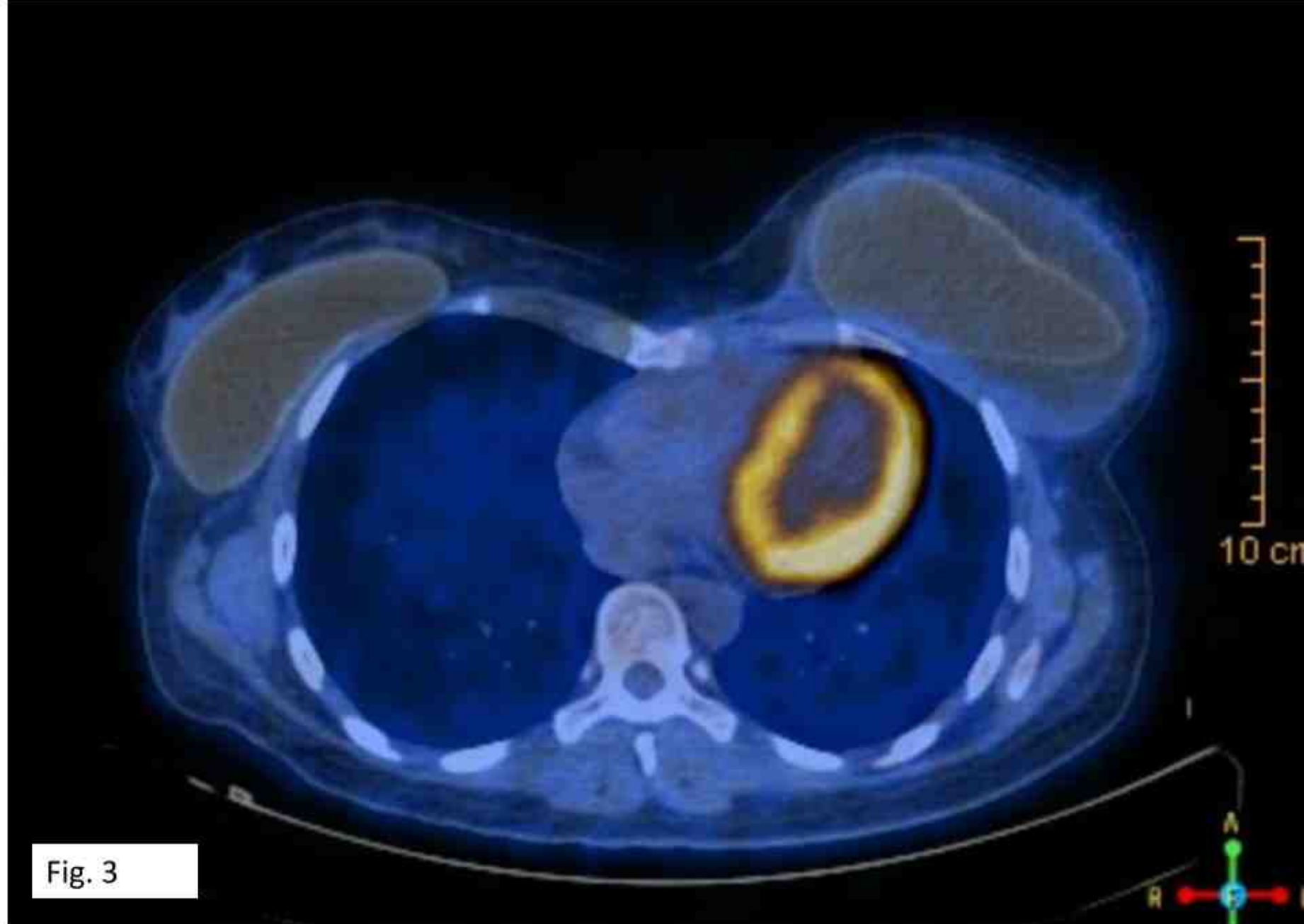
