OMENTAL TRANSPOSITION FLAP AND SPLIT SKIN GRAFT FOR LOCALLY ADVANCED BREAST CARCINOMA

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ABSTRACT

Locally advanced or recurrent carcinoma of the breast poses difficult management problems. These fungating and discharging tumours severely impair the quality of life in these unfortunate patients. We report two cases successfully treated with omental transposition flaps and split skin grafts. The operation is described in detail and the results discussed. This technique was found to be safe, effective and rewarding.

Keywords: Omental Flap, Advanced Breast Cancer

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INTRODUCTION

Locally advanced infiltrating breast carcinoma represents a difficult management problem. These unfortunate women are often victims of advanced systemic and local disease. The quality of life in their markedly shortened life expectancy period is often further impaired by the presence of unsightly, fungating and discharging tumours. These tumours not only bring on severe physical and psychological distress, but also preclude the patient from any degree of social interaction and adds on to the burden of those who are caring for them.

Chemotherapy, hormonal manipulation and local regional radiotherapy had often been tried on these patients. However, the degree of palliation from these forms of therapy is often disappointing. Palliative resection and reconstruction seems to be the only useful option left. However, such resection almost invariably involves shaving the tumour away from the chestwall and leaving some tumour tissue behind. To cover the defect after extensive excision represents a great problem. Split skin grafts take poorly on bare bones or cartilage and the tumour bed would have often been irradiated before. Further, even when the initial graft is successful, tumour tissue erodes through the thin split skin grafts within a short period. Local flaps are often not available due to previous irradiation to the area and the size of the resulting defect after excision frequently requires more than one flap.

The logical solution for such reconstructive problems seems to be the introduction of new tissue large enough to cover the defect with ease. We report two cases of satisfactory palliation using an omental transposition flap with split skin graft laid over the grafted omentum. This technique has previously been described by Newing et al in 1979 (1) but has rarely been reported in the literature since.

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PATIENTS AND METHOD

CASE 1

S A, a 37-year-old Malay housewife, presented with bilateral breast tumours (Fig. 1). Her disease started two years prior to admission with a lump in the left breast which progressively enlarged and involved the right breast later. On examination, she was an obese lady who was in good general condition. Her left breast was completely replaced by a massive tumour measuring 18x13x8 cm. The overlying skin was red, hot and tender with marked peau d'orange. There was a large ulcer on the lateral aspect of the breast measuring 8 x 5cm discharging foul smelling purulent material. Over the rest of the skin there was extensive satellite nodules. The axillary and supraclavicular nodes were enlarged, matted and fixed to the chest wall. The whole breast was fixed firmly to underlying structures. Her right breast was involved with a mobile tumour measuring 10 x 8 cm. The overlying skin was oedematous. There were enlarged and fixed axillary nodes on the right side as well. The radio-isotope liver and bone scans revealed metastasis in the liver and over the left third rib posteriorly.

After adequate psychosocial assessment and several sessions of discussion with the patient and the family, we undertook to resect the tumour electively. At surgery the tissue was found to be oedematous due to extensive

Fig 2
Case 1: Patient completely relieved of locally distressing symptoms.

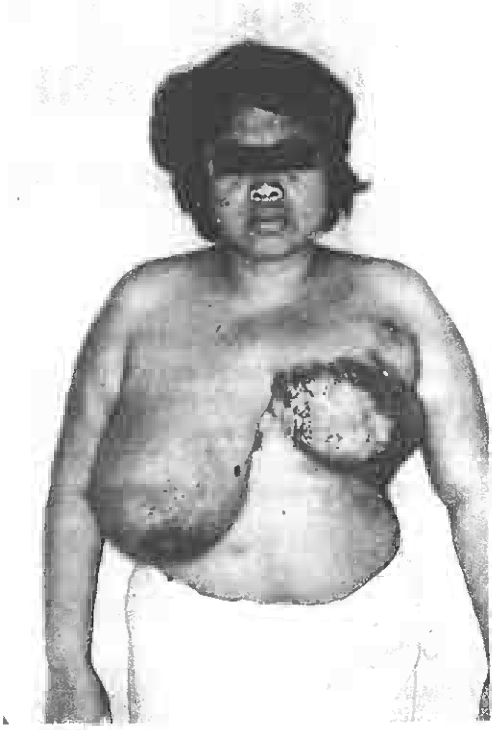

Fig 1
Case 1: Patient with bilateral breast tumour

Fig 3
Case 2: Left breast ulcerated with Secondary infection.

