Surgical Treatment

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1 Surgical Procedures

In the treatment of IGM, surgical approaches are used more limitedly than in the past. However, surgery may still be considered especially in patients with large lesions (>5 cm), those who are unresponsive to corticosteroids and other immunosuppressive drugs, or patients with frequent recurrences. Despite its rapid success, the disadvantages of surgical interventions are problematic wound healing, possible aesthetic complications, and unhindered risk of recurrence [1]. In recent years, with the increasing importance of autoimmunity and immune dysregulation in the etiopathogenesis, the question of whether IGM is a surgical disease has started to be asked more frequently [2–8].

Generally, preferred surgical procedures are drainage (percutaneous drainage or open drainage), excision, breast-conserving surgery, and mastectomy [1, 9–12].

1.1 Drainage

Drainage is a common surgical intervention in IGM treatment, especially in patients with a collection or abscess [10, 13]. However, we can find the answer to the question "Should every patient with abscess-like appearance be drained?" in the study by Yuksekdag [14]. In their study, the authors applied antibiotic

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treatment to smaller abscesses while performing drainage to abscesses ≥2 cm. While ultrasonography-guided percutaneous drainage is usually preferred, open drainage can also be used in some patients [10]. Whether drainage will be performed and, if so, whether percutaneous or open drainage choices should be evaluated on the basis of each patient. An empirical antibiotic therapy should also be prescribed for patients undergoing drainage in order to avoid secondary infections.

1.2 Excision

Excision with safe margins is also an important treatment option in IGM treatment. However, in recent years, especially the use of corticosteroids and other immunosuppressive agents has become popular, and therefore, surgery is less preferred. The proportions of patients who undergo excision are quite variable [13, 15–18]. As mentioned earlier, excision is effective and the control of symptoms are rapid. However, problems related with wound healing and aesthetic concerns are important. In addition, recurrence may occur despite excision unfortunately and this tends to be more often than expected (even up to 25%) [19].

In conclusion, excision may be a treatment option in patients with IGM resistant to corticosteroid and other immunosuppressive therapy, those with frequent recurrences, or patients with just a small residual mass after all other symptoms have resolved.

1.3 Breast-Conserving Surgery

Breast-conserving surgery is another surgical approach in IGM treatment. However, more research on breast-conserving surgery in IGM patients is required as this area in the field is limited. Kaviani et al. [9] reported that this surgery was preferred in only 3.9% of IGM patients in their study. However, surgical methods are not specified in the paper.

When surgery is required, using the simplest oncoplastic surgery techniques especially volume displacement procedures, extended excisions can be performed and successful results can be achieved with favorable esthetic outcomes. Multiple simple surgical attempts can cause contour deformities; thus, complex oncoplastic surgical methods have become known in this manner (Fig. 1). Recurrence may remain as a safety concern but complete excisions by extended surgery is likely to minimize the risk of recurrence.

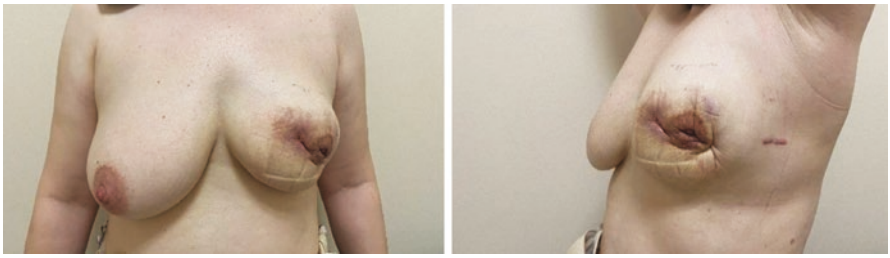

Fig. 1 A 47-year-old woman with IGM. Surgical resection of the inflamed tissue by simple extended excision resulted in contour deformity and nipple retraction

1.4 Mastectomy

The optimal path for treatment of this mysterious disease is still unclear. Long-lasting treatments with corticosteroids and antibiotics frequently reach the end with multiple wide local excisions in most patients. One of the most common problems in IGM patients is the high rate of recurrence. In patients who had undergone multiple surgical procedures with failure of conservative therapy modalities, radical treatment by mastectomy can be an option.

Apart from simple mastectomy, immediate reconstructions can also be performed by implant after skin-sparing mastectomy. Unfortunately, even as a case report, recurrences originated from residual breast tissue after subcutaneous mastectomy was reported and this underlined the necessity of radical mastectomy in certain patients [20]**.** Thus, radical approaches with mastectomy and primary flap reconstruction with autologous tissue was undertaken which offers a valuable option for safe, quick, and satisfactory aesthetic results with minimal recurrence rates. There is little evidence regarding the timing of reconstruction. Given the high rate of associated complications and recurrences, some authors believe that reconstruction should be undertaken as a delayed procedure to avoid potentially extensive surgery in the presence of inflammation and to allow completion of medical treatment [21].

Despite these surgical treatment options, IGM still remains a mystery. Until the etiopathogenesis is fully understood, it seems that the continuation of symptomatic and personalized treatment will be the first-line treatment.

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