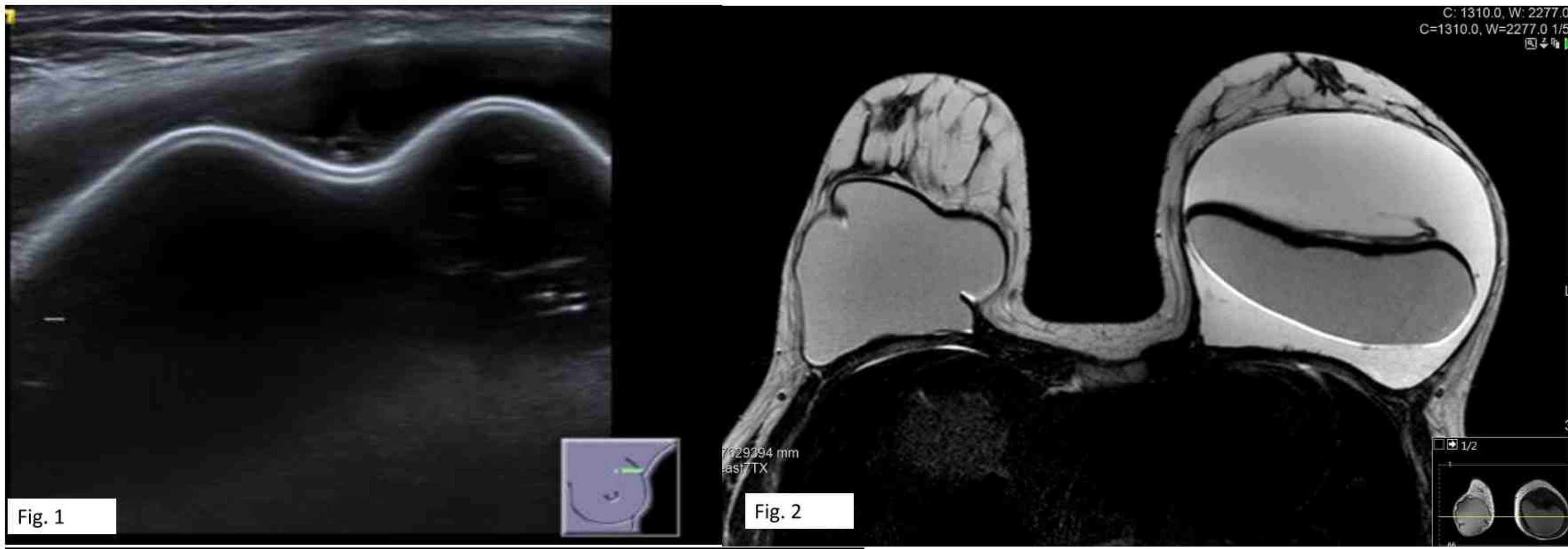


