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Observe the Application of Steroid Therapy Along With Wide Local Excision in the Treatment of Idiopathic Granulomatous Mastitis (IGM) In a Public Hospital and Some Other Private Hospitals in Feni District, Bangladesh

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Abstract: To Observe the application of systemic steroid therapy in combination with wide local excision of the lesion in the treatment of idiopathic granulomatous mastitis (IGM) and to define an appropriate treatment strategy in such patient. Conducted a retrospectively observational study of a series of 24 cases in the Surgery Unit of A government Sadar Hospital and several private hospitals in same territory in Feni District, Chittagong, Bangladesh. Average follow-up was 36 months for all cases. 6 cases (25%) relapsed. 7 patients (29.16%) treated with abscess drainage along with systemic steroids, among them 4(57.14%) healed completely, but 42.85% relapsed. Relapses were treated with excision with steroids. Steroid therapy was the initial treatment in 5 cases (20.83%), with 2 relapse (40%) which was treated in the same manner. 3 patients had incomplete response necessitating excision, and another 2 developed abscesses which were treated with steroids or excision after drainage. Surgical excision was preferred in 12 cases (50%) and all of them were administered concomitant systemic steroid therapy. All healed without complication, and recurrence was observed in 1 case (8.3%) which was treated with re-excision. Excision along with steroid therapy had low relapse rates, and this combination was superior to only steroid therapy in providing strict diagnosis with much faster healing and fewer complications.
Keywords: Idiopathic Granulomatous Mastitis, steroid therapy, relapse rate, carcinoma.

INTRODUCTION

Idiopathic Granulomatous Mastitis is a well-known but rare entity even among the breast radiologists. It is a chronic inflammatory process of the breast that was first acknowledged by Kessler and Wolloch in 1972. Pathologically, it is characterized by granulomatous inflammation of breast lobules. Clinically, it is a chronic mastitis. Ladies of child-bearing age are most affected by this disease process. The disease process may result in formation of fistulae, abscesses, nipple inversion, ulceration, and hardening or scarring of the skin. Granulomatous mastitis occurring as a rare secondary complication of a great variety of other conditions such as tuberculosis and other infections, sarcoidosis and granulomatosis with polyangiitis. Special forms of granulomatous mastitis occur as complication of diabetes. Some cases are due to silicone injection (Silicone-induced granulomatous inflammation) or other foreign body reactions.Patients mostly present with a hard lump in one breast without any sign of a systemic disease. Other possible symptoms include nipple retraction, pain, inflammation of the overlying skin, nipple discharge, fistula, enlarged lymph nodes, in rare case peau d'orange-like changes [1,2].

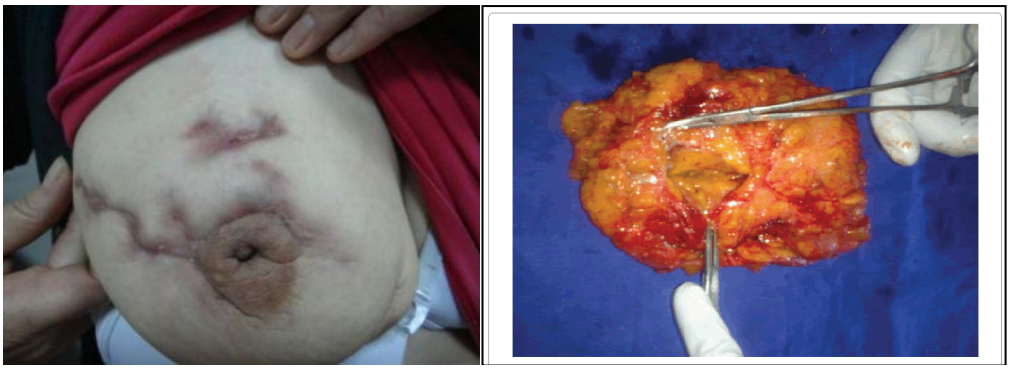

Fig-1 a and 1b: Granulomatous mastitis and its macroscopic and microscopic version [3]

