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The Value of Contrast Enhanced Spectral Mammography (CESM) in the Assessment of Lobular Breast Cancer

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Background

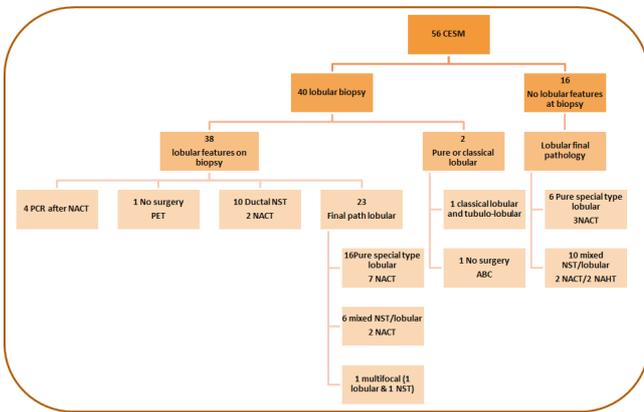
Lobular tumours are known to be more difficult to size accurately by conventional imaging (ultrasound and FFDM) and are more likely to be multifocal or bilateral than other subtypes. NICE CG80 advises consideration of MRI for accurate staging of lobular cancers if planning breast conserving surgery.

CESM compares favourably to MRI in terms of sensitivity, specificity and tumour sizing*. Is this equally applicable to tumours of lobular subtype?

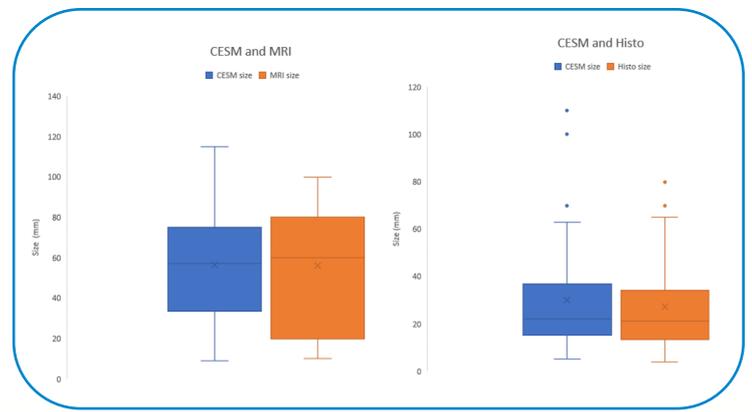
Methods

Patients with carcinoma reported as lobular at core biopsy or on final histology, who underwent CESM between December 2013 and December 2017, were identified (either pure lobular or lobular features). A 2-sample t-test (assuming equal variances) was used to compare reported tumour size at CESM to size at MRI and / or size at final pathology.

Results



Flow Chart to show the clinical pathway of CESM patients with lobular tumours



T-test comparing CESM with MRI sizing (a) and CESM with pathology sizing (b)

a-There was a non-significant difference between size at CESM (mean=56.53mm) and at MRI (mean=56.14mm).
 b-There was a non-significant difference between size at CESM (mean=29.95mm) and at final pathology (mean=27.25mm).

Discussion

In our small, retrospectively reviewed cohort, the lack of consistency between lobular breast cancer at core biopsy and the final pathology is interesting. If we are to advise further imaging, the pre-operative tumour assessment must be accurate. The classification and consistency of reporting lobular subtype at core biopsy is a challenge recognised by pathologists.

Conclusion

The patients included in this series are a highly-selected group, presenting symptomatically. However, we have observed no significant difference in sizing of lesions with CESM vs MRI and /or final pathology. In patients with lobular tumours, CESM can be considered a useful alternative to MRI.

Case 1

40F with a right breast lump. CESM (fig a - low energy and recombined CC views) showed 2 spiculate masses measuring 20 and 10 mm respectively. Both were biopsied at ultrasound showing adenocarcinoma with lobular features. MRI (fig b - MIP) demonstrated 2 lesions, with respective sizes of 16 and 12mm. Patient underwent mastectomy showing multifocal tumour, 18mm plus foci up to 12mm.

Case 2

40F with bilateral breast lumps - clinically benign on the right and suspicious on the left. CESM (fig a -recombined left MLO and CC) demonstrated suspicious diffuse enhancement in the left breast measuring >50mm, and cysts on the right (Images not shown). Ultrasound guided core biopsy showed tumour with lobular features. MRI confirmed extensive tumour on the left estimated at 60mm (fig b - MIP). Patient underwent neoadjuvant chemotherapy. Final histology was pure special type lobular.