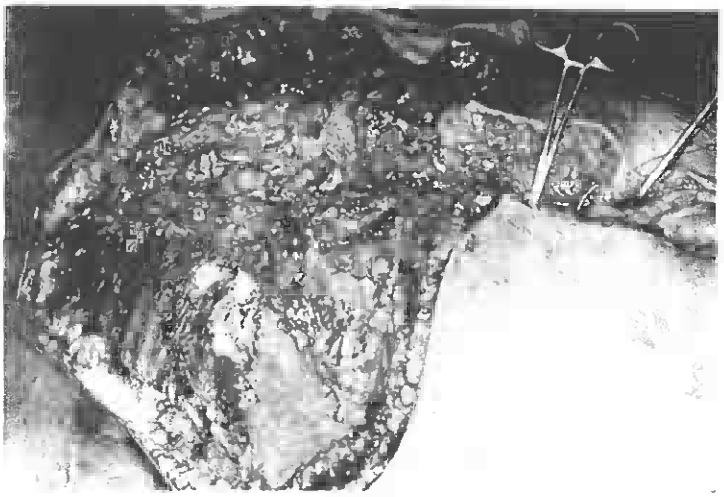

Fig 4
Case 2: Extensive resection of all involved skin, anxillary nodes and the whole left breast the anxillary contents.

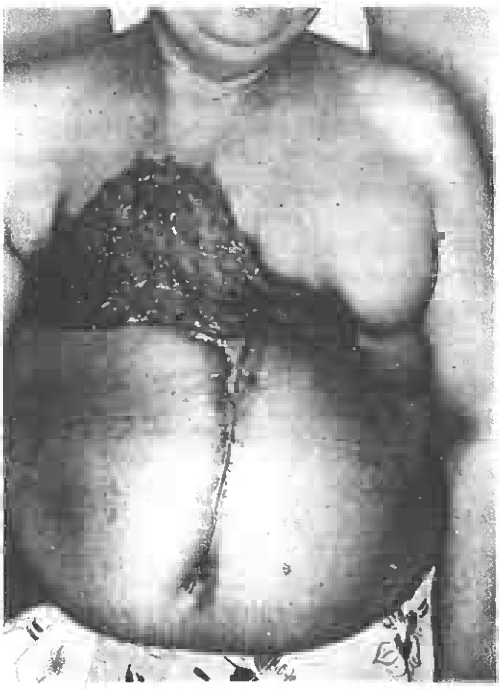

Fig 5
Case 2: Chest wall closed with a mobilized pedicled omental flap with split skin graft laid over it.

lymphatic obstruction. Both breasts, both axillary contents and overlying skin with satellite nodules were excised in continuity, leaving a large defect extending from the clavicles to the epigastric region and to both mid-axillary lines. In several areas over the left chest wall the tumour had to be shaven off the underlying rib or costal cartilage.

A second team operated simultaneously on the abdomen. The abdomen was opened via a long upper midline incision. After an exploratory laparotomy, bilateral oophorectomy was performed. The greater omentum was then mobilised based on the right gastro-epiploic vessels and brought out via the upper end of the incision next to the xiphisternum. This was then spread out over the chest wall defect, sutured in place, and the abdominal incision closed. Split skin graft taken from both thighs were then laid over the omental flap and the operation completed. The total blood loss was estimated to be 2 litres and the operating time four hours.

The excised specimen weighed 4.6 kg and histology revealed extensive infiltrating ductal carcinoma with widespread lymph node involvement. As expected, the surgical margins were not free of tumour, especially on the deep surface.

The patient was treated with chemotherapy using the CMF regime (cyclophosphamide, methotrexate and 5-fluorouracil) and local regional adjuvant radiotherapy given 2 months post-operatively to a total of 4200 rads.

She recovered well from the surgery and was back to her normal activities within three weeks. The wounds healed well and the patient was completely relieved of her locally distressing symptoms (Fig. 2). She survived for a further six and a half months before succumbing to her metastatic lesions. At time of death, there was no recurrence over the flap although there were several small nodules around the grafted area.

CASE 2

R S, a 46-year old Malay housewife presented in December 1984 with a T3N1MO tumour of the right breast. The chest X-ray and an isotope bone scan done at that time were both normal. She underwent a simple mastectomy and axillary sampling. The histology revealed invasive ductal carcinoma of the breast with 4 out of 6 axillary nodes sampled involved by tumour. She was treated post-operatively with 4200 rads of radiotherapy to the chest wall and the axilla, followed by six cycles of chemotherapy using the CMF regime. She remained well and was asymptomatic on regular follow-up with annual bone scan and chest X-ray.

