CASE REPORT

Skin-Sparing Mastectomy

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Summary

Skin-sparing mastectomy is still in its infancy in Malaysia. The option of skin-sparing mastectomy is rarely given to patients as many general surgeons perform the conventional mastectomy. This could also be compounded by the lack of awareness amongst the local surgeons on the safety, surgical technique and treatment outcome of this relatively new procedure. This case report demonstrates the feasibility of this procedure performed on a Malaysian patient with a comparable outcome of those reported in the Western countries.

Key Words: Skin-sparing mastectomy, Mastectomy, Breast cancer

Case Report

A thirty-seven year-old para 3 lady presented with a painful left breast lump for one week with no nipple discharge or skin changes. There was a family history of cerebral, pulmonary, gastric and endometrial carcinoma but no breast cancer was known. On examination, there was a 1 x 2cm left breast lump located at the upper outer quadrant. It was firm, mobile and mildly tender with no palpable axillary lymphadenopathy. The initial breast ultrasound showed this to be a hypoechoic nodule of 16 x 14mm with irregular margins. Mammography showed the same mass but no calcifications were seen. Fine needle aspiration cytological analysis on the lump did not show any malignancy or inflammation. The patient underwent an excision at a private medical centre. The histology of this 2cm lump was reported to be a ductal carcinoma with moderate differentiation and the margin was very close. The lesion was graded as Bloom and Richardson grade 2 and was positive for oestrogen, progesterone and Cerb B2 receptors. As she complained of back pain, a bone scan was done, and found to be normal. As part of the staging of the disease, chest radiograph, abdominal and pelvic ultrasonography and liver function test were done and all were normal. The patient was counselled on her management plan that consisted of further surgery, possibly chemotherapy, radiotherapy and hormonal treatment. As a result of the earlier surgery, there was already a mild breast asymmetry with the left breast smaller than the right. The surgical options given to her were axillary dissection with further wide excision, mastectomy alone or skin-sparing mastectomy (SSM) with immediate reconstruction. The options of TRAM flap or Latissimus dorsi flap and expander implant were explained. She chose the latter. Figure 1 shows the skin incision of SSM and the left breast after immediate reconstruction. The histopathology of the mastectomy specimen did not show any residual tumor and the axillary lymph nodes were clear of malignancy. She was satisfied with the post-operative surgical outcome. Nipple and areola reconstruction were offered but she is currently undecided about this. Figure 2 compares the outcome of SSM with immediate reconstruction (right) of this patient with another post conventional mastectomy reconstruction with an elliptical scar (left).

This article was accepted: 20 February 2004

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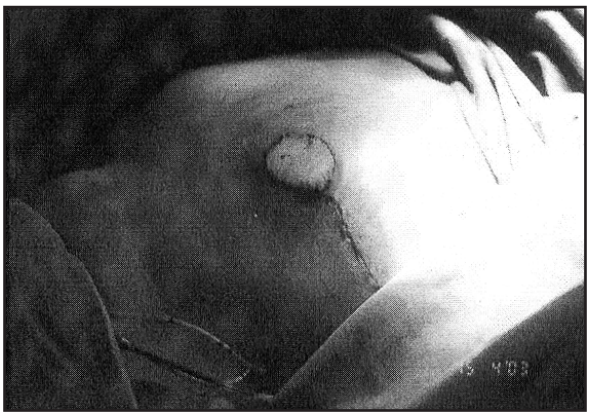

Fig. 1: Periareolar incision with lateral extension : SSM Carlson's Type I

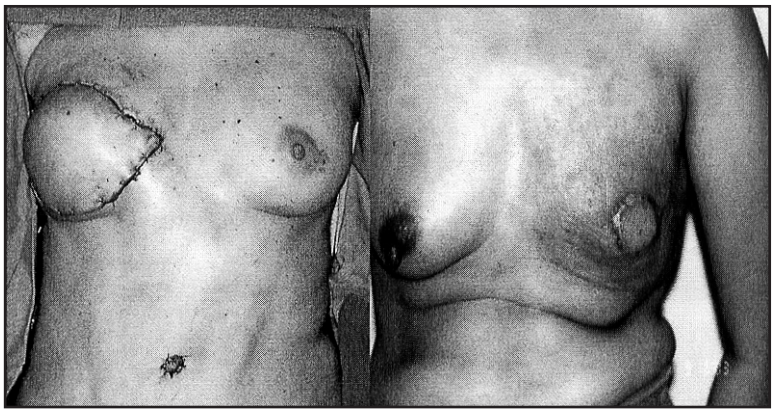

Fig. 2: Comparision of location, extent of surgical incision, and scarring between Non-SSM (left) and SSM (right) post-operatively

Table I: Carlson's Classification of Skin-sparing Mastectomy

Type	Description	Indication
I	Nipple-areola excised with or without lateral extension	Non-palpable lumps or as prophylactic surgery
II	Nipple-areola excised in continuity with the previous biopsy site	Tumour and biopsy sites are adjacent to the areola
III	Nipple-areola and previous biopsy site excised via separate incisions	Biopsy site and areola are a distance from one another
IV	Excision of nipple-areola via an inverted reduction pattern incision	Large, ptotic breasts whereby reduction surgery would be necessary on the contra-lateral breast

Discussion

Skin-sparing mastectomy (SSM) is defined as removal of the breast tissue, nipple areola complex, preoperative biopsy site and skin that is in proximity to the tumour with preservation of the entire skin envelop and inframammary crease. This procedure allows the surgeon to fill the void of glandular tissue with either a flap or implant or both. The aim of this procedure is to improve cosmesis by preservation of the breast envelope, inframammary crease, and to make the surgical scar less obvious but at the same time maintaining the shape of the breast for easier flap insertion. This leads to better patient satisfaction and reduces psychological morbidity. These patients also have the freedom to wear more revealing attire without the fear of exposing unsightly surgical scars.

Toth and Lappert[1] first described this procedure in 1991. Carlson[2] started to perform this procedure after 1992. He described in detail the anatomic and technical issues of SSM in 1996. He further classified SSM into 4 types for different tumour locations and breast sizes (Table I). The initial concerns of SSM when it was first introduced were residual tumour, risk of local recurrence, skin flap necrosis and a technically more demanding procedure. Carlson first reported the encouraging result of his work of SSM in 1997. He compared 2 groups of SSM (n=327) versus Non-SSM (n=188) with a mean follow up of 41.3 months. The non-SSM group underwent total, modified radical or radical mastectomy performed before the introduction of SSM in 1992. The local recurrence of cancer was 4.8% with SSM versus 9.5% with non-SSM. Skin flap necrosis was 10.7% with SSM versus 11.2% with non-SSM. Percentage of no further corrective procedure required in the normal breast to achieve symmetry was 65% with SSM versus 45% with non-SSM[1].

Hultman[3] studied 37 SSM patients with immediate reconstruction in 2003. He found a significant higher percentage of flap loss from patients with larger body mass index (BMI), previous radiotherapy or with diabetes mellitus. The patient selection for the SSM are based on the American Joint Committee on Cancer Pathological staging (AJCC). Only patients in stages 0 to 2 are offered this surgery and not those with more advanced disease.

Immediate reconstruction has the advantages of superior aesthetic results, improved cost effectiveness, convenience and obviates the stress and cost of a second admission as in the case of delayed reconstruction. Breast reconstruction improves the body image, which is closely linked to femininity, wholeness, self-confidence, attractiveness, sexuality and self-esteem. With the development of new surgical innovations producing better aesthetic outcome, patients can look forward to have minimal post-operative scarring.

References

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