BREAST LYMPHOMA - A PICTORIAL REVIEW OF ITS MULTIMODALITY FEATURES WITH PATHOLOGICAL CORRELATION

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Aim: To present and describe the diverse imaging features of primary and secondary breast lymphoma on mammography, ultrasound, computed tomography, magnetic resonance imaging and PET-CT. This is a challenging entity to diagnose based on its non-specific imaging features, with careful scrutiny of patient history, clinical suspicion and histopathological correlation crucial in diagnosis and management.

Case 1



Case History: Patient with history of bilateral breast augmentation and mastopexy. She presented with a recurrent left seroma/peri-implant collection over a number of years to our institute.

Fig. 1: Breast ultrasound scan: Large peri-implant fluid collection between the shell and fibrous capsule. This contained mobile internal debris. No definite vascular mass or lesion was seen. Straw-coloured serous fluid was aspirated and sent for culture and sensitivity.

Fig. 2: Breast MRI: There is a large collection surrounding the left breast implant measuring up to 9cm in AP diameter, with the implant situated centrally in the collection.

Fig 3: NM Whole Body PET FDG: Left peri-implant fluid collection with tracer uptake peripherally.

Cytopathology results revealed: Monomorphic population of large lymphoid blasts with atypical nuclei. Features suggestive of "high grade lymphoma". Immuno-profile suggestive of anaplastic large cell lymphoma.

