

Idiopathic granulomatous mastitis: a case report

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SUMMARY

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Idiopathic granulomatous mastitis (IGM) is chronic breast lesion that can mimic breast carcinoma and breast abscess. In this article, we presented a case of IGM and reviewed the etiology, clinical presentation, diagnosis, and treatment of this breast disorder. A 32-years old patient suffered from a painful tumor in the upper lateral quadrant of the left breast. A histopathologist diagnosed idiopathic granulomatous mastitis after breast-conserving surgery. All blood (biochemical and immunological) tests and test on tuberculosis were negative. The diagnosis of IGM can be challenging for surgeons, radiologists, and pathologists because it can be mistaken for breast carcinoma and breast abscess.

Key words: Granulomatous Mastitis; Breast Neoplasms

INTRODUCTION

Idiopathic granulomatous mastitis (IGM) or lobular mastitis is a chronic breast lesion that can clinically and radiologically mimic breast carcinoma and breast abscess (1-10). The definitive diagnosis of IGM can be proved only by histopathology (HP) analysis (1-10).

The majority of patients are women with the history of pregnancy and lactation. IGM can be located in any quadrant of the breast except subareolar region (3). Axillary lymph nodes are not involved. IGM can cause nipple retraction or *peau d'orange*, which also occurs in breast cancer.

Etiology of IGM is unknown, although multiple causes have been suggested (tuberculosis, sarcoidosis, foreign body reaction, mycotic or parasitic infection) (1-8). IGM has high recurrence rate (16% to 50%) (2). In this article, we presented a case of IGM and reviewed the etiology, clinical presentation, diagnosis, and treatment of this breast disorder.

CASE REPORT

A 32-years old patient suffered from a painful and slow-growing tumor in the upper lateral quadrant of the left breast. The patient has one child, which was nursed. She stopped with nursing 3 months before clinical examination. On the first physical examination, painful, firm, mobile tumor mass was found. The tumor was 3 cm in diameter. The overlaying skin showed no signs of inflammation and no axillary nodes could be palpated (Figure 1). The blood tests were in reference ranges. Ultrasonographic (US) images showed an inhomogeneous hypoechoic lesion in the left breast (Figure 2).



Figure 1. The overlaying skin showed no signs of inflammation and no axillary nodes could be palpated



Figure 2. Ultrasonographic (US) images showed an inhomogeneous hypoechoic lesion in the left breast

The border of the tumor on US was irregular. The lesion measured 2.2 cm in diameter. Mammography images showed architectural distortion of breast tissue in the upper lateral quadrant of the left breast, BI RADS 4 (Figure 3). After US and mammography examination, a core biopsy was performed and the results of histopathological analysis of the sample indicated IGM. On the next physical examination, purulent infection was identified at the spot of core biopsy.

The upper lateral quadrant of the left breast with fistulous canal was removed at open surgery. After the operation, there was a delay in wound healing. Wound was bandaged every day and irrigated with gentamicin solution. The final diagnosis after HP analysis was idiopathic granulomatous mastitis (inflammation centered on mammary lobules, as well as focal micro-abscesses, with infiltration of polymorphonuclear leucocytes, epithelioid histiocytes, and giant cells) (Figure 4). All blood (biochemical and immunological) tests and tests on tuberculosis, mycosis, and parasites were negative.

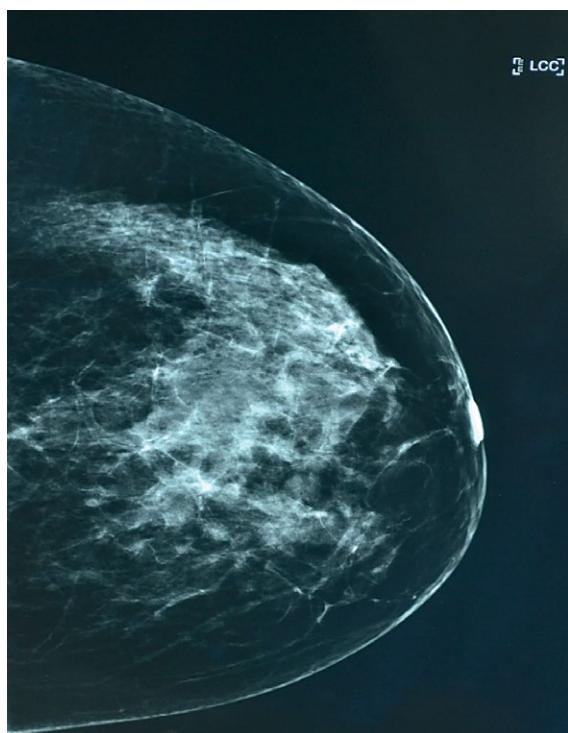


Figure 3. Mammography images showed architectural distortion of breast tissue in the upper lateral quadrant of the left breast, BI RADS

