

Gestational Antibioma of the Breast: A Rare Case Presentation

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Abstract: Breast is an important organ of the female human body. It is composed of skin, subcutaneous tissue and breast tissue. Mastitis is defined as inflammation of the breast tissue. It is painful with high fever, chills and red, tender, hot, and swollen areas of the breast. The causes are mainly inflammatory or infectious. *Staphylococcus aureus* is the most common bacteria involved in this condition. If left under-treated or untreated, infective mastitis can lead to breast abscess or septicemia. Management of breast abscess consists of aspiration or mini incision and drainage in combination with appropriate antibiotic therapy. An antibioma is defined as a hard edematous swelling consisting of sterile pus following treatment of an abscess with long-term antibiotics. The established treatment for antibioma is to surgically incise and drain it like an abscess under analgesics and antimicrobial therapy. Breast infection is most commonly associated with lactation with an incidence rate of 10 percent to 33 percent women. Lactational mastitis has an incidence rate of 2-3 percent of lactating women with 5-11 percent of these patients developing into an abscess. The mean age of incidence is 32 years. On the other hand, non-lactating breast abscesses has a peak incidence in the fourth decade of life. But this condition is rare during gestation with only a few reported cases in literature. We present one such rare case of gestational antibioma in second trimester.

Keywords: Mastitis, Abscess, Septicemia, Antibioma, Incise, Antimicrobial, Lactational

1. Introduction

Breast is an important organ of the female human body. It is composed of skin, subcutaneous tissue and breast tissue. The breast tissue includes epithelial parenchymal tissue which is about 10-15 percent of overall breast volume and the remaining part is the stroma. A variation in the breast size among individuals is due to different volume of adipose tissue between the lobes of breast tissue. The nipple is located over the fourth intercostal space in a non-pendulous breast. It is surrounded by a circular pigmented areola [1].

Mastitis is defined as inflammation of the breast tissue. It is painful with high fever, chills and red, tender, hot, and swollen areas of the breast. The causes are mainly inflammatory or infectious. *Staphylococcus aureus* is the most common bacteria involved in this condition. It is usually self-limiting. But some patients require antibiotics to treat infection. If left under-

treated or untreated, infective mastitis can lead to breast abscess or septicemia [2]. Management of breast abscess consists of aspiration or mini incision and drainage in combination with appropriate antibiotic therapy [3].

An antibioma is defined as a hard edematous swelling consisting of sterile pus following treatment of an abscess with long-term antibiotics. If breast abscess is treated only by antibiotics without appropriate drainage, pus localizes and forms a tough fibrous swelling which is painless, smooth, non-tender, and firm on palpation. The established treatment for antibioma is to surgically incise and drain it like an abscess under analgesics and antimicrobial therapy [4].

Breast infection is most commonly associated with lactation with an incidence rate of 10 percent to 33 percent women. Lactational mastitis has an incidence rate of 2-3 percent of lactating women with 5-11 percent of these patients developing into an abscess. The mean age of incidence is 32 years. On the other hand, non-lactating breast abscesses has a

peak incidence in the fourth decade of life. Diabetes and smoking have a strong association with non-lactational breast abscess [5]. But this condition is rare during gestation with only a few reported cases in literature [6]. We present one such rare case of gestational antibioma in second trimester.

2. Case Report

A 30 year old female patient in her second trimester of second gravida presented with a painless lump in the upper and outer quadrant of left breast since one month. The lump was approximately of size 5×4×3 cm. It was smooth, firm and non-mobile. There were no nipple discharge or skin changes. Initially, there was mild pain according to the patient. But,

tenderness could not be elicited on examination. There was no palpable lymph node. Contralateral breast was normal.

Initial ultrasonography about a month back showed an ill-defined mass of size 21×12 cm of BIRADS Grade III. FNAC was done which gave the impression of infected pathology. She was prescribed amoxicillin and clavulanic acid by the local hospital. But no surgical intervention was done.

After the patient arrived at our centre, the clinical examination showed the above findings following which repeat ultrasonography was done. It showed an ill-defined, hypoechoic, lobulated lesion containing cystic debris/gross collections and thick hypoechoic areas. Very minimal internal vascularities with adjacent stromal thickening noted. The impression was of infected pathology with BIRADS Grade 2-3 (Figure 1 a, b, c, d).

