

A RARE FORM OF BREAST FIBROADENOMA: INTRADUCTAL FIBROADENOMATOSIS

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MEME FİBROADENOMUNUN NADİR BİR FORMU: İNTRADUKTAL FİBROADENOMATOZİS

ÖZET

Bu yazıda 31 yaşındaki bayan hastada fibroadenomun nadir bir formunu sunuyoruz. Ultrasonda areolaya doğru birleşen multipl, hipoekoik, solid, tübuler yapılar saptanmıştır. Histopatolojik tanısı fibroadenomun intraduktal formudur. Bildiğimiz kadarıyla literatürde histopatolojik ve radyolojik bulguları içeren kaynak mevcut değildir.

Anahtar sözcükler: fibroadenom, intraduktal, ultrasonografi

ABSTRACT

In this paper, we present an unusual form of fibroadenoma in a 31-year-old female. Ultrasonography revealed multiple, hypoechoic, solid tubular structures that converged toward the areola. The mass removed totally. Histopathological diagnosis was intraductal form of fibroadenoma. To the best of our knowledge, no reference to this histopathologic and radiologic findings has previously been reported in the literature.

Keywords: fibroadenoma, intraductal, ultrasonography

Fibroadenomas are the most common form of benign breast tumors. The incidence of this disease is 18 % prior to menopause. Overall, it is seen in 10% of females. Fibroadenomas represent 80 % of benign breast tumors. They present as oval, circular masses with lobulated borders upon mammographic (MMG) examination. The masses may have calcifications due to degeneration in the elderly population. They can be differentiated from cysts via MMG, and upon ultrasound (US) they are observed as well circumscribed, homogenous masses. They may have some echogenicity behind the posterior wall. The surrounding capsule may be seen as a hyperechoic thin line (1-5). Here we present ultrasonographic and histopathologic findings of a young patient with an intraductal fibroadenoma spreading along the ductal lumens of the breast.

Case presentation

A thirty-one year old patient presented with a painless mass on the nipple of the left breast. Upon physical examination, a 3 cm mobile, painless mass with lobulated borders was discovered. The patient did not have a family history of breast cancer. Laboratory findings and physical examination findings were not significant. US showed three tubular structures, which extended towards the nipple and were confluent around the areola. The biggest mass was 4 cm in length, with others measuring 2 cm and 1.5 cm in length and 6-7 mm in width. These structures were filled with a solid, homogenous hypoechoic material. No necrotic or cystic areas were observed. These lesions were located at the 3 o'clock, 9

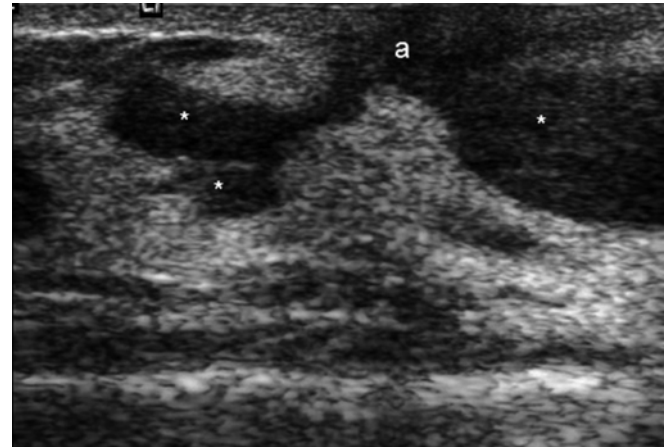


Figure 1. Multiple ducts filled with hypoechoic, solid tissue merging from right and the left, confluent towards the areola is seen.

o'clock and 5 o'clock positions (Figure 1). Other than ductal extensions and in-tubular structures similar to the fibroadenoma, slow, low resistance arterial flows are present (Figure 2, 3). The lesion was excised totally. Histopathologic examination showed stromal and epithelial cells which had rare mitotic activity that were observed inside the fibromatous stroma that fills the ductal lumen (Figure 4). No atypical cells were detected inside the lesion. The patient was followed for a year without recurring symptoms. No recurrence was observed at the operation site. No other mass lesion was detected on other areas of the breast.

