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Edited by Dr. Bhavin Jankharia

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Stereotactic Biopsy

-By Dr. Bijal Jankharia

Stereotactic Biopsy

Once full-field digital mammography (FFDM) picks up lesions, especially areas of micro-calcifications that cannot be palpated or seen on USG, they need to be biopsied, if the micro-calcifications look suspicious on mammography.

The best way to the biopsy these lesions is with a method called sterotactic biopsy. A special attachment (Fig. 1) on the mammography machine allows us to

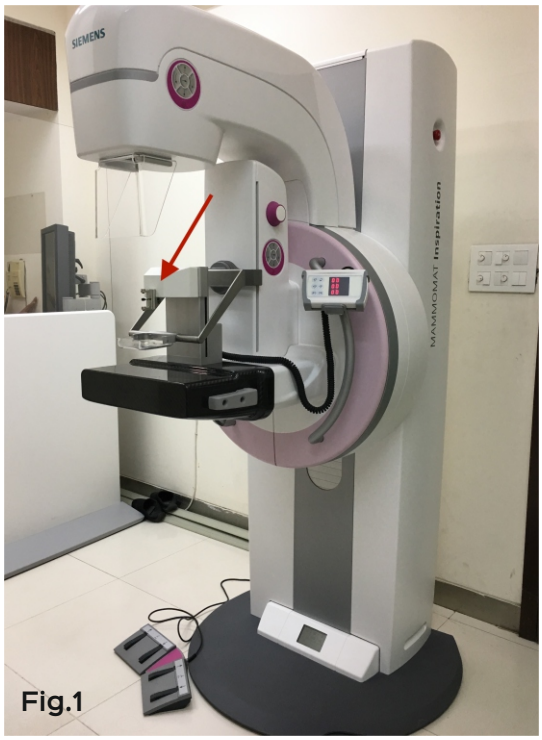

Fig.1

Fig 1: Stereotactic attachment on the digital mammography machine.

Fig 2 (a-d): FFDM (a) shows a focus of abnormal micro-calcification in the breast (red circle). This is first localized using the stereotactic attachment (b). The device (c) is then used to guide the gun (green arrows) in 2 dimensions into the abnormal cluster (red circle). The post-biopsy radiograph of the cores (d) shows the abnormal cluster of micro-calcifications in the cores (red circles). The final diagnosis was ductal carcinoma in situ (DCIS).

