

EXTENDED ROLE OF LATISSIMUS DORSI MYOCUTANEOUS FLAP IN RECONSTRUCTION OF THE NECK

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The value and versatility of the latissimus dorsi myocutaneous flap have been well described in the repair of defects of the chest wall and spine (Bostwick *et al.*, 1979; McCraw *et al.*, 1978), the shoulder (Mendelson and Masson, 1977) and in reconstruction of the breast (Muhlbauer and Olbrish, 1977. Quillen *et al.* (1978) have recently described its use as a transposed island flap to cover the left side of mandible and neck after excision of a squamous cell carcinoma.

This compound flap can be used as a pedicle flap (Olivari, 1976; Harii *et al.*, 1978), a free flap (Maxwell *et al.*, 1978) or a transposed island flap. The anatomical features of the flap are well documented (McCraw *et al.*, 1978). We would like to report a case in which the latissimus dorsi myocutaneous flap was used to cover the whole of the front of the neck and lower face. Originally, a free flap transfer had been planned but the long vascular pedicle made it possible to use it as an island flap and cover the entire neck.

CASE REPORT

A 44-year-old lady attended the Combined Head and Neck Cancer Clinic in September 1977 with a 10-month history of an unhealed painful ulcer on the left lower alveolus extending from the angle of the jaw to within 1 cm of the midline. She was also found to have an enlarged submandibular lymph node, 1 cm in diameter, on the left side. X-ray of the mandible showed no bony involvement. Biopsy of the ulcer showed a well differentiated squamous cell carcinoma. It was decided to treat the lesion by radiotherapy first, followed by surgery. She was given by linear accelerator a TD 5,500 rads in twenty fractions over a period of six weeks.

The primary lesion did not regress completely. In December 1977 the ulcer on the alveolus was still obvious and there was a lymph node behind the left angle of the jaw, 2 cm × 2 cm in size, firm and mobile.

In January 1978, after a preliminary tracheostomy, a monobloc excision of left hemimandible, radical block dissection of the left side of the neck and right sided supra-hyoid dissection was performed by the E.N.T. surgeons. The defect was repaired with a left forehead flap for lining and a left deltopectoral flap for cover. The postoperative recovery was uneventful.

During September 1978 she developed a recurrence in the submental region which was 2 cm in size. A course of chemotherapy with Bleomycin 15 mg I.V. and Mitomycin 10 mg I.V. was given over three successive days, with no improvement.

By December 1978 she had developed a fungating mass ulcerating through and around the deltopectoral flap on the chin and neck (Figs 1 and 2). The foul smell and the pain were making her life a misery. She was emaciated and had lost 4½ stones in weight. She also had difficulty and pain on swallowing. A chest X-ray and liver function tests were within the normal limits and there was no evidence of distant metastases. She and her family requested further surgery. Therefore a palliative operation was planned to remove the tumour and thereby to alleviate her pain, the foul smell and make her more comfortable.

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FIG. 1. Recurrent fungating tumour which has destroyed the deltopectoral flap used in the earlier excision and encroaches on the stomal opening.

FIG. 2. Close-up view to show greater detail

FIG. 3. Defect in the neck left after radical excision of the recurrent tumour. Nasolabial Abbe flaps have been cut to help in the reconstruction of the lower lip. A right-sided deltopectoral flap has been raised for lining.

Operation. A preliminary tracheostomy was performed. A monobloc excision of the recurrent tumour was performed, including the lower lip, the whole of the tongue, anterior wall of laryngo-pharynx, leaving the posterior wall of larynx, a block dissection of the right side of the neck leaving the internal jugular vein and removal of the left lobe of the thyroid (Fig. 3). Reconstruction of the pharynx was done with a tubed deltopectoral flap (right) sutured to the remaining posterior wall of the larynx (Bakamjian, 1965).

Initially it was planned to use a latissimus dorsi myocutaneous flap of 24 cm × 15 cm as a free flap to provide cover. Once the flap was raised on the long thoraco-dorsal vascular pedicle, it was found to reach the neck easily and so was used to cover the neck as a transposed island flap (Fig. 4). The vascular pedicle crossed the delto-pectoral donor site defect by passing over pectoralis major and a narrow residual skin bridge between the neck and chest wall defects was divided and sutured over the pedicle. Care was taken to avoid kinking or twisting of the vascular pedicle, especially near the lower border of the pectoralis major where the pedicle was

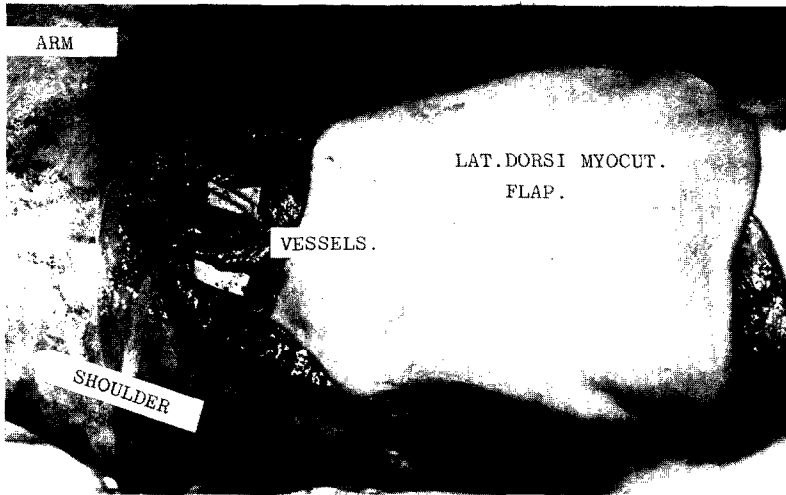


FIG. 4. Latissimus dorsi myocutaneous flap raised on the right side, showing the size of the flap and the well developed vascular pedicle.

fixed with cat-gut sutures. Bilateral Abbe flaps from the upper lip were used to reconstruct part of the lower lip. Subcutaneous suction drains were placed in the neck. The donor areas on the chest were covered by split skin grafts applied two days later.

Postoperatively she was given high protein nutritional supplements through a fine bore naso-gastric tube. Her postoperative course was complicated by a chest infection which responded to antibiotics and physiotherapy. The flaps healed very well (Fig. 5). There was minimal weakness of adduction of the shoulder.

On the 21st February 1979, the pedicle of the deltopectoral flap was divided and the stoma closed. The mouth was enlarged by a commissurotomy on each side.

She was allowed to go home between the stages and her total in-patient stay was four weeks.



FIG. 5. View of the latissimus dorsi flap in position on the neck and the secondary defects on the chest wall covered with split skin grafts.

DISCUSSION

This case report shows that a latissimus dorsi myocutaneous flap can be used as a transposed island flap to cover an extensive defect involving the entire front of the neck. Initially it was planned to use it as a free flap but the long vascular pedicle made it possible to use it as an island flap. The flap was technically feasible because the patient was thin and most of the mandible had been removed. In this case it was used as a palliative procedure to make the patient more comfortable, get rid of the foul smell and relieve her pain.

The latissimus dorsi myocutaneous flap may well have a wider application as a transposed island flap in covering extensive defects in the neck, such as those produced after release of severe burn contractures of neck and extensive block dissection of the neck.

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