

Nodular Fasciitis of the Breast: Case Reports of a Male and a Female Patient

Memede Nodüler Fasiit: Bir Erkek ve Bir Kadın Hastanın Olgu Sunumu

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ABSTRACT

Nodular fasciitis (NF) is a benign lesion that originates from the excessive proliferation of fibroblasts. NF is rare in the breast. The majority of affected patients are female. In this presentation, NF imaging findings with elastography features of a male and a female patients are presented. A 41-year-old female patient had a lesion that the upper external quadrant of the left breast in the BI-RADS 3 category. 6 months later, the lesion sizes increased and lesion' edges were angular. The lesion was upgraded to BI-RADS 4B category. A 48-year-old male patient had a lesion in the BI-RADS 5 category. Both of the lesions were hard on strain elastography. US-guided core biopsies were not diagnostic and pathologist recommended total excision. After surgery, the both lesions were diagnosed as NF pathologically. NF is a very rare lesion that mimics breast carcinoma clinically and radiologically.

Key Words: Nodular fasciitis, Breast, Male, Strain elastography

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ÖZET

Nodüler fasiit (NF), fibroblastların aşırı çoğalmasından kaynaklanan iyi huylu bir lezyondur. NF memede nadir görülmektedir ve hastaların çoğu kadındır. Bu sunumda bir erkek ve bir kadın hastanın, elastografi özellikli NF görüntüleme bulguları sunulmuştur. 41 yaşındaki kadın hastanın sol meme üst dış kadranda BI-RADS 3 kategorisinde lezyonu tespit edildi. 6 ay sonra lezyon boyutları arttı ve lezyonun kenarları açışıldı. Lezyon BI-RADS 4B kategorisine yükseltildi. 48 yaşında erkek hastada BI-RADS 5 kategorisinde lezyon tespit edildi. Her iki lezyon da strain elastografide sert doku özellikleri göstermekteydi. Her iki lezyona ultrasonografi eşliğinde yapılan kalın iğne biyopsiler histopatolojik olarak malignite açısından şüpheliydi. Patolog lezyonun tam eksizyonunu önerdi. Ameliyattan sonra her iki lezyona patolojik olarak NF tanısı kondu. NF, meme karsinomunu klinik ve radyolojik olarak taklit eden çok nadir bir lezyondur.

Anahtar sözcükler: Nodüler fasiit, Meme, Erkek, Strain elastografi

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INTRODUCTION

Nodular fasciitis (NF) is a benign lesion that originates from the excessive proliferation of fibroblasts. NF usually occurs at the upper extremity of middle-aged individuals and it rarely affects the breast. It mimics breast carcinoma clinically and radiologically (1). The majority of affected patients are female. Only two male cases have been reported in the literature for breast NF (2,6,8). In this presentation, the imaging findings of NF cases of a male and a female patient are presented. In addition, we described the strain elastography features of the lesion for the first time in both cases.

CASE REPORT**CASE 1**

A 41-year-old woman was applied to a complaint of a mass on the upper external quadrant of the left breast. On the mammography no pathological finding was detected because of dense breast parenchyma. Ultrasonography (US) revealed an oval-shaped, circumscribed hypoechoic solid mass with diameters of 11x7 mm and minimal internal vascularization on color Doppler US. Lesion categorized as BI-RADS 3 category at US. The control US after six month revealed an increase in size (the new dimensions were 20x7 mm) and the lesion had an angular edge feature (Figure 1A) at that time. Strain elastography showed that the lesion had hard tissue characteristics in comparison to the adjacent subcutaneous fatty tissue and the strain ratio was measured as 3.2. The lesion was upgraded to BI-RADS 4B category and US-guided core biopsy was performed. Pathology reported a lesion that could not be definitely diagnosed as the cellular fibroadenoma with low-grade proliferative activity or spindle cell mesenchymal tumor. Surgical excision was recommended. After surgery, the lesion was diagnosed as NF pathologically.