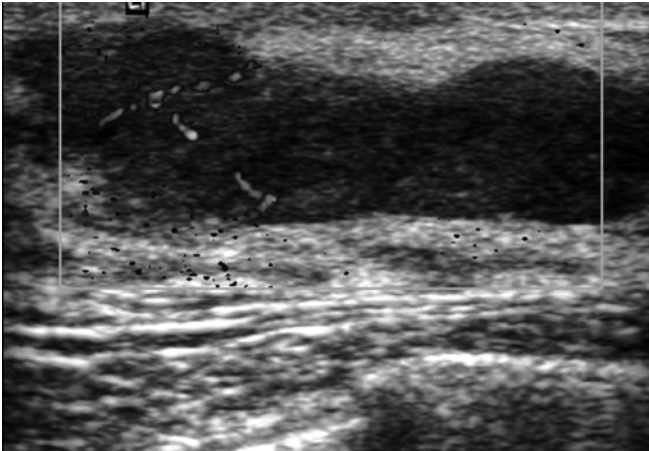


Figure 2. Homogeneously distributed vascular structures that fill up and widen the duct.

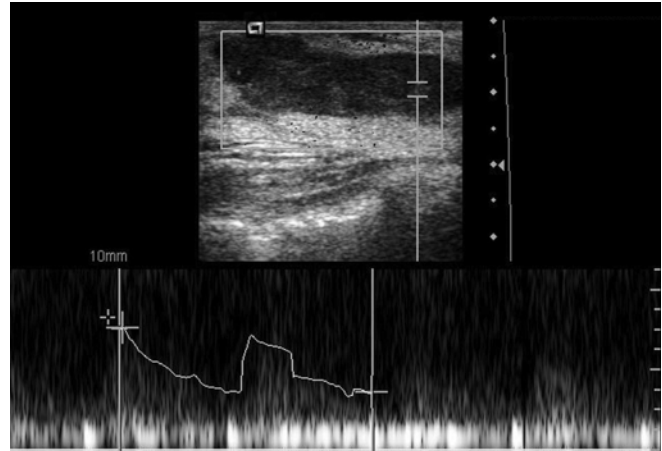


Figure 3. Low resistance flow in the arterial structures in the lesion is shown.

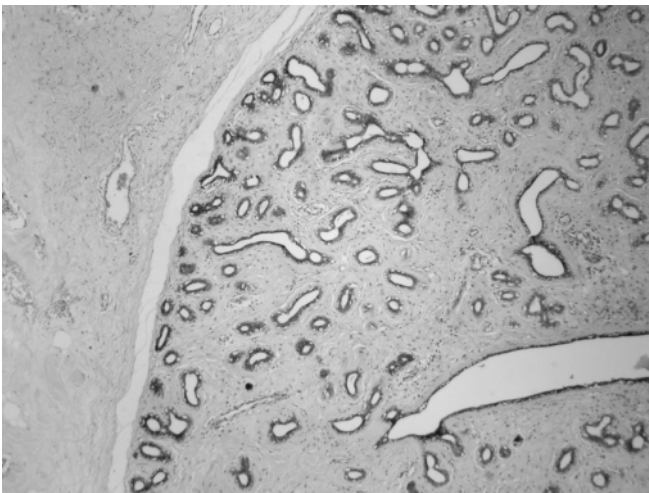


Figure 4. In histopathologic examination, stromal and epithelial cells, which have rare mitotic activity were observed inside the fibromatous stroma that fill and widen the ductal lumen. No atypical cells were detected inside the lesion.

Discussion

Intraductal fibroadenoma is the rarest form of all fibroadenomas. Intraductal papilloma and adenoma should be included in the differential diagnosis due to their ultrasonographic and growth-pattern features. Intraductal papillomas are generally located near the areola. They cause breast discharge and generally have a small size. Papillomas present as solid projections inside the ducts, which have cystic dilations. Despite their small size, one can observe some vascularity upon doppler examination. Vascularity may be more prominent in dysplastic forms with cellular atypia and mitotic cells (6).

Kavalios et al described similar ultrasonographic findings in a patient with a giant intraductal papilloma (4). In the literature search, intraductal papillomas were reported along with hemorrhagic nipple discharge. In the present case there was no such finding. It is impossible to differentiate an intraductal adenoma from a fibroadenoma macroscopically. Intraductal adenomas can also

produce ductal dilations and homogenous intracanalicular solid lesions as well as fibroadenomas. Differentiation is possible only via histopathologic examination (6-8).

Because intraductal fibroadenomas lack a surrounding capsule unlike classical fibroadenomas, growth around the ducts may be faster in intraductal fibroadenomas (3). For this same reason, the chance of recurrence should be taken into account even if the lesion is totally excised. The patient presented has been followed in 3 months intervals for one year after excision with US. No recurrence has been detected so far.

