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Intramuscular Nodular Fasciitis of the Pectoralis Major

Giuseppe Falco, MD,* Moira Ragazzi, MD,† Eugenio Cenini, MD,* Monica Foroni, MD,* Monica Silvotti, MD,‡ Salvatore Veltri, MD,* and Guglielmo Ferrari, MD*

*Breast Surgery Unit, IRCCS Arcispedale Santa Maria Nuova Hospital, Reggio Emilia, Italy; †Pathology Unit, IRCCS Arcispedale Santa Maria Nuova Hospital, Reggio Emilia, Italy; ‡Department of Diagnostic Imaging, IRCCS Arcispedale Santa Maria Nuova Hospital, Reggio Emilia, Italy

A 31-year old woman, with no history of trauma, presented with a progressively enlarging mass in correspondence of the right axillary tail that had present for 2 months. Physical examination revealed a 1 cm well-defined firm nodule located in the right upper anterior-lateral margin of pectoralis major muscle. Axillary lymphadenopathy and skin infiltration were not observed. The ultrasonography examination showed a hypoechoic, homogeneous, solid nodule (sizes: 18 × 10 × 10 mm) within the pectoralis major muscle with no posterior acoustic enhancement (Fig. 1). Using Color Doppler some peripheral penetrating vessels were evident. A magnetic resonance imaging was performed for further evaluation. Magnetic resonance imaging showed an oval, intramuscular nodule that involved the major pectoralis muscle and its deep fascia without a surgical plain. This nodule was hypointense relative to muscle tissues on spin-echo T1-weighted imaging, hyperintense on spin-echoT2- weighted imaging (Fig. 2a) and higher hyperintense on (selective partial T1 inversion recovery) after contrast agent somministration (Fig. 2b). The lesion was considered as benign according to instrumental features however a tru-cut biopsy was performed for further confirmation. Histologic aspect was consistent with nodular fasciitis (NF). Instead of conservative management, the lesion was excised because of unaesthetic location and persistent pain. The procedure alleviated symptoms, corrected the unaestethic deficiency and allowed a definitive histopatolgic diagnosis (Fig. 3).

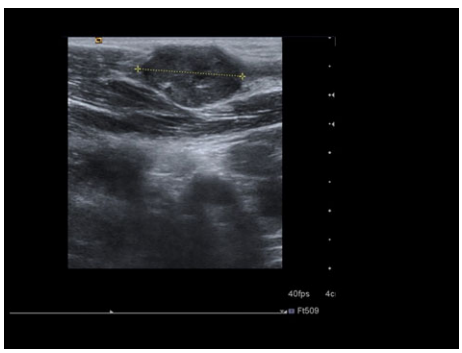

Figure 1. Ultrasound. Longitudinal sonogram shows a intramuscular hypoechoic homogeneous solid nodule with no posterior attenuation that involved major pectoralis muscle.

Nodular fasciitis is a benign, rapid and self-limiting fibroblastic proliferation that is often mistaken for a malignant disease, especially sarcoma, due to its rapid growth. Reports have described the lesion as typically solitary, commonly occurring in younger adults in the third to fourth decades, particularly affecting subcutaneous tissue of upper and lower extremities, trunk, head and neck. Most of lesions have a spontaneous regression in 1 month or less and are 2 cm or less in greatest dimension. The etiology of NF is still unknown. Intramuscular NF is not common and it affects mainly vastus medialis and gluteus medius muscle in the lower extremities, hand volar aspect of the forearm in the upper extremities. Rare cases have been reported as case report also within the breast parenchyma, showing the same features of the soft tissue counterpart. We presented, to the best of our knowledge, the first case of NF in the major pectoralis muscle to offer to the breast surgeons more familiarity with this kind of benign lesion, that usually does not necessitate surgery because of the tendency toward spontaneous regression within 1 month. However, the conservative approach requires not only the presence

Address correspondence and reprint requests to: Giuseppe Falco, MD, Breast Surgery Unit, IRCCS Santa Maria Nuova Hospital, 42123 Reggio Emilia, Italy, or e-mail: giuseppe.falco81@gmail.com

