International Journal of Innovative Research in Medical Science (IJIRMS)
Volume 07, Issue 01, January 2022,
https://doi.org/10.23958/ijirms/vol07-i01/1338

Case report

Breast Mass with Bloody Discharge: A Case of Idiopathic Granulomatous Mastitis

Lamees AlSulaim

[1]Faculty Department of Surgery, Unaizah College of Medicine and Medical Sciences, Qassim University, Kingdom of Saudi Arabia; ORCID: 0000-0002-5785-8468

*Corresponding author: Lamees AlSulaim; *dr.lameesz@gmail.com*

Received 20 December 2021; Accepted 12 January 2022; Published 15 January 2022

Abstract

One of the rare identity of breast diseases is Idiopathic Granulomatous Mastitis (IGM), a chronic inflammatory breast condition that can mimic advanced breast cancer. The case came with nipple discharge and mass with skin changes, which was definitively diagnosed following core-cut biopsy of the mastitis group idiopathic granulomatous.

Keywords: ***idiopathic granulomatous mastitis, abscess, breast, cancer, steroid***

Introduction

Kessler and Wolloch initially described Idiopathic granulomatous mastitis (IGM) in 1972 as a benign inflammatory disorder of the breast with unknown cause. The disease has been found in people of all ethnicities worldwide, but Hispanic and Asian women seem to be more at risk than the general population. Both clinically and radiologically, this condition might be mistaken for invasive carcinoma. The recognized causes in the literature include immune reaction, infection, chemical processes related to oral contraceptive pills (OCPS), or even lactation. Patients are, on average, 34.1 years old. They also discovered that 42% of patients had used oral contraceptives in the past, and 79% of patients had a history of breastfeeding [3]. Other possible diagnoses include Wegener's Granulomatosis, burst cyst and fat necrosis, Tuberculosis, sarcoidosis, and fungal infection in granulomatous lobular mastitis [4]. This article describes a single patient's experience and discusses the disease's genesis, risk factors, and treatment options.

Case Analysis

A 46 years old asian woman came to the clinic with intermittent, bloody, and serous discharge from her right breast accompanied by a mass. She was married with children, all of whom were breastfed, and had no prior breast surgery or cancer history. Her oral contraceptive pill usage has been on and off. In addition, she denied that she had ever had any previous history of fever, myalgia, or lymphadenopathy. On examination right breast with mass between 2 and 5 o'clock with a malformed nipple and skin dimpling no lymph node was felt and left breast normal. Initially, the investigation with ultrasound carried out for her. Right breast show irregular cystic area measuring 5.9 cm by 6.9 cm by 2.4 cm, with branching patterns and stale content, mostly retro areolar but extending to all quadrants. The surrounding tissue had a mildly increased vascularity and soft-tissue edema, representing an inflammatory process. The left breast did not have any apparent solid or cystic lesions. There was also no evidence of calcification. There was no sign of ductal ectasia (**Figure 1**). In mammogram right breast show multifocal hyper-density with increased skin thickness and a slightly retracted nipple (**Figure 2**). Histopathology was used to guide the core cut biopsy on the patient. Epithelial and myoepithelial cells cover the gland's outer layer, edematous; there is no sign of malignancy in the granuloma formed by the Langhans large cells. A tuberculosis work up was negative. When the patient began taking a low dose of oral corticosteroids, she noticed a significant improvement and reduced mass size.