Malignant transformation is a rare occurrence. Rates of malignant transformations are increased 1.3-1.9 % compared to general population (9). Transformation to cystosarcoma phylloides, lobular carcinoma, and invasive ductal carcinoma may be seen, albeit rarely. However, growth of fibroadenoma in size is not an indicator of malignancy. During pregnancy, fibroadenoma can show increased growth rates due to hormonal changes. These lesions tend to regress after menopause, provided that no hormonal replacement therapy is administered (10, 11).

In young patients, the epithelial component of fibroadenomas is predominant. However, after menopause fibrotic components take greater precedent. Fibroadenomas with epithelial hyperplasia, rich vascularity, and potential to grow further is based on US with contrast and can be differentiated from more stable fibroadenomas (9-11). Three types of vascular structures of fibroadenomas were described by Huber et al in their study. These include: capsular, feeding, and septal blood vessels (12). Spectral flow pattern in the vascular structures and resistive index measurements are not discriminating criteria between benign fibroadenoma and malignant transformation. However, vascular structures shown to be distributed homogeneously with easy-to-follow branching patterns suggests benign lesions (10-12). We demonstrated vascular structures with a simple branching pattern. This finding most likely rules out malignancy.

In a study in which Chung et al presented a patient with a fibroadenoma, they observed that the lesion had microscopic projections. They also noted a stromal tissue increase that was pathologically similar to fibroadenoma among ductal structures (5). In

the present case, intact breast tissue was present among breast ducts. Considering all of these features, this was the first case in the literature in which intraductal fibroadenomatosis presented with ultrasonographic features and a histopatologic diagnosis.

References

1. Földi M, Klar M, Orłowska-Volk M, Hanjalic-Beck A, Osterloh B, Stickeler E, Watermann D. Ultrasound characteristics of breast fibroadenomas are related to clinical and histological parameters. *Ultraschall Med* 2010;31:475-483. (PMID:19544233)
2. Taşkın F, Ünsal A, Meteođlu İ, Akdilli A. Memenin benign lezyonlarında sonografik arka akustik gölgelenme bulgusu. *Meme Sađlıđı Dergisi* 2007; 3:19-25.
3. Goehring C, Morabia A. Epidemiology of benign breast disease, with special attention to histologic types. *Epidemiol Rev* 1997;19:310-327. (PMID:9494790)
4. Kavolius J, Matsumoto C, Greatorex P, Petermann G. Case of the Month. Giant multiple intraductal papilloma of the breast: a case report and review of the literature. *Hawaii Med J* 2001;60:60-62. (PMID:11320612)
5. Chung A, Scharre K, Wilson M. Intraductal Fibroadenomatosis: An unusual variant of fibroadenoma. *The Breast Journal* 2008;14:193-195. (PMID:18248554)
6. Okada K, Suzuki Y, Saito Y, Umemura S, Takuda Y. Two cases of ductal adenoma of the breast. *Breast Cancer* 2006;13:354-359. (PMID:17146162)
7. Rose C, Bojahr B, Grunwald S, Frese H, Jager Bernd. Ductoscopy based descriptors of intraductal lesions and their histopathologic correlates. *Onkologie* 2010;33:307-312. (PMID:20523094)
8. Hamed S, Abdo M, Ahmed H. Breast Discharge: Ultrasound and Doppler Evaluation. *Journal of the Egyptian Nat. Cancer Inst* 2008;20:262-270. (PMID:20424657)
9. Tomimaru Y, Komoike Y, Egawa C, et al. A case of phyllodes tumor of the breast with a lesion mimicking fibroadenoma. *Breast Cancer* 2005;12:322-326. (PMID:16286914)
10. Toshiro Y, Akihiko K, Hiroshi H et al. A case of intraductal carcinoma arising within fibroadenoma. *Journal of the Japanese Society of Clinical Cytology* 2002; 33:64-68.
11. Valdes EK, Boolbol SK, JM Cohen, Feldman SM. Malignant transformation of a breast fibroadenoma to cystosarcoma phyllodes. *Am Surg* 2005;71:348-353. (PMID:15943412)
12. Huber S, Vesely M, Zuna I, Delorme S, Czembirek H. Fibroadenomas: computer-assisted quantitative evaluation of contrast-enhanced power Doppler features and correlation with histopathology. *Ultrasound Med Biol* 2001;27:3-11. (PMID:11295265)

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