ORIGINAL ARTICLE

The Role of Conservative Treatment in Idiopathic Granulomatous Mastitis

Eric C. H. Lai, MRCSEd,*† Wing Cheong Chan, FRCSEd,* Tony K. F. Ma, FRCPath,‡ Alice P. Y. Tang, FRCR,§ Cycles S. P. Poon, FRCPath,¶ and Heng Tat Leong, FRCSEd*

Departments of *Surgery and §Pathology, North District Hospital, HKSAR, China; †Department of Surgery, Chinese University of Hong Kong, HKSAR, China; and Departments of ‡Pathology and ¶Radiology, Alice Ho Miu Ling Nethersole Hospital, HKSAR, China

Abstract: Idiopathic granulomatous mastitis (IGM) is a rare benign inflammatory disease of the breast that mimics carcinoma of the breast. Its etiology and treatment remain unclear. A retrospective review of nine women with histopathologic diagnosis of IGM was performed. The women had a mean follow-up of 18.7 months and a mean age of 45.7 years (range 32–83 years). The main presentation was breast mass (100%). Clinically and radiologically, 55.6% of the women were suspected to have malignancy. One patient was treated with lumpectomy without recurrence. Eight patients were treated with expectant management with close regular surveillance. No surgery was performed and no medications were given. Fifty percent of the patients had spontaneous complete resolution of disease after a mean interval of 14.5 months. These four patients had no recurrence. Fifty percent of patients had static disease. In conclusion, it is important to differentiate IGM from carcinoma of the breast. Tissue biopsy remains the gold standard to confirm the diagnosis. Expectant management with close regular surveillance is the treatment of choice. Key Words: abscess, breast neoplasms, granuloma, mastitis, pathology

Idiopathic granulomatous mastitis (IGM) is a rare benign disease of the breast that can clinically and radiologically mimic breast carcinoma (1–3). It usually occurs in young parous women (4–6). It was first described as a specific entity by Kessler and Wolloch in 1972 (1). The diagnosis can only be confirmed by histopathology. Granulomatous mastitis is characterized histologically by the presence of epithelioid and multinucleated giant cell granulomas limited to mammary lobules, with micro-abscesses but without necrosis (7–9). All known infectious and noninfectious causes of granulomatous inflammation have to be excluded.

The etiology of IGM is still unknown. An autoimmune pathogenesis was proposed (1). This is supported by the response to steroid therapy. A localized immune response to extravasated secretions from lobules, in the nature of foreign body reactions, has been suggested because of the frequent association with parturition and lactation (10). Other contributory factors such as trauma to the breast and hyperprolactinemia have been suggested (11,12). The treatment of IGM is still unclear. Surgical excision, steroids, nonsteroidal anti-inflammatory drugs, and methotrexate use have been reported in the literature (3,5,6,13–17).

The goal of this research was to review the presentation, diagnosis, and management of IGM in our unit.

PATIENTS

From 2002–2004, the records of nine patients with a diagnosis of IGM managed by our breast team were reviewed retrospectively. Their presentation, investigatory results, pathology, treatment, and progress were analyzed.

Their mean age was 45.7 years (range 32–83 years). They presented with breast mass (n = 9; 100%), breast abscess (n = 5; 55.6%), and external skin sinus (n = 1; 11.1%). All had unilateral disease (left, 77.8%; right, 22.2%). The size of the breast mass ranged from 1 cm to 10 cm, with a mean size of 3.3 cm. The mean follow-up duration was 18.7 months, with the longest follow-up being 3 years. They had no history of allergic reaction to milk or milk products, autoimmune disease, or surgical procedures of the breast. At the time of presentation, no
patient had a recent history of pregnancy. Only three patients had a history of pregnancy in the 3 years before the presentation. They had no clinical, laboratory, or histopathologic evidence of any specific causative organisms. Ultrasonography and mammography were performed in all patients. Malignancy was suspected in 55.6% of the patients.