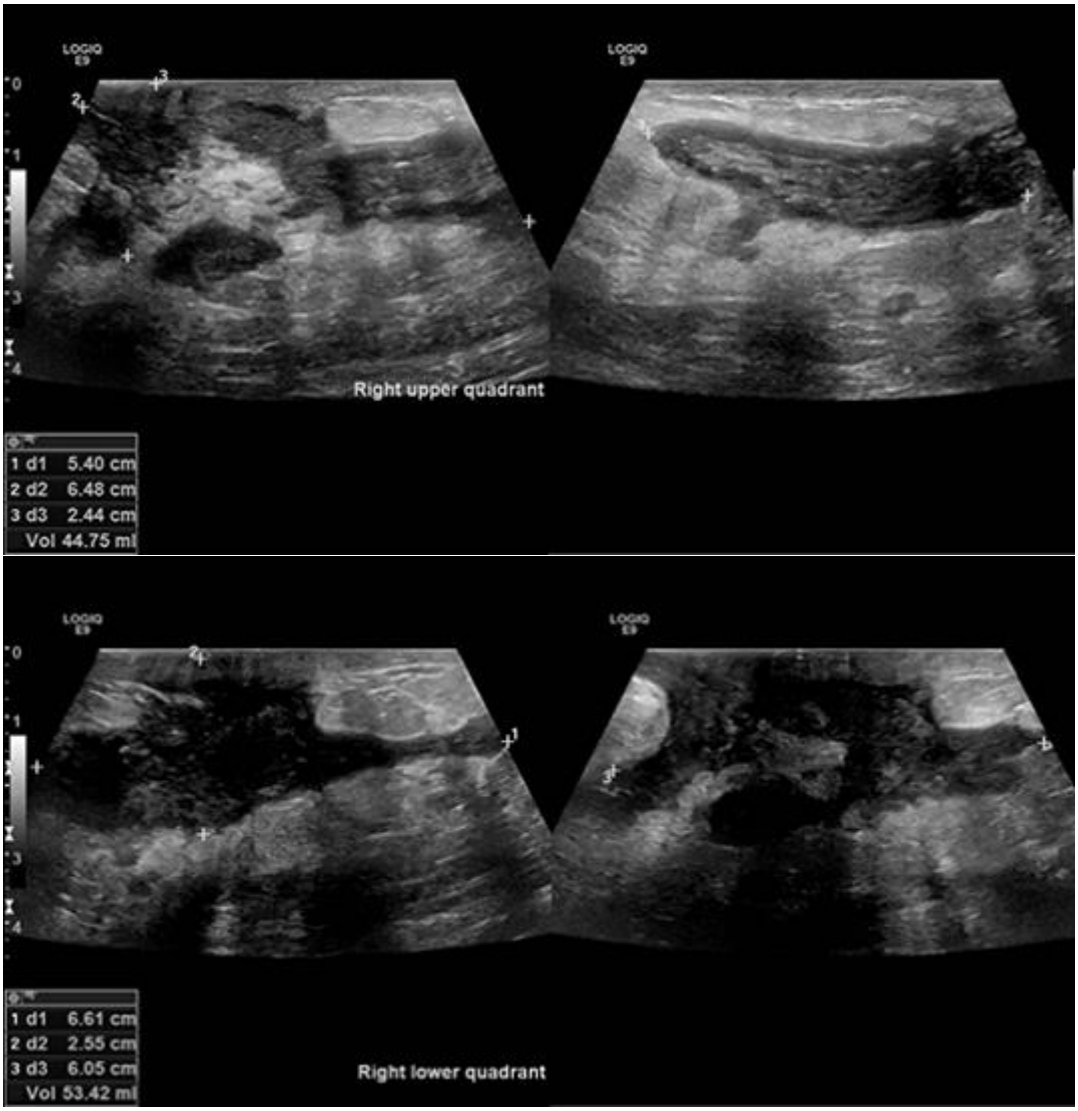
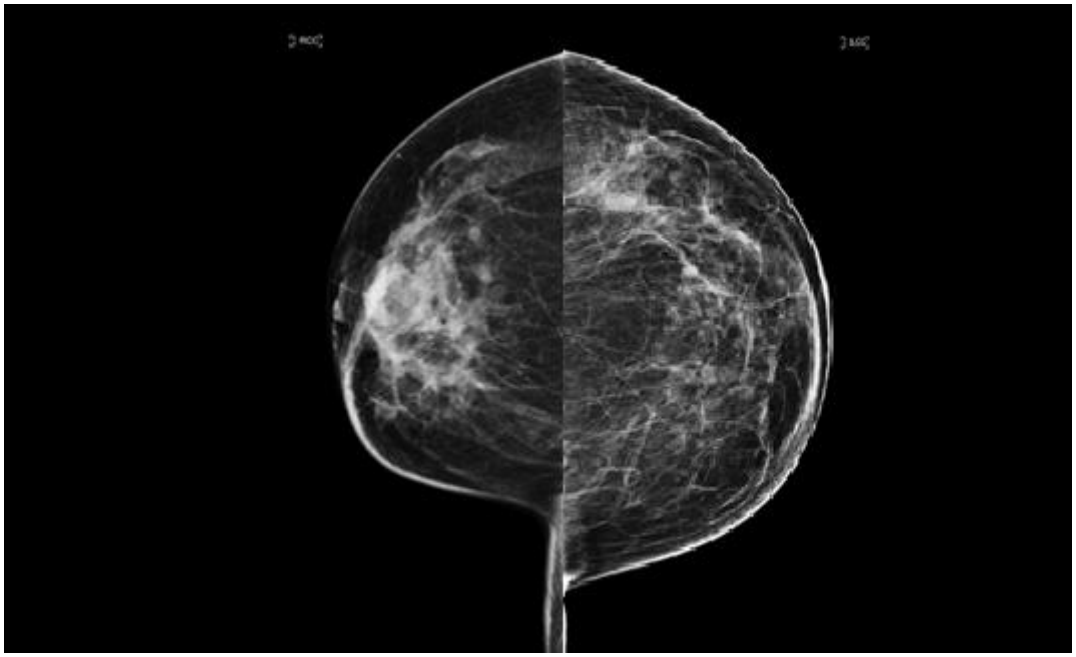