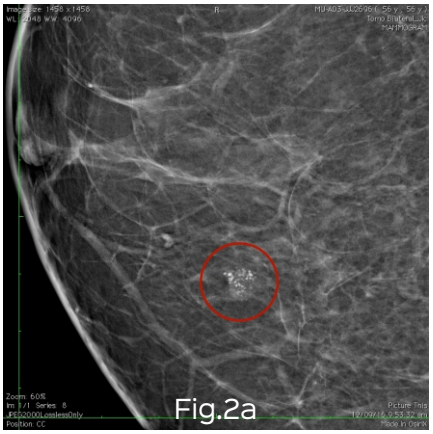
Fig.2a

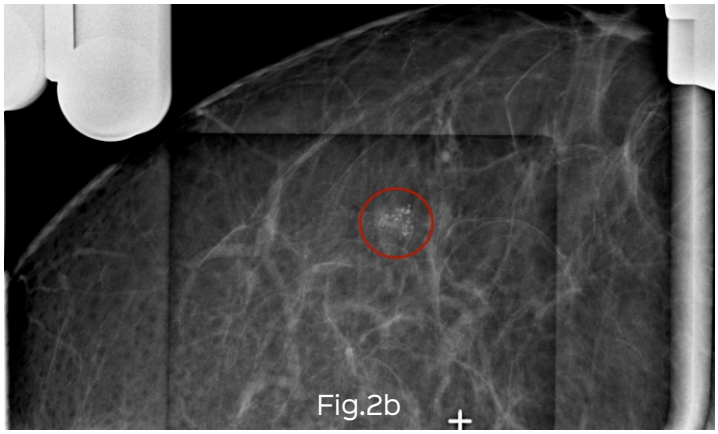
Fig.2b

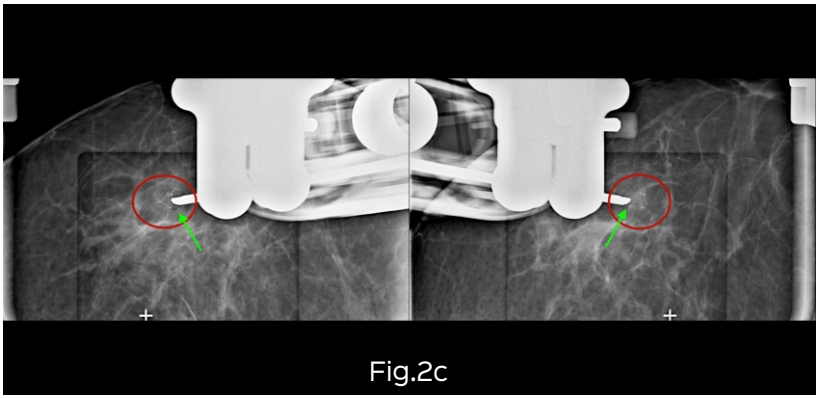
Fig.2c

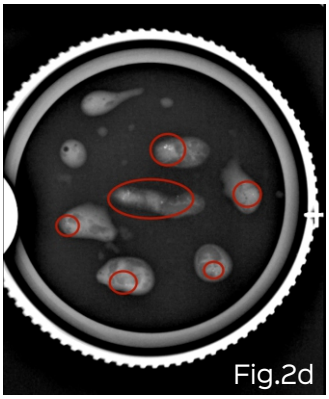
Fig.2d

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At a glance

- FFDM picks up foci of micro-calcification with better sensitivity than regular mammography
- In a non-palpable lesion that is also not seen on USG, the best way to know what the suspicious lesion is, is to perform a stereotactic mammography guided biopsy
- A high-resolution radiograph of the biopsy cores ensures that the correct area has been sampled

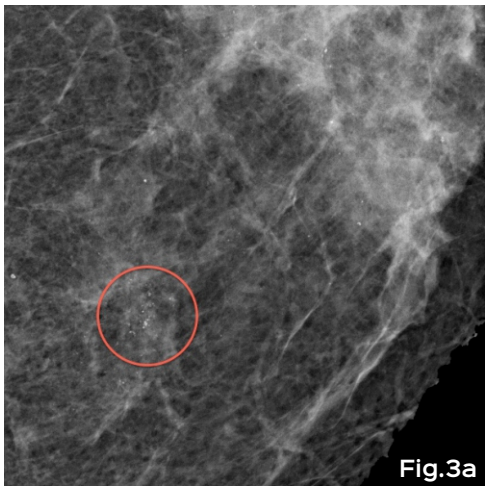
Fig.3a

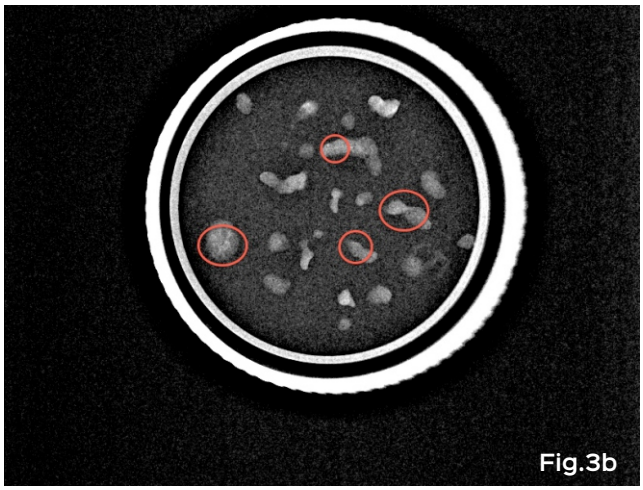
Fig.3b

Fig 3 (a-b): FFDM (a) shows an abnormal focus of micro-calcification in the breast (red arrow). Post stereotactic biopsy specimen radiograph (b) shows the abnormal micro-calcifications in the biopsy cores (red circles). The final diagnosis was benign breast tissue with stromal micro-calcifications

correctly fix the coordinates to guide the biopsy needle accurately into the lesion.

A 14G gun is introduced using this system to obtain multiple cores. Different needle holders are available for different size needles / guns. Standard precautions are taken as with any procedure and bleeding is the main complication. A radio-opaque clip can be placed at this site as a marker.

It is necessary to ensure that the micro-calcifications (Figs. 2, 3) have been truly biopsied and a high-resolution radiograph (Fig. 2a, 3c) of the biopsy cores is also obtained to confirm that the cores are from the area of abnormality.

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Main Clinic
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