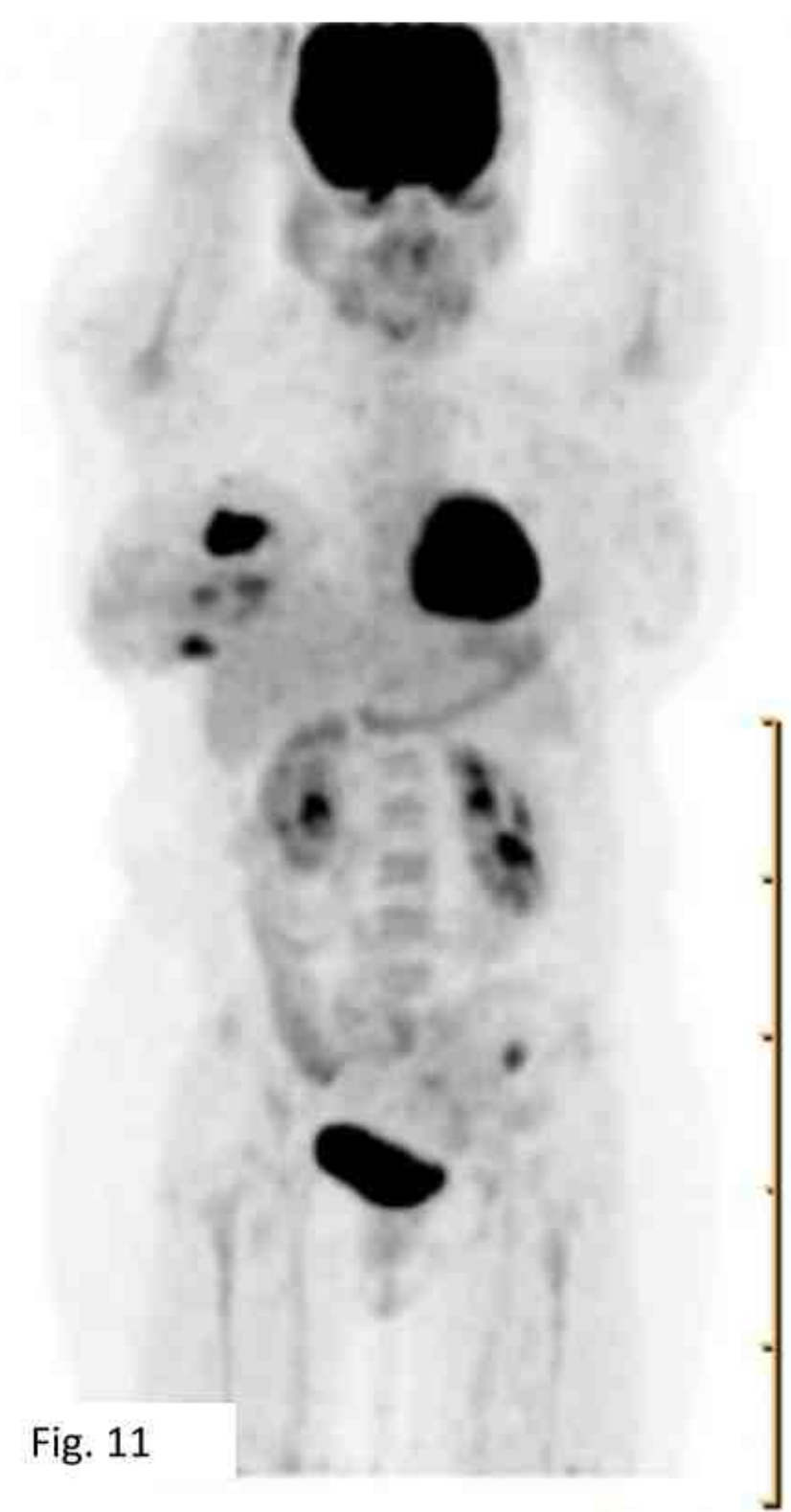
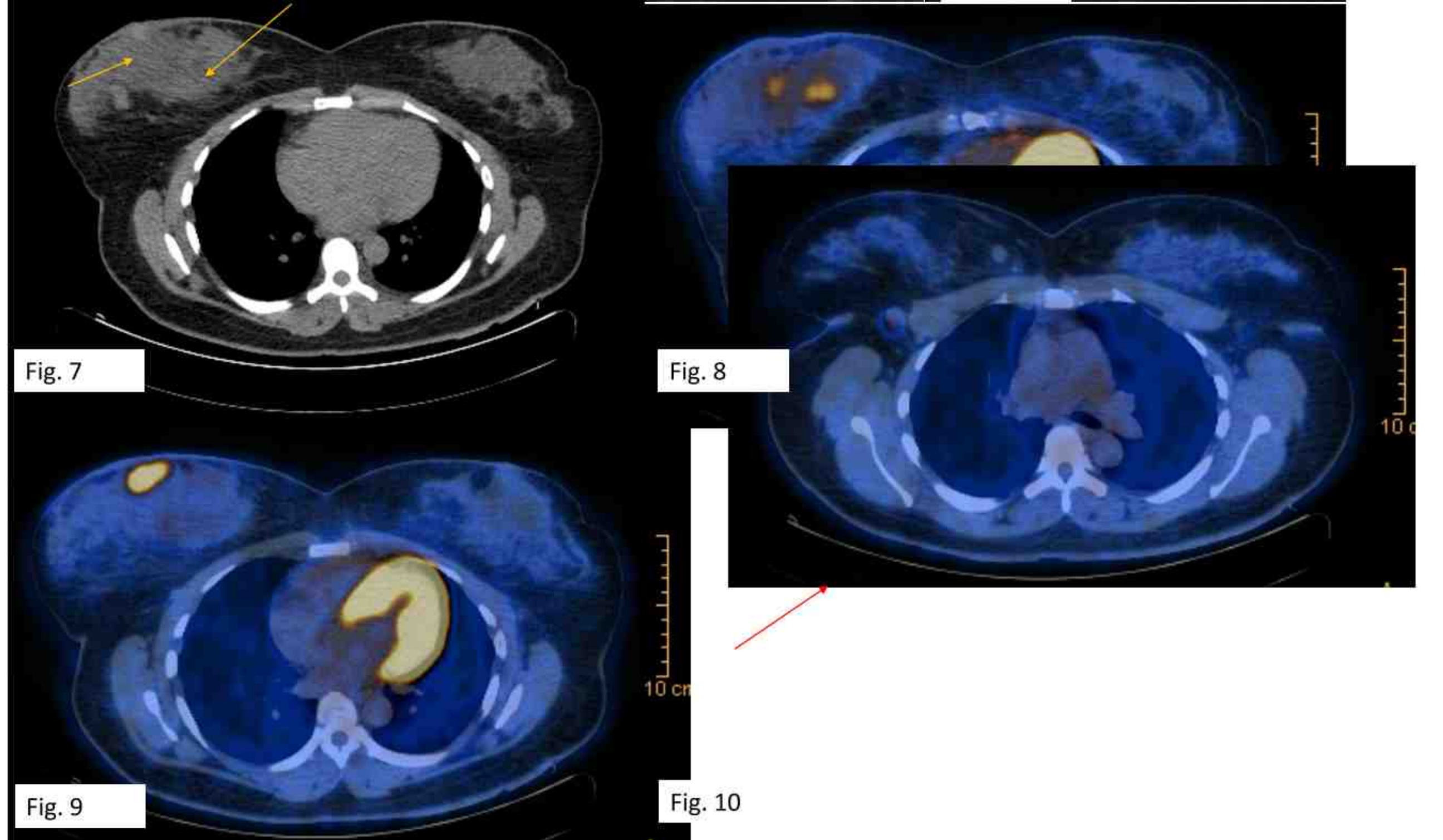