Fine-needle aspiration cytology (FNAC) was performed in seven patients. In five patients, the aspirated material showed evidence of granulomatous inflammation. The other two aspirates showed nonspecific inflammation only. All the patients also had core tissue biopsies. All nine specimens were confirmed to be granulomatous mastitis (Fig. 1). The histology showed inflammatory infiltrates comprising lymphocytes, plasma cells, histiocytes, and neutrophils. Multiple clusters of multinucleated giant cells and epithelioid granulomas were present. Cultures for bacteria were negative. Ziehl-Neelsen stain and special staining for fungus were negative.

One of the nine patients received treatment with lumpectomy. She had no disease recurrence with 30 months of follow-up. The other eight patients were managed conservatively with regular clinical and radiologic surveillance. No surgery was performed and no medications were given. We followed them with an interval of 2–3 months in the initial 2 years.

Of the eight patients who underwent conservative treatment, four patients had spontaneous complete recovery. The mean interval of complete resolution was 14.5 months (range 2–24 months). All four of them had no disease recurrence in the latest follow-up. The other four patients had static disease, with mean follow-up duration of 11 months.

**DISCUSSION**

Idiopathic granulomatous mastitis occurs predominantly in women of childbearing age (4–6). The mean age of patients in our study was 45.7 years. Compared to other reported series, our patients were older. One of our patients was diagnosed at age 83 years. She was nulliparous. She was confirmed to have IGM by two core tissue biopsies 2 months apart. She had static disease in the follow-up. This is the oldest patient with IGM reported in the literature. We do not know the reason for the older age of the patients in our series. Part of the reason may be due to racial differences. In the literature, no evidence of an ethnic predisposition for IGM was found.

All our patients presented with a unilateral mass, predominantly on the left side. The majority of them also presented with breast abscess. We observed the same trend in most of the reported series (5,6).

Idiopathic granulomatous mastitis has an unknown etiology. Its diagnosis relies on the demonstration of a characteristic histologic pattern and the exclusion of other possible causes. In most of the reported series, more than 50% of patients were initially misdiagnosed as carcinoma of the breast (17). Before pathologic investigation, 55.6% of our patients were suspected of having carcinoma of the breast. FNAC was performed in 77.8% of our patients. Of these, 71.4% of aspirates were suggestive of granulomatous mastitis. All of our diagnoses were confirmed by histopathology results.

The treatment of IGM remains unclear. Surgical excision and steroid therapy are the most commonly used treatments. In the past, a high-dose steroid regimen was used. Recently steroid therapy was found to be more effective in recurrent or refractory cases (13,17). However, it is well known that surgical excision is associated with delayed wound healing, cosmetic problems, and disease recurrence. Steroid therapy has side effects, such as Cush- ing’s syndrome, avascular necrosis, diabetes mellitus, and flare-up of undetected underlying infection. Also, it has a variable clinical response and problems with recurrence after steroid withdrawal.

Expectant conservative management was rarely reported in the literature (16,17). In our series, 50% of our patients with expectant management had complete disease resolution and no recurrence. The other 50% of our patients had static disease. The natural history of IGM may be a self-limited condition. We believe that expectant
management with close regular surveillance should be the treatment of choice. It can avoid the complications of repeated surgical excisions and steroid therapy. Close regular surveillance has two important goals. First, we need to monitor any progression of disease. If there is any progression, repeated imaging and biopsy are needed. Second, we need to look for any recurrence, as a recurrence rate of 16–50% is reported in the literature (5,6,16). Therefore long-term follow-up is necessary.

In conclusion, the differentiation of IGM from carcinoma of the breast is very important. The treatment and prognosis of IGM are completely different from that of carcinoma. Histopathologic examination remains the gold standard for confirmation of the diagnosis. Since IGM has a generally favorable prognosis, we suggest that expectant conservative management with close surveillance be the treatment modality for IGM. Steroid therapy or surgical excision can be reserved for use in refractory or recurrent disease.

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