Figure 1: breast US which show cystic mass



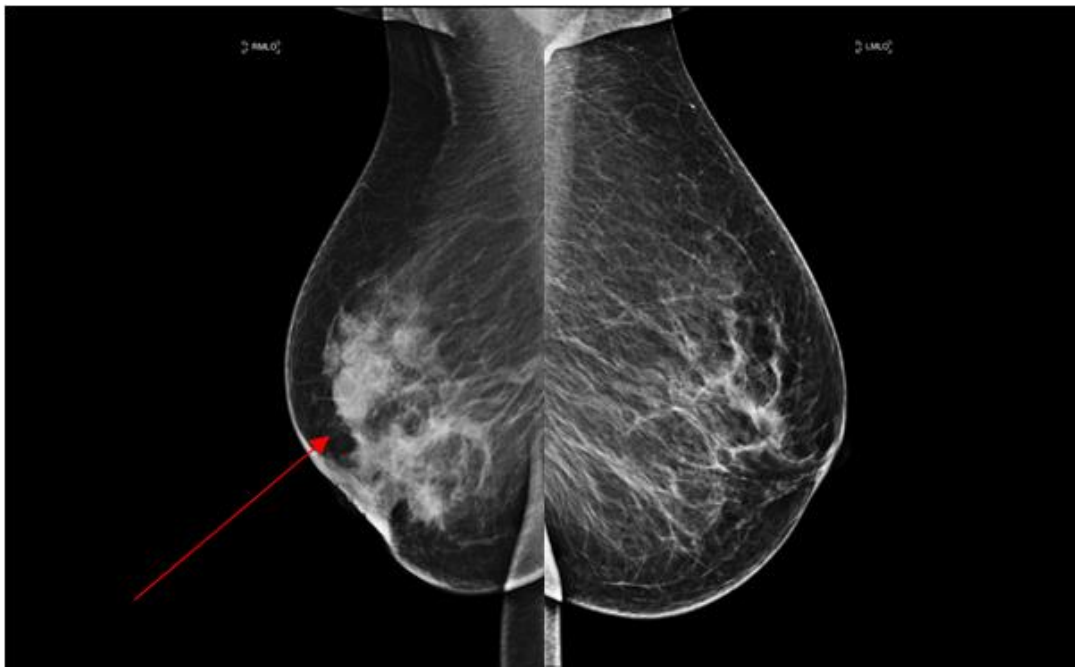


Figure 2: Mammogram with craniocaudal view with right breast mass

Discussion

Kessler and Wolloch were the first to describe idiopathic granulomatous mastitis in 1972. Inflammatory disease, which is thought to be harmless. The disease has been found in people of all ethnicities worldwide, but Hispanic and Asian women seem to be more at risk than the general population. A wide range of circumstances can increase one's chances of contracting this disease. Patients with IGM may have an autoimmune disorder, infection, chemical response, or even lactation as a possible reason, as most of them are lactating mothers [2]. Patients are, on average, 34.1 years old. Oral contraceptive use is reported by 42% of patients, and breastfeeding is reported by 79% of patients. Serum prolactin levels above the normal range are associated with this condition, which usually affects the left breast. A painful breast lump and skin abnormalities are the most common symptoms of idiopathic granulomatous mastitis [3]. Some of the lesions can be large or small, hard or spongy; they are usually unilateral, but it has also been noted that they are bilateral. Except for the sub-areolar region, lesions can be found in any breast quadrant. Chronic idiopathic granulomatous mastitis rarely causes axillary lymph nodes enlargement. In addition to the complications of fistulae, abscess, and nipple deformity, histopathology provides a definite diagnosis of necrotizing chronic granuloma lobulitis with micro abscesses [4]. This was confirmed by fine-needle aspiration cytology, core biopsy, or incisional biopsy of the Abscess Wall. Plasma cells, neutrophils, noncaseating granulomas, multinuclear giant cell granulomas with epithelioid histocytes, Langhans giant cells accompanied by lymphocytes, and the plasma cell are commonly observed in or without lymphocytes surrounding dilated lobules. While not as specific as a core biopsy, a [6] core needle biopsy can distinguish cancer from an inflammatory disease. An FNA can perform fluid expulsion and cultures because granulomatous medullary mastitis mimics an abscess. Only 4 of 19 FNA procedures were diagnostic, compared to 96% of patients who underwent ultrasound-guided biopsies. Failure of an FNA can be caused by a lack of material and non-specific abnormalities, such as fat necrosis and abscesses traumatic necrosis; foamy macrophages; and the influx of foreign substances (e.g., ruptured cyst) (polarizable material) [7]. It was determined that there were three