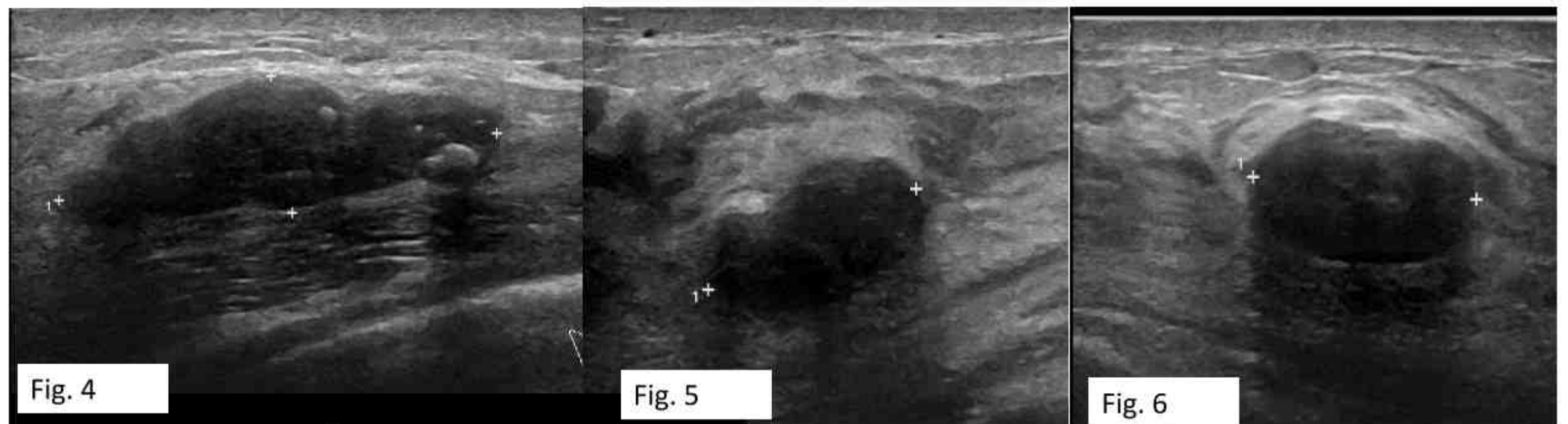