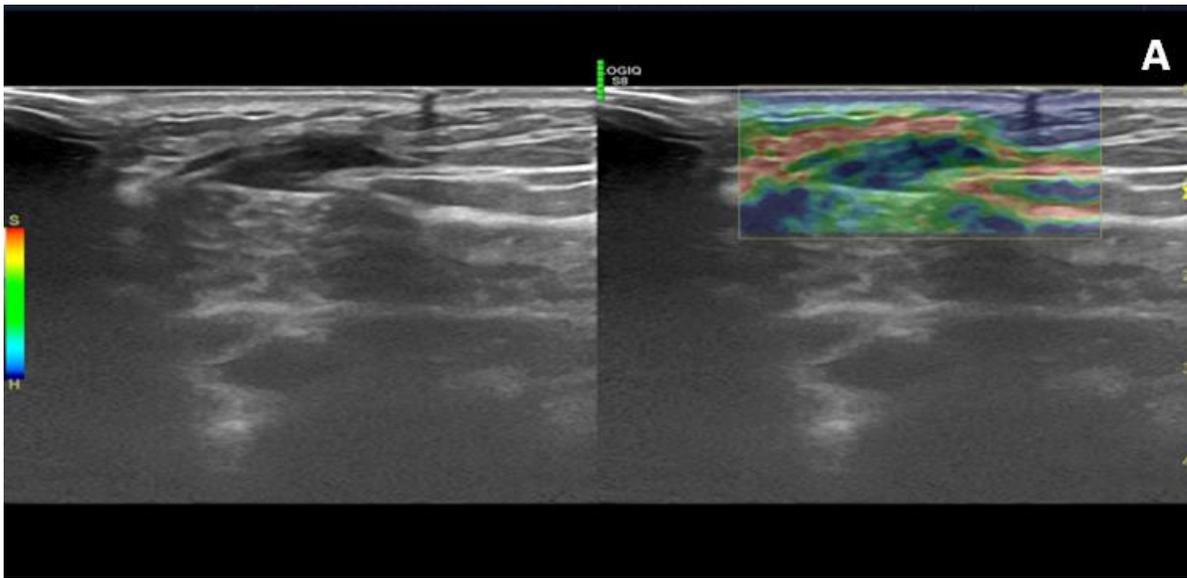


Figure 1A. B-mode imaging demonstrates angular edge hypoechoic mass and compression elastography showed hard tissue characteristics. The strain ratio was measured 3.2.

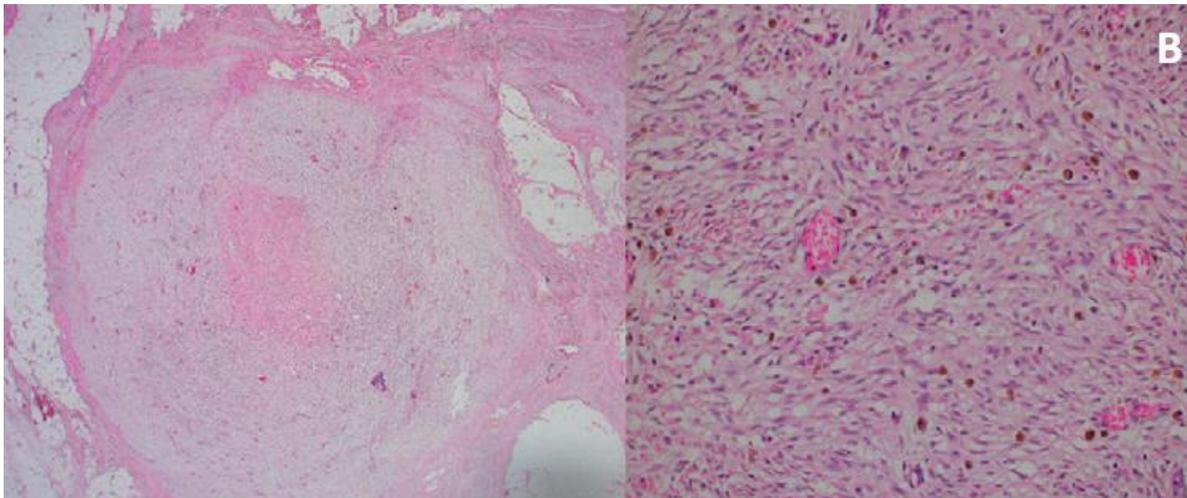


Figure 1B. The tumor had irregular infiltrative margins and was composed of spindle cells with plentiful elastic fiber (hematoxylin and eosin, original magnification x12,5 and x200).

