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COMPARISON OF DIGITAL MAMMOGRAPHY, ULTRASOUND AND MRI IN THE PREOPERATIVE ASSESSMENT OF LOBULAR BREAST CANCER: A DISTRICT GENERAL HOSPITAL EXPERIENCE.

Authors

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Introduction

- Tumour size assessment with imaging has an impact on the diagnosis and treatment planning of breast malignancy.
- We assessed the correlation between preoperative size of lobular breast cancer on different imaging modalities and postoperative histological size, as the reference standard.

Methods

- Retrospective study
- All patients with histologically proven lobular breast cancer and breast examinations with MRI, Ultrasound (US) and Digital mammography (DM) from 01/01/2014 — 31/03/2015 (63 patients, 73 separate breast lesions) at our Institution.
- **Data collection:**
  Demographics and reports from RIS (Soliton)
- **Data analysis:**
  - Paired T test
  - Coefficient of determination

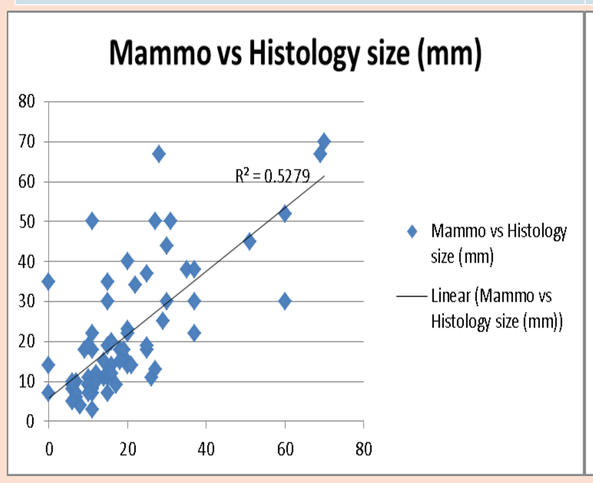
Results

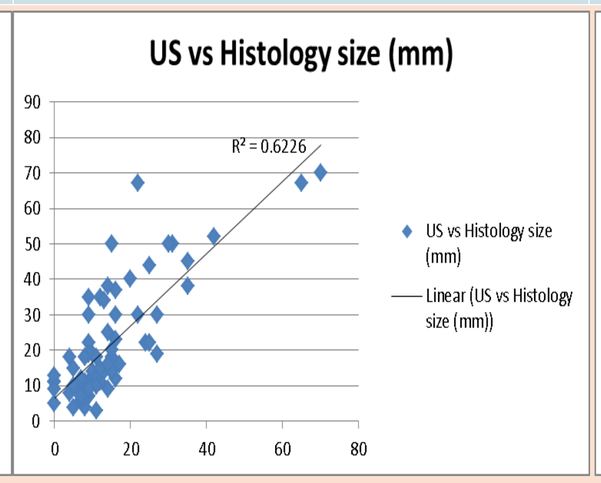
- 63 women
- 3 (5%) had bilateral lesions
- 7 (11%) had 2 foci on the same breast
- 73 separate breast lesions analysed

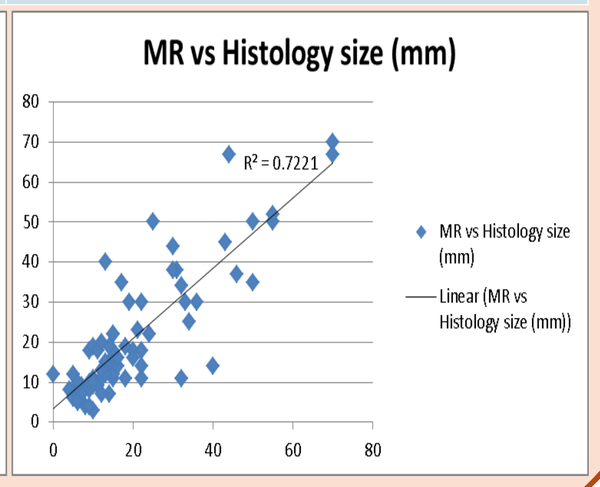
	Histology	DM	US	MRI
Mean tumour size (mm):	21 SD= ± 16	19 SD= ± 15	14 SD= ± 12	20 SD= ± 16

	DM	US	MRI
Mean of imaging *minus* histology sizes (mm):	-1.77 (95%CI: -4.43 to 0.89, p-value= 0.1895)	-6.77 (95%CI: -9.06 to -4.47, p-value= 0.0001)	-0.85 (95%CI: -2.87 to 1.17, p-value= 0.4042)

	DM	US	MRI
Coefficient of determination (R-squared):	0.53	0.62	0.72







Conclusions

- There is no statistically significant size difference between MRI - histology and DM - histology.
- US underestimates histological lesion size.
- Correlation between MRI and histology size is the highest.
- In comparison with DM and US, MRI is a reliable imaging modality in preoperative assessment of lobular breast cancer size.

References

[1] *Berg et al.:* Diagnostic accurracy of mammography, clinical examination, US and MR imaging in preoperative assessment of breast cancer, *Breast Imaging 2004 (Vol 233 Number 3).*

[2] *Luparia et al*.: Accuracy of tumour size assessment in the preoperative staging of breast cancer: comparison of digital mammography, tomosynthesis, ultrasound and MRI. *Breast Radiology* 2013 (118:1119-1136).