

Foreign Body Granuloma of the Breast Discovered Accidentally at Age of 40

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Considered as uncommon breast lesions, breast granulomas can produce palpable lesions, mimicking carcinomas. It results when the patient's body is unable to break down a substance, thus multinucleated giant cells and histiocytes surround this so-called substance causing the formation of "granulomas" [1]. It has various aetiologies including tuberculosis, sarcoidosis, immunological defects, and foreign body reactions [2]. It is often iatrogenic, such as remnants of surgical procedures or broken needles. However other foreign materials have been reported such as silicone, paraffin, gunpowder, carbon particles used for localization, and thorns [3]. Through this image article, we present the case of a 40-year-old woman, with history of a fall in the woods 20 years ago, on thorns, who consulted for routine screening mammography and breast ultrasound revealing foreign body granuloma.

Physical examination usually finds a tender mass which may lead to foreign body granulomas misdiagnosed as soft tissue tumours when a foreign body is not seen or recognised. Imag-

ing appearance may be influenced by varying degrees of fibrosis and inflammation and fibrosis, similar to the variable appearance of fat necrosis found on ultrasound. In some cases, it can mimic malignancy, however with good history and correlation to other modalities, a diagnosis can sometimes be made without the need for biopsy [3].

The morphology also varies on the material, size and location of the foreign body. Ultrasound usually finds echogenic foreign bodies with posterior acoustic shadowing, surrounded by the granuloma as a hypoechoic halo that can consist of haematoma, oedema and/or granulation tissue. On MRI, an old granuloma may have a capsule with low signal in both T1 and T2 WI with a linear enhancement after Gadolinium administration [1].

In the end, radiologists should insist on thorough clinical history and remember that foreign bodies may be retained by a tissue granulomatous reaction forming a foreign body granuloma that may be misdiagnosed as a soft tissue tumor.

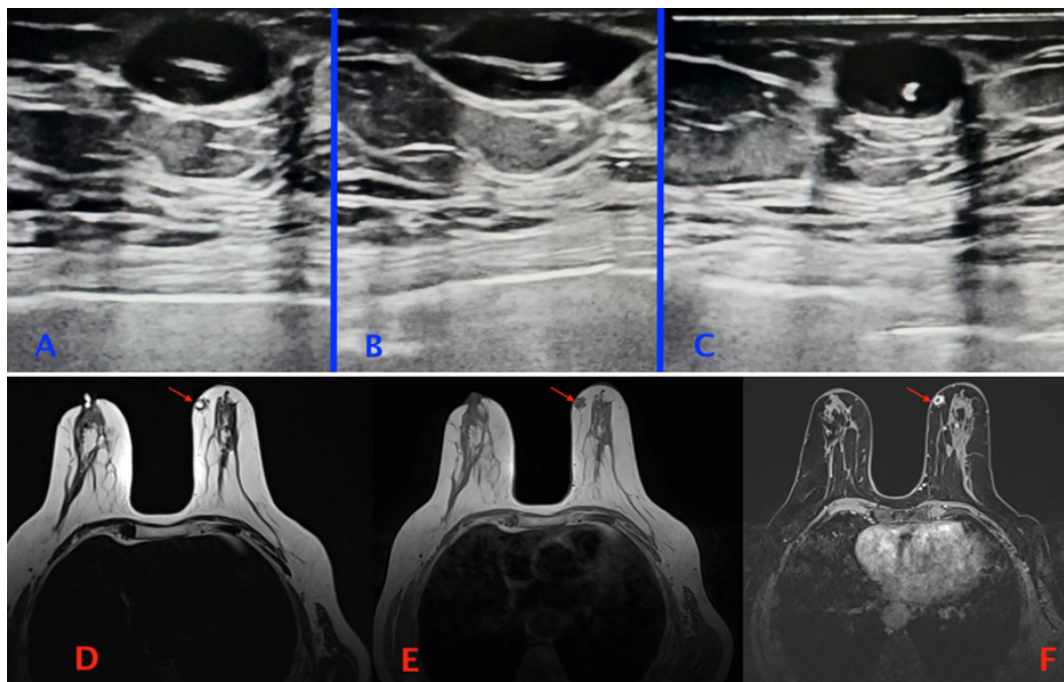


Figure 1: Our patient's ultrasound findings (A, B and C): linear foreign body (thorn) with surrounding granuloma in the lower inner quadrant of the left breast. Her MRI: axial T2 (D), T1 before and after Gadolinium administration (E and F) shows the granuloma (red arrow) surrounded by a low signal capsule which is enhanced after Gadolinium.

References

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