levels of severity for the condition. Mild: the mass on ultrasonography was less than 2 cm in diameter, there was no ulcer or fistula, and the pain was only intermittent. Moderate: between 2 and 5 cm in diameter, with a collection that requires aspiration drainage, one fistula, and only a small amount of discharge; multiple fistulas and ulcers with a daily output of more than 20 ccs are considered severe [1]. Methotrexate, a drug commonly used to treat recurrences and complex surgery, was regarded as the most effective treatment for IGM. Oral methylprednisolone, 0.8 mg/kg/day, was started within the first week of treatment. After completing their eight-week course of treatment, which included a 0.1 mg/kg weekly corticosteroid dose reduction, participants were examined clinically and radiologically to see if their breast and skin lesions had resolved [1]. It was prescribed methotrexate with 5mg of folic acid per day and blood and liver function tests were carried out every 2–4 weeks, as per the researches. A daily dose of 0.5–1 mg/kg of prednisone was given for three to four weeks. Second, a ten-day course of dicloxacillin, cephalexin, or clindamycin was prescribed to monitor the patient's reaction to treatment. Only minor diseases improved when this treatment was administered under close observation. A surgical excision with wide local excision up to mastectomy used to treat patients with localized disease with unresponsive to medical treatment or extensive disease in breasts. Furthermore, the most effective treatment hasn't been discovered yet. Tuberculosis, fungal infection, and even sarcoidosis can all induce granulomatous lesions in the breast which should be roled out. Patients who are unable to respond to steroid medication or who experience recurrence after surgery can benefit from the use of methotrexate.

Conclusion

Non-complicated instances of the IGM disease demonstrate an excellent response to medical treatment based on histology, which is the definitive diagnosis. However, surgical procedures ranging from local excision to a mastectomy are available to those who have extensive disease or unresponsive to medical treatment.
Wide from wide local excision up to mastectomy can be done for those patients.

Declarations

Ethics approval and consent to participate

Not applicable to the case

List of abbreviations

IGM: Idiopathic granulomatous mastitis
OCPS: Oral contraceptive pills
FNA: Fine needle aspiration

Conflict of interest

No conflict of interest

Funding Statement

No funding

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