Fig. 11

Case 2



Case History: Patient presented with breast lump in the right breast, which had been enlarging over some time. Referred to breast clinic, where three palpable masses demonstrated in the right breast.

Fig. 4-6- Ultrasound images: Multiple soft tissues masses within the right breast, largest of which measured 4cm. Core biopsy was undertaken, histopathology revealing: follicular lymphoma (Grade 3A-3B), with evidence of diffuse large B-Cell lymphoma (DLBCL).

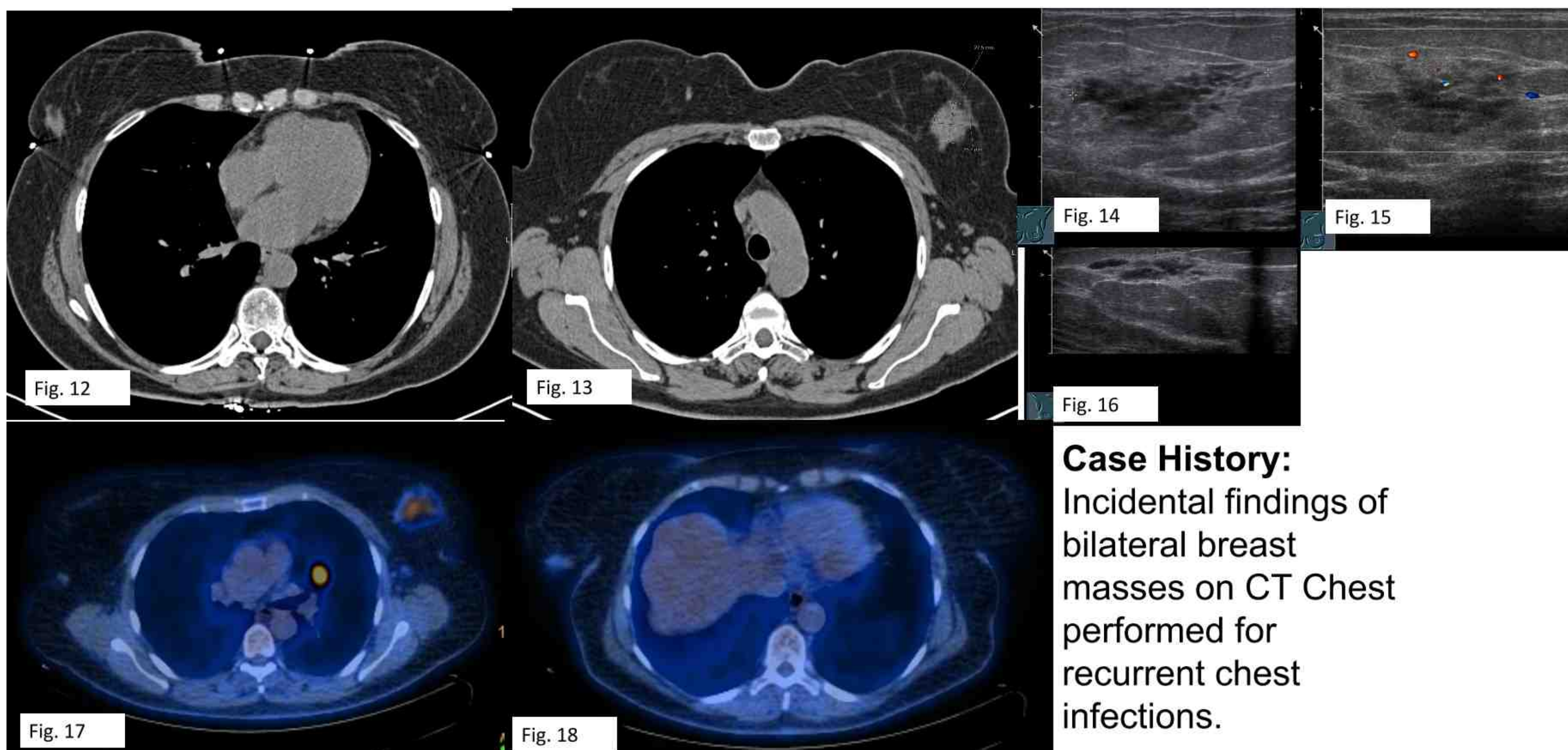
Fig. 7- Unenhanced CT Chest: soft tissue masses within the right breast (yellow arrows) corresponding to the US images.

Fig. 8-10: NM Whole Body PET FDG: intensely avid soft tissue deposits in the right breast. Fig 10: Red arrow - enlarged right axillary lymph nodes.

Fig. 11: NM Whole Body PET FDG (MIP sequence): Multiple soft tissue masses within the right breast demonstrating increased tracer uptake.

The patient was treated with 6 cycles of chemo-immunotherapy and underwent complete remission.

Case 3



Case History: Incidental findings of bilateral breast masses on CT Chest performed for recurrent chest infections.