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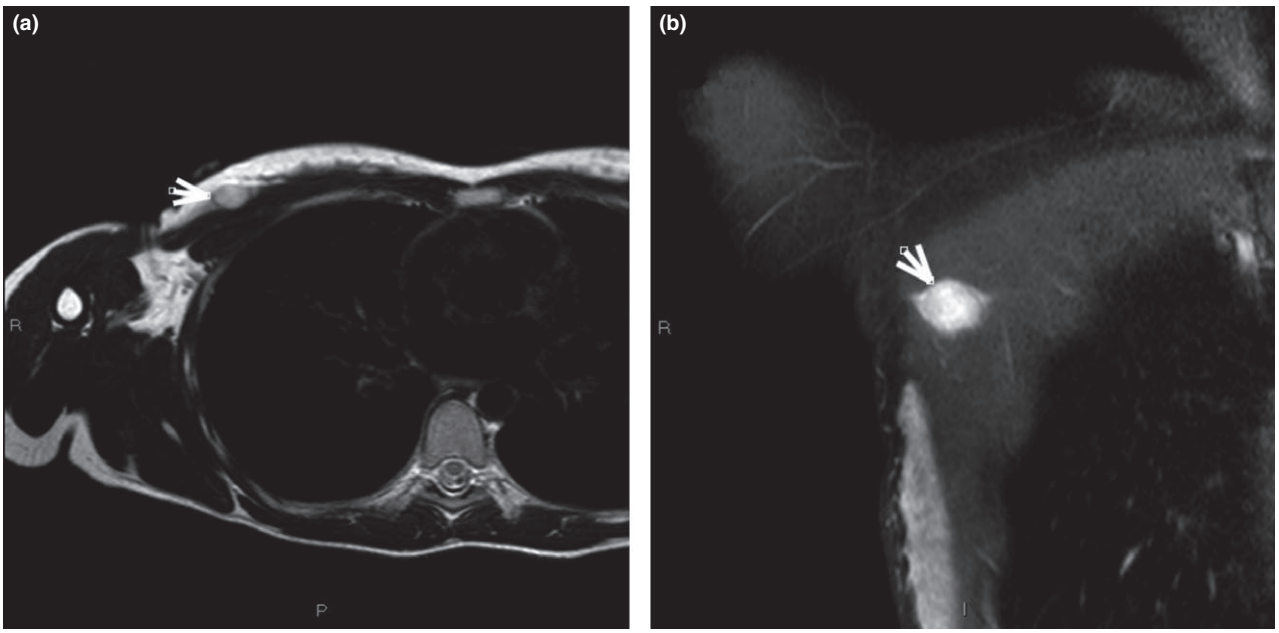

Figure 2. Magnetic resonance. (a) Axial T2-weighted images demonstrate a well-circumscribed mass predominantly hyperintense (white arrow). (b) Dynamic contrast-enhanced MR images in (selective partial T1 inversion recovery) showed rapid early enhancement of the mass (white arrow).

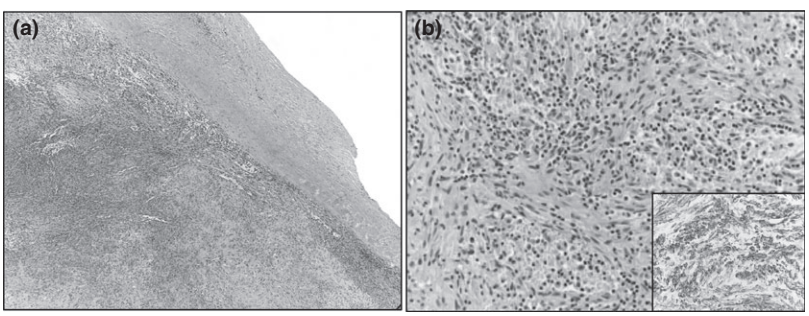

Figure 3. Histopathological examination. (a) At low magnification (4×), an intramuscular well circumbscribed but unencapsulated spindle cell lesion is visible. (b) At high magnification (20×), bland spindle cells with fibroblastic appearence can be appreciated with intermixed small lymphocytes, plasmacells, and extravasated erythrocytes. In the inset, cytoplasmic positivity for smooth muscle actine demonstreates myofibroblastic differentiation of the neoplastic cell (20×).

of typical clinical and instrumental features but also a core biopsy diagnosis. If all criteria: clinical, instrumental, and histopathological are met, a surgical excision may be avoided and a policy of careful observation undertaken. In our case, a surgical procedure has been unavoidable because of unaesthetic location, persistent pain and no spontaneous regression after 2 months.