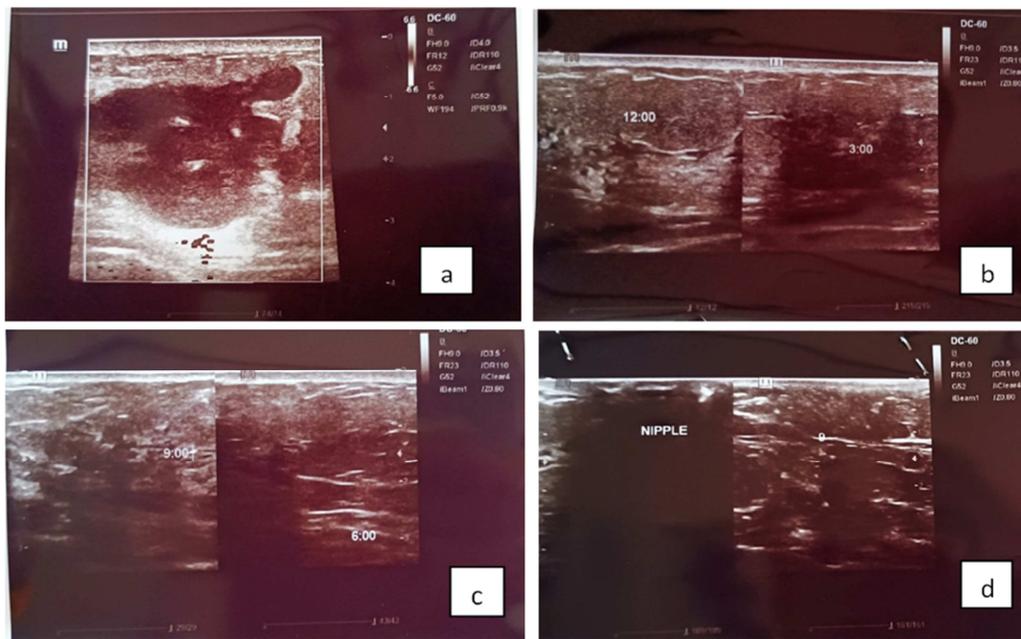


Figure 1. Ultrasonographic images of the breast lesion showing the mass (a), its relation with different areas of the breast (b, c) and the nipple areolar complex (d).

On exploration, there was dark brown semi-solid malodorous fluid coming out with thick septa and loculated compartments all along the lesion. After all loculated compartments were broken down by finger dissections, the firmness of the lesion subsided. A drain

was placed. Patient was given pregnancy-safe analgesics and antibiotics. Drain was removed the next day and the patient was discharged. Post-operative recovery was uneventful. Histopathology gave the impression of a chronic breast abscess (Figure 2 a, b, c).

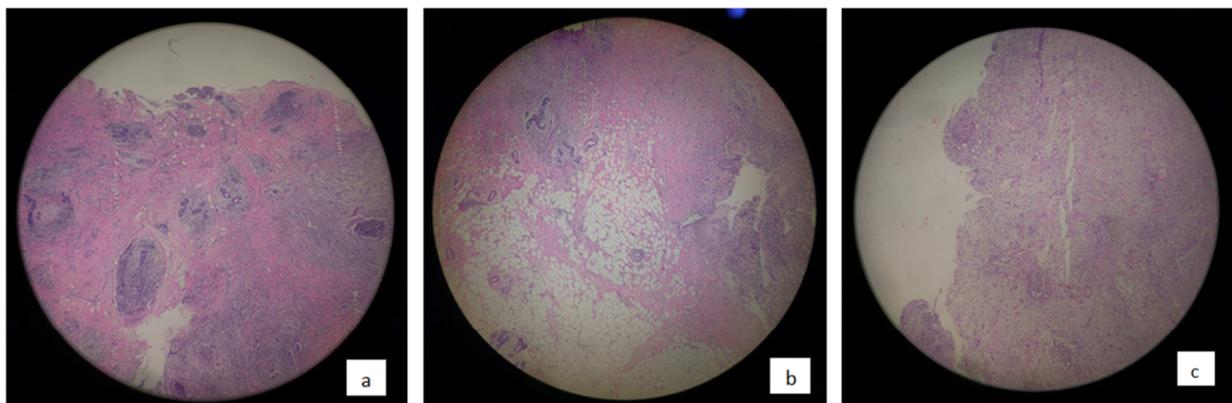


Figure 2. Histopathological findings. Breast tissue with abscess and chronic inflammatory infiltrate (a, b). Abscess cavity lined by granulation tissue (c).

3. Discussion

The study conducted by G. Andres Contreras *et al* defined mastitis as an inflammation of the mammary gland. It includes not only intramammary tissues but also nipple and areola, milk ducts, etc. The study also concluded that mastitis and breast abscess is a disease with high economic, social, and public health impact resulting in retardation of both physical and mental health of newborn [7].

A Angelopoulou *et al* in the study showed that incidence of breast abscess is approx. 33 percent. *Staphylococcus aureus*, *Staphylococcus epidermidis* and members of corynebacteria are the predominant microbiological organisms found in acute, subacute and granulomatous mastitis, respectively. There are multiple causative factors like cracked nipples and lesions over areola, unhygienic environment, poor socio-economic status etc [8].

The study conducted by Akshay Prasad *et al* showed that diseases like ductal ectasia, lipoma, and antibioma are extremely rare with antibioma being common between 21 and 30 years of age. Ultrasonography is a highly useful investigation for diagnosis. Mammography should be performed in females with more than 35 years of age to rule out malignancy. FNAC is a sensitive, simple and cost-effective investigation. Histopathology is the final concluding investigation [9].

Another study conducted by Narasimhaiah K *et al* showed 6 percent incidence of antibioma in lactating females. Ultrasonography can be used in differentiating cystic lesions from solid ones. Fine-needle aspiration cytology and histopathology conclusively ruled out the possibility of malignancy [10]. But the study conducted by P Mathur *et al* showed incidence of antibioma to be around 10.9 percent. The study concluded that surgical excision is the effective treatment for most of the benign breast disease including breast abscess and antibioma [11].

B Visweswara Rao *et al* in their study showed that breast abscess and antibioma was most commonly observed in lactating females during the first three months after delivery [12]. Similar results were observed in the study conducted by Khan S *et al* [13].

The study conducted by Barton *et al* found acute bacterial mastitis is common at any age but most commonly in lactating breasts [14]. Another study conducted by Maroti Pote *et al* showed that among 227 women in various periods of gestation, antibioma of the breast is 1.25 percent [15].

4. Conclusion

Gestational antibioma is a rare disease with only a few reported cases in literature. Ultrasonography, FNAC and histopathology are adequate investigations for conclusive diagnosis of the patients. Incision and drainage of the mass followed by pregnancy-safe antibiotics and analgesics is the treatment of choice. Excision or lumpectomy is rarely required.

Conflict of Interest

All the authors do not have any possible conflicts of interest.

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