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Case Study

Capsulectomy in Patients with Organized Seroma After Modified Radical Mastectomy, Case Series

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Abstract

Modified radical mastectomy is a common operation for breast cancer in developing countries. Seroma is common after mastectomy. Organized seroma sometimes occurs. Various treatments may be needed. This is case series of an organized seroma treated with capsulectomy.

Keywords: Seroma; Mastectomy; Capsulectomy

Introduction

Axillary lymph node dissection (ALND) and mastectomy are performed as part of the surgical management of breast cancer and are associated with significant morbidity [1].

Seroma is a common side effect after mastectomy and is no longer viewed as a problem but as a side effect of surgery [2].

Seroma's pathophysiology is still a mystery. Surgery-induced acute inflammatory exudates cause seroma, which develops as a secondary complication of the acute healing period that follows injury. Swelling in the chest and axilla raises flaps, making it more difficult for them to adhere to the tissue substrate [3].

When seroma volumes are large, tense, or causing discomfort, aspiration is the best method of removal. Patients with these symptoms are instructed to visit seroma clinics, where they are evaluated by breast care nurses and aspirated if the seroma is causing substantial symptoms or is likely to produce wound complications problems. Infection might be spread through repeated aspirations of the seroma. Once infected, a seroma must be aspirated frequently until the infection is eradicated [4].

In some cases, despite aspiration, seromas can persist and grow. Chronic seromas that have not responded to conventional treatments may require surgical intervention, such as scoring or excision of the capsule [5].

Case Report

Case 1

A 67-year-old lady had left breast lump for two months, which gradually enlarged but had no pain or no discharge. She has hepatitis C infection. A simple mastectomy was carried out in the district hospital. Biopsy shows triple negative invasive duct

carcinoma without regional lymph node involvement. All resection margins are free from tumour.

In one-month follow-up, she noticed swelling and serous discharge at the mastectomy site, and she came to hospital for treatment. Clinical examination reveals swelling at mastectomy site with wound gaping and discharge.

The ultrasound examination detected fluid collection at mastectomy site.

Capsulectomy was performed and the wound healed well. The patient received the adjuvant treatment.

Intraoperatively, seroma sac with well-formed thick capsule, was present in the mastectomy site extending into axilla (Figure 1). It contains about 200 milli-liters of serosanguinous fluid.

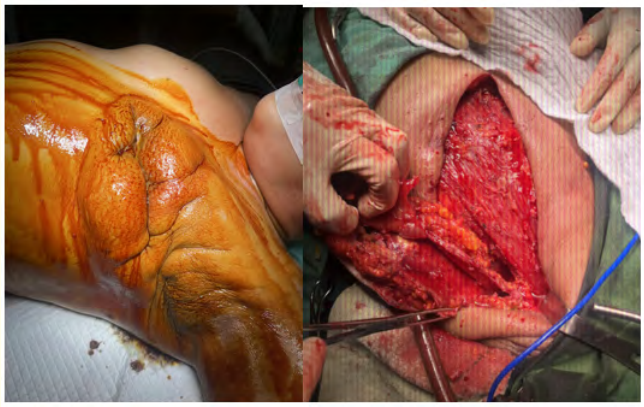

Figure 1: Intraoperative photos of organized seroma.

Capsulectomy was carried out. A vacuum drain was inserted into the axilla. Quilting sutures were inserted and skin flaps were closed back in two layers.

In the cut section, the well-formed capsule can be identified (Figure 2).

Biopsy showed fat necrosis, granulation tissue and foreign body giant cells reaction to precious suture materials (Figure 3).

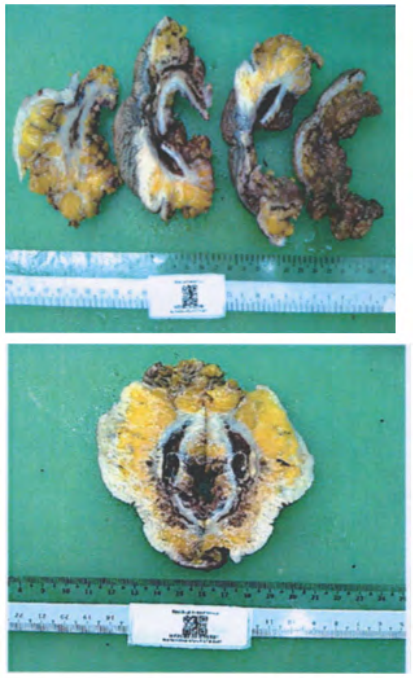

Figure 2: Cut section of organized seroma.

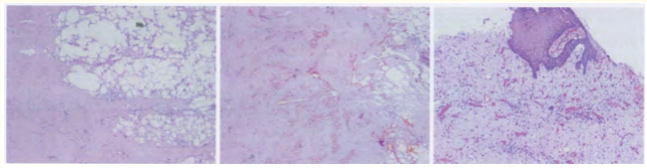

Figure 3: Histology of organized seroma.

Case 2

A 64-year-old married lady, with two children, presented with left breast lump for 5 months. She had hepatitis C infection. Mammogram and ultrasound resulted as BIRADS 4c. She underwent excisional biopsy and the result is invasive duct carcinoma with ER positive, PR positive and Her2 negative. She underwent total mastectomy and axillary dissection. In the postop follow-up, she had seroma and needed needle aspiration of 250 milliliters of serous fluid every week for four months. (https://www.youtube.com/shorts/aRjDhYjvfBY) She underwent capsulectomy (Figure 4,5). A vacuum drain was inserted into the axilla. Quilting sutures were inserted and skin flaps were closed back in two layers.

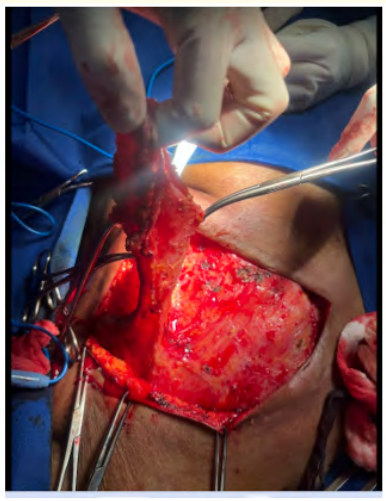

Figure 4: Organized capsule of chronic seroma.

Figure 5: Excised capsule of chronic seroma.

Discussion

Capsulated seroma presents as late presentation. But in the first case, capsulated seroma develops one month after operation. In the second case, organized seroma persisted up to four months after mastectomy.

Both cases are associated with hepatitis virus C infection. Hepatitis C infection can have detrimental effect on the wound healing and may worsen the seroma formation.

Seroma formation is still a trouble for patients undergoing total mastectomy and axillary dissection. Several etiological factors are involved in seroma formation.

There are many methods to reduce seroma formation. One of them is insertion of quilting suture to obliterate dead space.

There are also various methods for treating chronic seroma such as repeated aspiration, wound debridement, compression bandage, drain insertion, seromadesis, Latissimus Dorsi Muscle Sling, etc. Each treatment option has its own pros and cons. It is important to identify the appropriate treatment tailored to the specific patient.

This case series contributes to current literature regarding potential complications of modified radical mastectomy.

Conclusion

Seroma is common after modified radical mastectomy. Chronic seromas are encapsulated and difficult to manage. There are various precipitating factors for seroma formation. Hepatitis C infection might be one of precipitating factors. There is limited literature about the association between hepatitis C infection and seroma formation.

There are various options for prevention of seromas and treatment of seromas. Persisting encapsulated seromas need capsulectomy for cure. Further studies are required to improve the prevention and treatment of seroma after modified radical mastectomy.

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