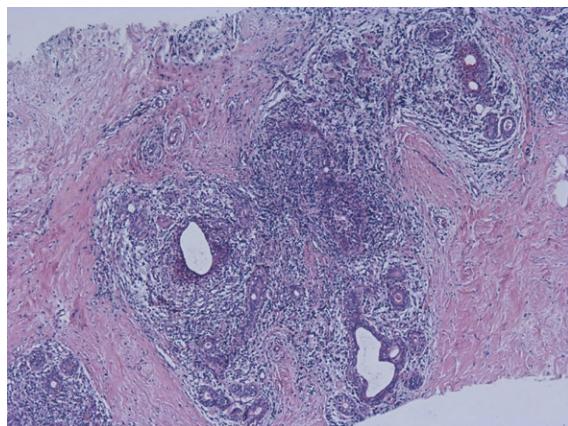


Figure 4. Breast lesion biopsy: dense inflamed infiltrate of lymphocytes and macrophages with granuloma formation and reduction of mammary glandular parenchyma

Postoperatively, the patient was referred to regular nine-month clinical and yearly radiology controls without corticosteroid therapy. No evidence of recurrence was recorded two and a half years after the operation with postoperative changes in the left breast without suspect focal changes, characterized as BI RADS 2 found on mammography, and regular clinical findings obtained on breast examination in surgical clinic.

DISCUSSION

IGM usually affects women of childbearing age (1, 9). The time between the last delivery and symptoms ranges from 2 months to 15 years (8). Diagnosis of IGM is determined after excluding other breast diseases and adequate microbiological and HP evaluation of breast tissue (1-10).

Many mechanisms have been proposed as etiological factors. Some of them are oral contraceptives, breast infection, and localized immune response to extravasated secretion from lobules. Pregnancy, breastfeeding, breast trauma, hyperprolactinemia, and alpha1- antitrypsin deficiency are associated with an increased risk of IGM (1-2, 5-8). *Corynebacterium kroppenstedtii* infection has been suggested like etiological factor but data remains unconfirmed (1).

In many cases, radiological and cytological findings (fine needle aspiration biopsy) are unable to resolve the differential diagnosis of inflammatory process and malignancy. Mammography and ultrasound do not have a significant role in the differential diagnosis of IGM vs. breast carcinoma; therefore, HP diagnosis is needed (1-10).

Characteristic HP finding are epithelioid histiocytes, multinuclear giant cells and neutrophil background with lymphocytes, plasma cells and eosinophils without necrosis and negative microbiological investigation (1-10). Fat necrosis and microabscesses are often seen.

The best therapy for IGM is wide local excision of the breast mass. Often comes to postoperative wound infections, fistulas, chronic suppuration, and recurrences (1, 4, 8).

Some authors advise a short-course of high dose corticosteroids (60 mg/day during three weeks) before surgical excision (8). Same dose is repeated in cases of recurrence. It is necessary to follow up the patients in the long period, because about 50% of them experience recurrences (7). The diagnosis of IGM can be challenging for surgeons, radiologists and pathologists because it can be mistaken for breast carcinoma and breast abscess. Treatment for IGM includes observation, surgical treatment of breast mass, and/or steroid therapy.

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Conflict of interest

We declare no conflicts of interest.

REFERENCES

- 1 Patel RA, Strickland P, Sankara IR, Pinkston G, Many W Jr, Rodriguez M. Idiopathic granulomatous mastitis: case reports and review of literature. *J Gen Intern Med.* 2010;25(3):270-3.
- 2 Ocal K, Dag A, Turkmenoglu O, Kara T, Seyit H, Konca K. Granulomatous mastitis: clinical, pathological features, and management. *Breast J.* 2010;16(2):176-82.
- 3 Bani-Hani KE, Yagha RJ, Matalka II, Shatnawi NJ. Idiopathic granulomatous mastitis: time to avoid unnecessary mastectomies. *Breast J.* 2004;10(4):318-22.
- 4 Heer R, Shrimankar J, Griffith CD. Granulomatous mastitis can mimic breast cancer on clinical, radiological or cytological examination: a cautionary tale. *Breast.* 2003;12(4):283-6.
- 5 Fletcher A, Magrath IM, Riddell RH, Talbot IC. Granulomatous mastitis: a report of seven cases. *J Clin Pathol.* 1982;35(9):941-5.
- 6 Diesing D, Axt-Fliedner R, Hornung D, Weiss JM, Diedrich K, Friedrich M. Granulomatous mastitis. *Arch Gynecol Obstet.* 2004;269(4):233-6.
- 7 Azlina AF, Ariza Z, Arni T, Hisham AN. Chronic granulomatous mastitis: diagnostic and therapeutic considerations. *World J Surg.* 2003;27(5):515-8.

- 8 Verfaillie G, Breucq C, Sacre R, Bourgain C, Lamote J. Granulomatous lobular mastitis: a rare chronic inflammatory disease of the breast which can mimic breast carcinoma. *Acta Chir Belg.* 2006;106(2):222-4.
- 9 Tuncbilek N, Karakas HM, Okten OO. Imaging of granulomatous mastitis: assessment of three cases. *Breast.* 2004;13(6):510-4.
- 10 Van Ongeval C, Schraepen T, Van Steen A, Baert AL, Moerman P. Idiopathic granulomatous mastitis. *Eur Radiol.* 1997;7(7):1010-2.