Most of the case it is say that it is an autoimmune hypothesis, with the observation of the response of the disease to steroid therapy, although serologic tests are usually negative. It is estimated that a localized immune response to luminal secretions extravasated from damaged ducts develops in the lobular connective tissue with migration of lymphocytes and macrophages. To detect these autoimmune causes, serologic tests (rheumatoid factor and antinuclear antibody) can be performed although found negative in most cases. Ultrasonography (US) may be very helpful in the determination of abscesses, but both US and mammography (MG) might be misleading in some cases of IGM. In several studies magnetic resonance imaging (MRI) is accepted as a complementary diagnostic tool[4,5]. It is helpful in confirming the benign nature of breast lesions observed on US or MG but nonspecific in the determination of the character of an inflammatory process with limited diagnostic utility[4,6]. Definitive diagnosis can only be made by histopathological examination of the diseased breast tissue. Appropriate management is unknown but some surgical excision, or use of antibiotics, anti-inflammatory drugs, or corticosteroids have been proposed. In this study we aimed to present our 05-year experience with IGM and outline the results of different considerations in the management of this potentially recurrent, non-malignant breast disease.

Objective of the study

General Objective

- Observe the application of steroid therapy along with wide local excision in the treatment of IGM

Specific Objective

- Compare and examine many therapy and detection of method of treatment IGM patient
- Establish suitable management protocol for IGM.

METHODOLOGY OF THE STUDY

Study Type

This study is a retrospective observational study.

Study period and area

In this study total of 24 cases with a histologically confirmed diagnosis of IGM treated at our district sadar hospital some other private hospitals in Feni district between January 2012 and December 2016 where retrospectively evaluated patient characteristics, symptoms, results of the diagnostic workup, treatment, and outcome. Pathological diagnosis of IGM with the observation of granulomatous inflammatory reaction in the breast lobules was made by core biopsy or surgical biopsy.

Method

During the experiment pathological diagnosis of IGM with the observation of granulomatous inflammatory reaction in the breast lobules was made by core biopsy or surgical biopsy. After the first attack the mean follow-up period was 40.4 months (range 18–81 months) for recurrent cases and 25.2 months for IGM cases with a single attack. We use core biopsy or surgical biopsy, because using such biopsythe tissue is generally examined under a microscope by a pathologist and can also be analyzed chemically and also can determine whether a lesion is benign or malignant and also helpful to exclude other granulomatous mastitis cases from IGM one. Granulomatous mastitis secondary to different pathological causes was excluded on the basis of clinical and pathological criterias.

RESULT OF THE STUDY

The records of 24 patients with a diagnosis of IGM were retrospectively evaluated. 21 of the patients (87.75%) were of reproductive age, and 3 were postmenopausal. The main complaints at presentation were a lump with or without overlying skin changes in 09 cases, discomfort or breast pain and nipple discharge in 03 cases, non healing wound with history of incision and drainage in 07 cases and healing wound with recurrent abscess formation in 05 cases.

Table-1: Complaints at presentation

Cases	Complaints
Breast lump with or without overlying Skin changes	9
Discomfort or breast pain and Nipple retraction or discharge	3
History of incision and drainage of breast abscess	7
Healing wounds with Recurrent abscess formation	5
Total	24

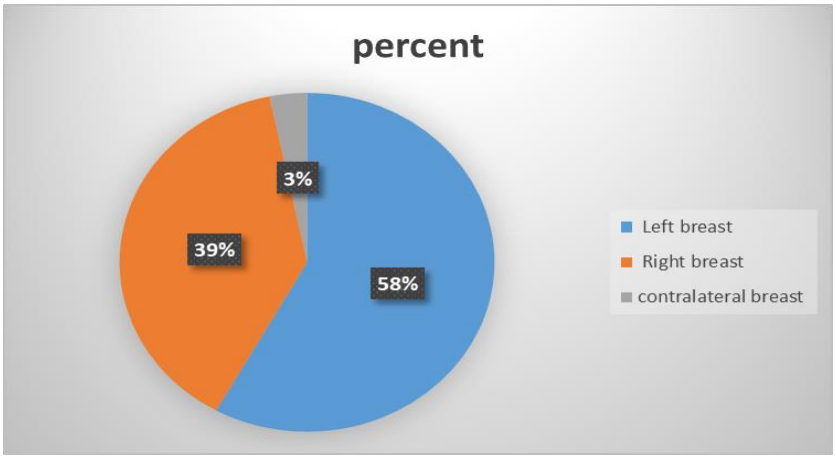

Fig-2: Lesions observation in different case

Lesions were observed in the left breast in 14 cases (58%) and in the right breast in 9 cases (38.7%), while contralateral breast involvement in a relapse was detected in 1 case (3.2%). All patients had an US examination which was combined with Mammography in 11 cases and with MRI of the breasts in 5 cases.