CASE 2

A 48-year-old male patient applied to our clinic with the symptom of a mass on the left breast. Mammography revealed an irregularly shaped, non-circumscribed, noncalcified, hyperdense mass on the retroareolar region of the left breast.

Ultrasonography of the left breast revealed an irregular shaped, heterogeneous hypoechoic solid mass with non-circumscribed margin that is measured as 22x11 mm at the retroareolar area and minimal internal vascularization on color Doppler US. Strain elastography showed that the lesion had hard tissue characteristics in comparison to the adjacent subcutaneous fatty tissue and the strain ratio was measured as 4.5 (Figure 2A).

The lesion was categorized as BI-RADS 5 category and US-guided core biopsy was performed.

Pathology of the lesion was reported as a myofibroblastic lesion with high proliferation and surgical excision was recommended. After surgery, the lesion was diagnosed as NF pathologically.

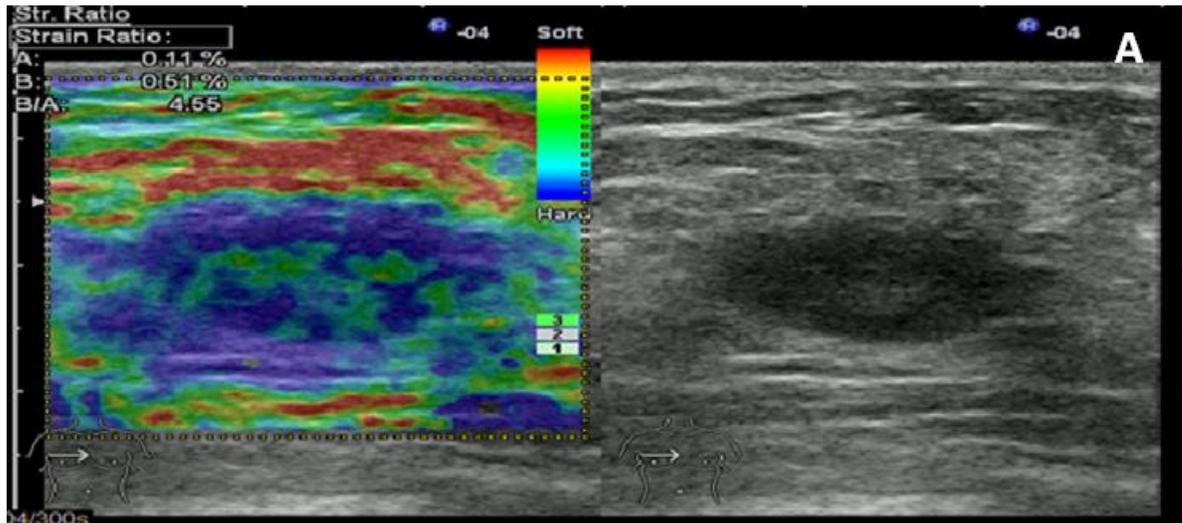


Figure 2A. B mode imaging demonstrates irregular shaped hypoechoic solid mass and compression elastography showed hard tissue characteristics. The strain ratio was measured 4.5.