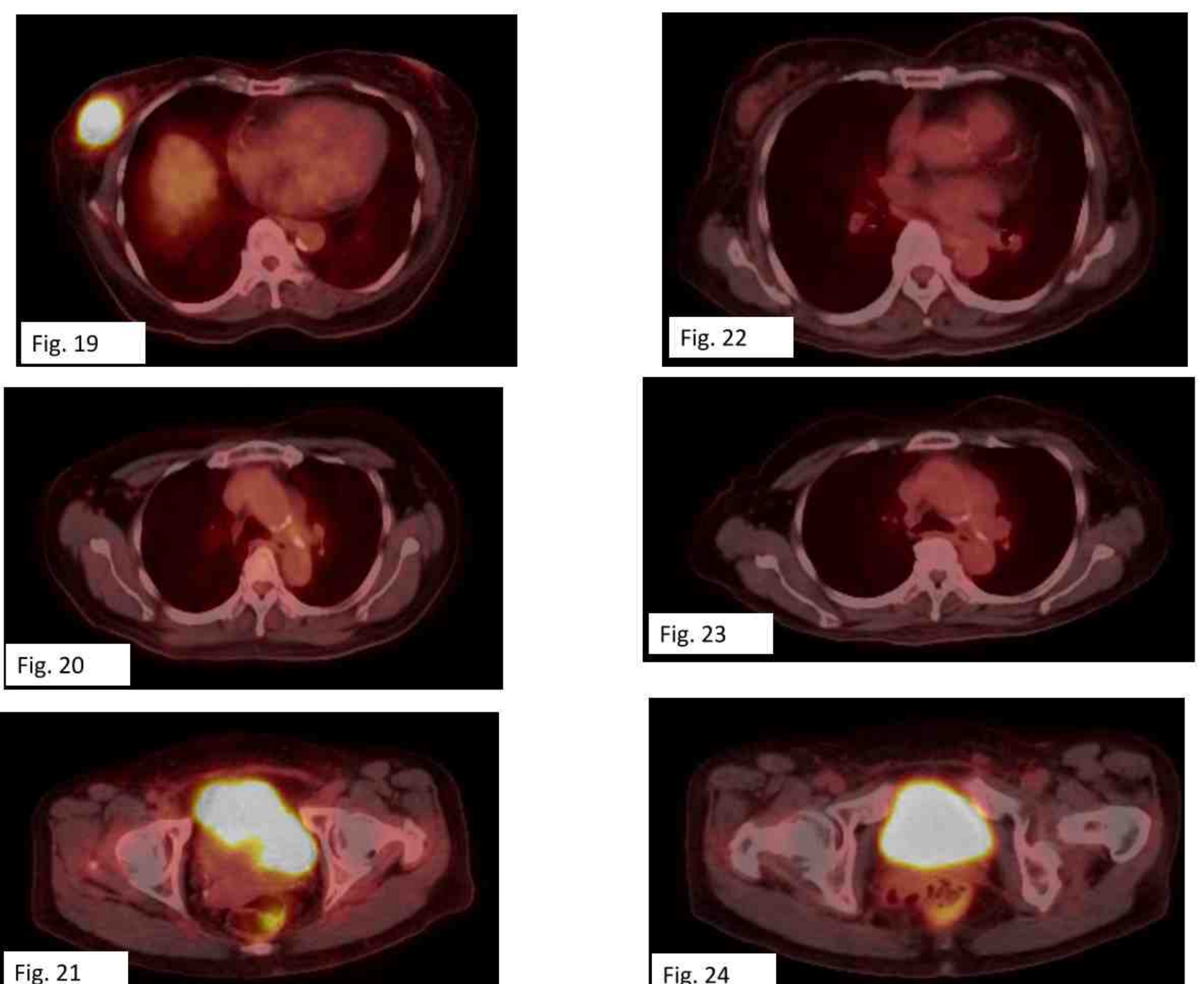
Fig 12, 13: CT Chest unenhanced demonstrates bilateral soft tissue masses within the breasts.

Fig 14-16: Ultrasound images demonstrate textural change associated with vascularity bilaterally. *Core biopsies performed.

Fig. 17-18: NM Whole Body PET FDG: Increased tracer uptake in the soft tissue masses bilaterally.

*Histopathology: Bilateral breast MALT

Case 4



Case History: Patient presented with a right breast mass. Core biopsy revealed DLBCL.

Fig 19-21: NM Whole Body PET FDG: Avid tracer uptake in the right breast mass, para-aortic lymph nodes with further soft tissue mass in the pelvis.

Patient was treated with chemo-immunotherapy.

Fig 22-24: End of treatment scan demonstrates complete metabolic response with reduction in size of the breast mass (no further tracer uptake seen). There was also resolution of the para-aortic lymph nodes as well as the pelvic soft tissue mass.