Table-2: US examination and observational result

Variable	Case	Percent
Irregular hypoechoic mass	9	37.5
Inflammatorymastitis	10	42
small abscesses (single or multiple)	5	20.83

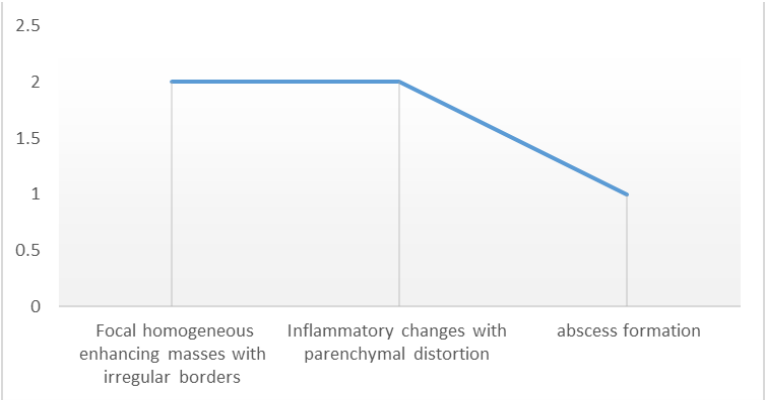

Fig-3: Pathological findings on MRI

In fig 3 shows that focal homogeneous enhancing masses with irregular borders in 2 cases, inflammatory changes with parenchymal distortion in 2, and abscess formation in 1.

Histopathological diagnosis was made by the examination of tissue obtained by core biopsy in 6 cases and by open biopsy taken from the abscess wall during drainage or after excision of suspicious lumps in 18 cases .No specific microorganism was detected in the specimens, and no antibiotic was prescribed after the diagnosis of IGM was made, but 7 patients had already been using some form of antibiotic at presentation with no evidence of regression of the breast lesions.

Table-3: Treatment methods used at first presentation of all idiopathic granulomatous mastitis cases and their outcome

Initial treatment method	Complete healing with initial Treatment, n (%)	Excision required for complete healing, n (%)	Recurrence after complete healing, n (%)	Mean follow-up, months
Systemic steroid therapy(n=5)	2(40)	3(60)	2(40)	36
Abscess drainage with Steroid therapy (n = 7)	4(57.14)	3(42.85)	3(42.85)	36
Surgical excision with Steroid therapy (n = 12)	12(100)	0	1(8.33)	36

In Table-2 shows that Abscess drainage with steroid therapy was performed in 7 patients whom had a relapse 42.85%. We also performed surgical excision with steroid in 18 cases and found 100% recovered initially but relapse rate only 8.33%.

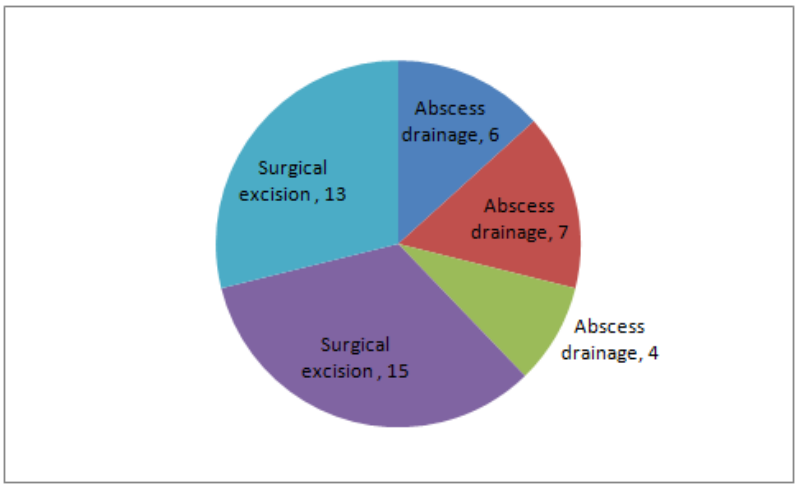

Fig-3: Treatment of the first attacks of Idiopathic granulomatous mastitis in recurrent cases (n = 5)

In this figure 3 , disease recurrence was observed in 5 patients among them Abscess drainage cases were disease free interval 4 mean months but for surgical excision was disease free interval average 14 months.