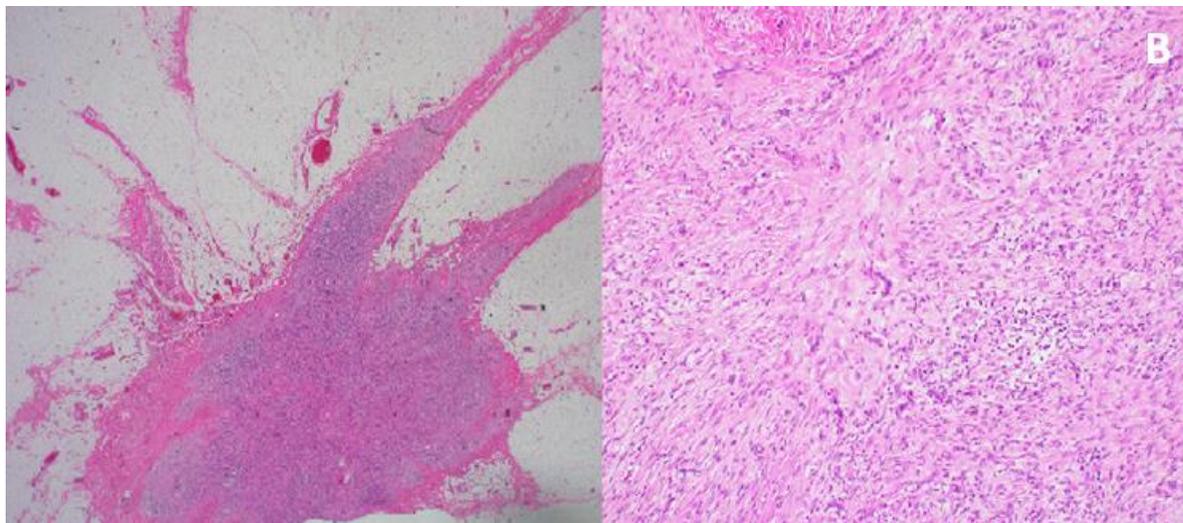


Figure 2B. Typical features of nodular fasciitis (hematoxylin and eosin, original magnification x12,5 and x200).

DISCUSSION

Nodular fasciitis is a benign lesion characterized by the proliferation of myofibroblasts in the breast. The most common location of NF is the subcutaneous tissues of the upper extremities, the head and neck (1). Breast NF is very rare in general population. Furthermore, only two male cases have been reported in the literature (2,6,8). The most characteristic feature of NF is that it is a rapidly growing solitary mass. Although etiopathogenesis is unknown, local injury is thought to trigger fibroblast proliferation (4-7). In our cases, there was no trauma in history.

Although breast NF is a benign lesion, it can mimic breast cancer clinically and radiologically. Breast NF frequently grows rapidly and it is usually painless (1,2). On mammography and US, NF lesions demonstrate irregular shape and non-circumscribed margin features. These findings may easily overlap with breast cancer radiologically. Therefore, it is important to be aware of the breast NF, by radiologists and pathologists (5,8). In our first case, the mass was categorized as BI-RADS 3 category at the initial US because of unsuspecting morphological findings.

After the control US performed six-months later, the lesion was upgraded to BI-RADS 4B category because of the increase in size, and the development of angular margin features. In our second case, the lesion was categorized as BI-RADS 5 category initially. Both of masses also revealed hard tissue characteristics like breast cancer on strain elastography. Our findings showed that the initial and follow-up radiologic findings are very important in the diagnosis and the management of breast NF. Furthermore, in this article we reported elasticity features of breast NF which has not been noted in the literature previously.

It may not be possible to definitely diagnose breast NF clinically and radiologically. Histopathologic examination is necessary for the exact diagnosis (1). According to the histopathological findings, the tumor was a lesion composed of spindle cells with deposition of abundant elastic fibers (Figure 1B, 2B). These cells had oval and palestaining nuclei hardly varying in size and shape and without atypical mitotic features. However, sometimes fine needle aspiration biopsy or core biopsy may be inadequate to diagnose NF. Excisional biopsy is preferred for the final diagnosis (4,5).

Conservative approach or excisional biopsy can be selected for treatment if the patient is histopathologically diagnosed as nodular fasciitis. However, this is usually not possible and excisional biopsy should be preferred for both diagnostic and therapeutic options (2,5).

CONCLUSION

NF is a very rare lesion that mimics breast cancer radiologically and histopathologic examination is necessary for the diagnosis. A good knowledge of the imaging features of these lesions will contribute to the diagnostic improvement of radiologists and the assessment of the compatibility of pathology results.

Conflict of interest

No conflict of interest was declared by the authors.

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