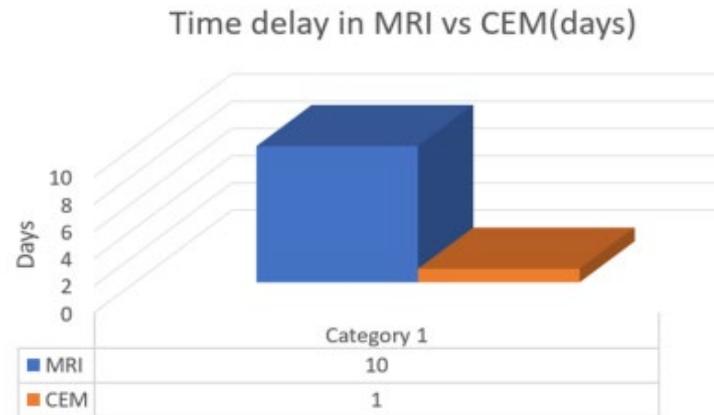
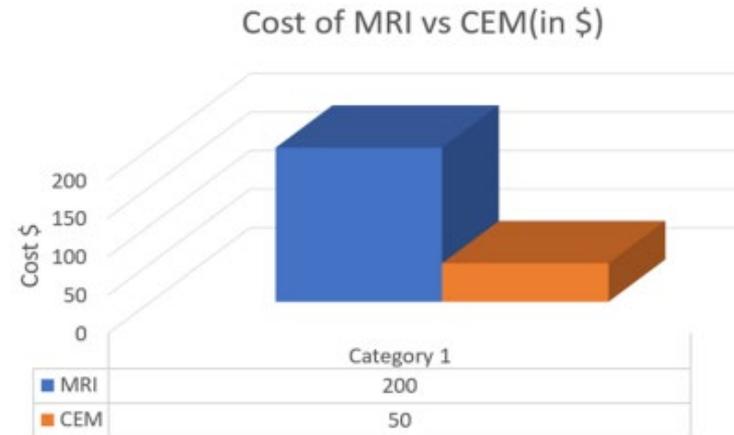
Discussion

CEM has several advantages such as easy implementation and reporting, less expensive, less number of hospital visits and final decision for surgery can be done in <4 hours.

In our study CEM has positively changed the surgical plan in 15.7% patients thereby reducing the re-surgery rates.

Total procedure cost of CEM was 50 USD compared to 200 USD for MRI

Time delay for the contrast imaging MRI Vs CEM is 10 days Vs the same day



Conclusion

CEM has the potential to change workflow in the surgical management of breast cancer and increase the acceptance rate of breast conservation surgery in a developing country with dramatic reduction in re-surgery rates*, especially for the lower-income groups.

* When BCS is done without MRI