ISSN: 2755-0176

Journal of Cancer Research Reviews & Reports

SCIENTIFIC Research and Community

Image Article

Open Access

Seroma after Breast Surgery, how to Prevent it

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Received: June 27, 2024; **Accepted:** June 28, 2024; **Published:** August 31, 2024

Introduction

Breast cancer is the most common cancer in females and the second-leading cause of cancer death among women, second only to lung cancer. Few cancers carry the same psychological implications — affecting self- image, confidence and fear of recurrence — as does breast cancer.

With more awareness and more early detection of breast cancer, more conservative surgery is being applied. However we still need to do modified radical mastectomy in about 30-40 percent of cases. Axillary node dissection is often done in addition. Fluid collection (seroma) under chest skin flaps or/and axillary cavity can occur as side effect of dissection.

Methods

On Doing Modified Radical Mastectomy (MRM)

After finishing dissection on doing modified radical mastectomy, two hemovac drains are inserted underneath the skin flaps, one of which goes into the axillary cavity. After closing the wound, and in order to avoid airl under the flaps, I insert about 100 ml of saline through the drains to fill the space under the flaps. Afterwards, this fluid is aspirated and at the same time the assistant presses on the flaps over the axilla and chest wall using fluffed gauze so that as fluid comes out the flaps stick to the underlying structures. The drains are kept in place and hooked to the compressed drainage bag to be removed when daily drainage doesn't exceed 30 ml in 24 hours which usually takes 3-5 days.

On Doing Breast Conserving Surgery (CS)

In about 50-70% of breast cancer cases, we do conservative surgery that includes quadrantectomy and sentinel lymph node biopsy (SLNB) plus or minus axillary lymph node dissection (ALND).

The site of the quadrantectomy is closed without putting a drain after cauterizing all bleeding points to achieve dry surface . When the quadrantectomy site is next to the axilla and there are palpable axillary nodes, I do axillary clearance in continuity with main specimen.

I separate the axilla from the cavity resulting from the quadrantectomy by putting multiple vicryl sutures in between this cavity and the axillary cavity.

When no drain is put in the quadrantectomy cavity after doing meticulous hemostasis, some serosanguinous fluid fills the cavity and helps returning the breast shape .

On the other hand a hemovac drain tube is inserted in the axillary cavity which is completely separated from the quadrantectomy space . This separation is made on purpose so that when saline is instilled in the axillary cavity then aspirated , the axillary flap collapses and stuck to the underlying tissue. Aspiration through the hemovac tube continues for usually 3-5 days then tube is removed when 30 ml or less is drained during 24 hours . Of course while the tube is being pulled, pressure dressing is applied over the axilla for few days.

Above picture Represents Product of left upper Quadrantectomy with Incontinuety Axillary Dissection

The result is quite satisfying when we see the axillary pit is preserved in addition to good appearance of the breast as shown in the pictures down below

Appearance on Sitting Position

Appearance on Lying Position

Result and Discussion

One of the complications after mastectomy or conservative surgery of the breast is accumulation of fluid in the axilla and under flaps on chest wall.

In my experience , I have used a novel method of mine to avoid formation of seroma by using this of my innovative method . At the end of the procedure and after inserting the hemovac tube in the axillary cavity and the other tube under chest wall flap in cases of MRM , about 100 ml of saline is instilled through the tubes. In this way air is expelled and the saline remains. When the saline is aspirated via the closed system of hemovac apparatus, the skin flaps collapse and get stuck to the underlying structures . Usually the drainage stops in 48-72 hours after which the drains are removed. At that time the skin flaps are found well stuck to the underlying structures in the axilla and chest wall. Applying this method I rarely encountered seroma formation.

Conclusion

In my innovative method, filling the dead space in the axilla and beneath the chest flaps with saline through the drain tubes after closing the skin flaps, then aspirating the fluid, ends with the skin flaps stuck to the axilla and chest wall. In this way rarely seroma occurs in my experience