ABSTRACT

Background and objectives:
Seroma formation and its sequelae including infection, flap necrosis, delayed wound healing and patient discomfort form one of most commonly encountered complication following mastectomy and axillary dissection.

Mechanical closure of dead space by flap fixation is a simple surgical procedure that eliminates dead space after mastectomy, by decreasing the movement of flap over chest wall and thereby reducing the exudate.

The objective of this study is to evaluate the effect of mechanical closure of dead space after mastectomy in prevention of seroma formation.

Method:
A total of 80 patients of Carcinoma Breast who underwent Modified Radical Mastectomy in Department of general surgery, Government Rajaji Hospital, Madurai during the period from march 2016 to august 2016, were included in this prospective study, and randomized into two groups based on in-patient number. 42 patients with odd IP no in conventional simple wound closure (Group A) and 38 patients with even IP no in Flap fixation (Group B). Patients were evaluated for day 1 drain volume, total drain volume, drain removal day, seroma, and wound complications.

Result:
Of the 80 women, 42 women with mean age 48±8 years belongs to group A and 38 women with mean age 46±7 years belongs to group B.
Average size of the tumor at presentation was 3.4cm.
36 (45%) women presented with stage IIA disease and 44 (55%) with stage IIB disease.

Drain volume in first post-operative day varied from 100 to 200ml with average of 170ml in group A and 163ml in group B. There was no statistically significant difference in the drain volume in first post-operative day (p>0.05).

The average total drain volume in the post-operative period in group A was 1426ml and 932ml in group B. p value was found to be significant (<0.001).

The average day of drain removal in group A was 13 days and 8 days in group B. p value was found to be significant (<0.001).

8 patients developed seroma in group A vs none in group B. p value was found to be significant (>0.05).

One patient developed wound complication (cellulitis) vs none in group B. There was no statistically significant difference in the incidence of wound complications in both groups

**Conclusion:**

The present prospective study demonstrated that the mechanical obliteration of dead space by flap fixation significantly decreases the incidence of seroma formation. So when performing modified radical mastectomy, the flap-fixation technique is a valuable technique for reducing seroma formation allowing early drain removal and increased patient satisfaction.

**Keywords:** Carcinoma breast; Modified radical mastectomy; Axillary clarance; Seroma; Flap fixation;