DISCUSSION

IGM is a chronic benign disease, constituting 24% of all breast inflammatory disease [7]. It requires a prolonged course of treatment and follow-up as it is usually associated with recurrence. Although no ethnic predisposition was reported. Older women can also be affected where most patients with IGM are of reproductive age [4,8,9]. Unilateral involvement, regional lymphadenopathy, and an irregular hypoechoic mass on US may support the clinical diagnosis of malignancy [4,10,11]. In our series, all 9 cases which had a hypoechoic irregular mass on US were managed with excision. All of them had pathological IMG findings of asymmetric density or an ill-defined nodule. 5 also had an MRI which supported malignancy in 2 cases. Definitive diagnosis can only be made by histopathological examination of the breast lesion. However cytological features, observed especially in the material obtained by needle biopsy, may sometimes make it difficult to differentiate IGM from other granulomatous diseases of the breast and from carcinoma [4,10,12]. In the past, false-positive needle biopsies resulted in unnecessary mastectomies [13, 14]. In our series we performed core biopsy or open surgical biopsy and obtained a correct diagnosis of IGM in all cases. Chest X-ray, tuberculin skin test, determination of erythrocyte sedimentation rate, and PCR may also help with the diagnosis to exclude tuberculosis [15, 16]. Treatment of IGM is controversial, but use of antibiotics or corticosteroids and wide excision of the affected tissue have all been considered. Antibiotic use is debatable as most IGM cases are either sterile or infected with undetected microorganisms. It provides a definitive diagnosis, causes few side effects, and cures the patient more rapidly with observation of fewer recurrences. Authors who are opposed to excision in the management of IGM report that wide excision in the presence of mastitis is associated with delayed wound healing with subsequent disease recurrence and poor cosmetic outcome. However excision is usually performed because of discrepancies between needle biopsy findings and clinical findings. It was reported

that more than 50% of IGM cases were initially misdiagnosed as carcinoma. In our series malignancy was suspected in up to 26% of the cases with clinical and/or radiological findings, and we performed excision to obtain an accurate diagnosis. All cases recovered completely with no delayed healing. Thus, in our series, the relapse rate after excision was 8.3%. Some authors propose re-excision upon recurrence, however discordance between the size of the lesion and that of the breast does not always allow re-excision[4]. In our single relapse observed after healing with surgical excision, we also performed re-excision as the breast size was adequate. Relapses after abscess drainage or steroid therapy were also treated with surgical excision for fear of an underlying missed malignancy. Steroid therapy, on the other hand, was reported to decrease the size of the lesion and provide complete healing only when used long-term[4]. It is not feasible to perform abscess drainage alone in the treatment of IGM as there is high recurrence rate. As most abscesses in IGM are multilocular, it may be better to perform wide excision instead of abscess drainage or to continue with steroid therapy following the drainage procedure. The recommended initial dose of prednisolone in advanced disease is 0.8 mg/kg/ day in divided doses, provided the lesion is sterile [17]. It is usually continued in low doses for at least 6 weeks until a complete clinical response is observed. In the literature the recurrence rate of IGM is reported to be 16–50% even if complete resolution is obtained[12]. In our series 6 out of 24 cases relapsed forming a recurrence rate of 25% but it is only 8.33% in case of excision along with systemic steroid therapy. However we think excision along with systemic steroid therapy is superior to steroid therapy with or without abscess drainage in that it provides a strict diagnosis as well as much faster healing and fewer complications.

Limitation

However, healing with steroid therapy is slow requiring close follow-up for complications, causing weight gain, hypertension, and diabetes and potentially leaving the patient with hardened skin and discoloration of the breast, all of which are annoying factors to the patient. Limitations of surgery are disfigurement, hypertrophic or keloid scar formation

CONCLUSION

IGM is a potentially recurrent chronic benign breast disease. It is important to differentiate this lesion from tuberculosis, carcinoma or any other chronic breast disease. Each case of IGM should be evaluated separately. After many analysis and examination, it is almost clear that Steroid therapy along with wide local excision has a low recurrence rate in the treatment of IGM.

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