In July 1986, twenty months after the primary treatment, she developed several small nodules over the mastectomy scar area. She was then treated with Tamoxifen 10 mg b.d. over the next four months. Investigations done over this period of time revealed no distant metastasis. Four months after hormonal manipulation, there was extensive local recurrence which involved the whole of the right chest wall. Her left breast developed another large tumour, the overlying skin was soon involved and became ulcerated with secondary infection (Fig. 3). Over this period she was given a further course of chemotherapy utilizing cyclophosphamide, methotrexate, vinblastin, adriamycin and 5-fluorouracil. Six cycles of such treatment achieved no positive remission and the disease had progressed rapidly. The bone scan revealed several metastatic deposits in the ribs, clavicle and spine. It was then decided to carry out an extensive resection in order to palliate the local disease which had become intolerable.

In June 1987, an extensive resection of all involved skin, axillary nodes and the whole left breast and the axillary contents was performed (Fig. 4). The large defect over the chest wall was closed with a mobilized pedicled omental flap with split skin graft laid over it. Bilateral oophorectomy was performed. No post-operative irradiation was given for this patient. She continued to receive chemotherapy with the above regime. Her recovery was uneventful and she left for home two weeks following surgery in cheerful spirit. The graft had taken well and there was no further local regional problems (Fig. 5).

Six-months later she developed dyspnoea on exertion and this progressed rapidly over the next few weeks. She succumbed to malignant pulmonary metastasis 26 weeks after surgery without local symptoms.

DISCUSSION

Whilst most patients with advanced carcinoma of the breast eventually die from visceral metastases, in a proportion of patients, the local regional recurrence create distressing problems. We report two cases where the local disease is so advanced and disabling that any form of palliation will considerably improve the quality of life in the terminal stages. The ideal palliation for such patients with extremly short life expectancy will have to be effective, safe, and requires minimal duration of hospitalization. It should also be applicable for both primary presentation or recurrent disease.

The greater omentum had been used for various reconstructive procedures for many years now. The remarkable power of the greater omentum to provide neovascularization to ischaemic tissue, its rich lymphatics and vessels in absorbing exudates and oedema, and its ability to combat infections had long been utilised by surgeons to great advantage. When transposed outside the peritoneal cavity, it has many uses (2-4). Dupont and Menard (5) reported using the omentum for reconstruction of post-radiation necrosis of the chest wall. Newing, Pribaz et al (1) utilized the omentum in reconstructing the chest wall defect after resection of fungating tumours of the breasts in 8 cases and reported satisfactory results. Since this report in 1979, few other reports on this technique had been published in the literature (6).

The operation itself is not technically difficult. Wide excision without regard to the margins can be carried out fairly easily. We do not attempt to resect rib cage or cartilage unless they are obviously necrotic. Where tumour infiltrates the thoracic wall, it is simply shaven off the thoracic wall. The amount of blood and fluid loss can be considerable and will require prompt replacement. Endocrine ablation in the form of bilateral oophorectomy can be done at the same sitting. We prefer to operate with three surgeons simultaneously. The surgery starts off with one surgeon removing skin grafts from the thighs, the second opens the abdomen to mobilise the omentum and a third begins the tumour resection. By close coordination and team work, we were able to complete the surgery within 4 hours and reduce the blood loss considerably.

Post-operatively, the patients were electively ventilated

for 24 hours in view of the extensive resection and the considerable amount of pain. A morphine drip is routinely used for pain relief. The wound is left exposed without dressing and any collection of seroma is gently expressed with a sterile gauze or punctured with a sterile needle. The graft takes well except near the edges of the defect which sometimes requires a short period of dressing.

Our experience in these two cases concurred with that of Newing et al (1). Surgical ablation of these fungating, weeping tumours seems to be the only effective means of palliation. The use of an omental transposition flap enables rapid healing and a remarkable rate of success for split skin grafts to take over the well vascularised omentum. It is also our impression that the omentum seems to resist tumour invasion for a reasonable length of time. In both our cases, the patients died without significant tumour growth over the grafted areas. No post-operative hernia was seen in both our cases. We did not find infection a major problem despite chemotherapy and operating on locally ischaemic irradiated tissue. Although theoretically tumour seedling may occur in the peritoneal cavity via the omentum, we did not see this happening in both cases perhaps due to their short life span. Both patients tolerated the surgery very well despite their advanced disease. The operation is safe, effective with a high success rate and well tolerated by the patient.

Management of locally advanced breast cancer generally yields poor results. The main advantage of this technique is to reliably palliate the local tumour within a reasonably short time. Prior to the surgery both patients were in social recluse. The excision of such tumours certainly improved their quality of life in their last days.

CONCLUSION

The use of omental transposition flap and split skin graft offers an effective means of reconstructing the chest wall after an extensive resection for locally advanced breast cancer. The operation is safe, effective, with a high success rate and well tolerated by the patient.

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