

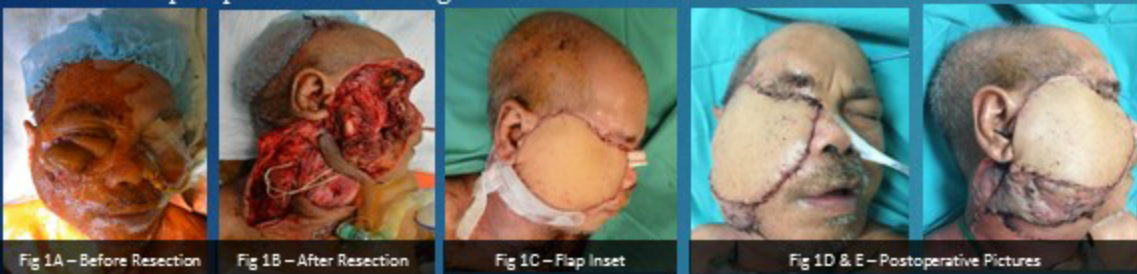
HARVESTING THE LATISSIMUS DORSI FREE FLAP IN SUPINE POSITION: A CASE SERIES

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INTRODUCTION: The latissimus dorsi (LD) is the most important elements of the lateral – posterior chest wall and it is the largest muscle in the body by surface area enabling it to cover very large defects when used as a free flap. First described by Iginio Tansini in 1896, it is traditionally harvested in a lateral decubitus or prone position due to its location on the back. Frequent intraoperative repositioning is required to facilitate flap harvest, microanastomosis and donor site closure. We report our experience in harvesting musculocutaneous LD free flap in a maintained supine position for coverage of an extensive defect.



CASE REPORT 1: A 66 years old gentleman suffers a recurrent squamous cell carcinoma involving the underlying maxilla and right eye. The tumour grew from underneath a free anterolateral thigh flap done previously (Fig. 1A). He underwent an extensive resection surgery involving multiple disciplines i.e. right total maxillectomy, total parotidectomy, right radical neck dissection, exenteration of the right eye and right supraorbital ridge resection. These resection left a massive 12x15 cm defect on the right side of the face (Fig. 1B).



CASE REPORT 2: 5 years old girl involved with motor vehicle accident and sustained degloving injury over the left distal leg and foot (measuring 15cm x 15cm) with fracture distal end of tibia (Salter Harris type IV) and open 3b fracture of ankle and foot, extensive soft tissue injury (exposing tendons, muscles bone and ankle joint) and anterior tibialis artery cut (Fig. 2A & B). Orthopedic team proceeded with wound debridement and external fixation.



SURGICAL PROCEDURE: In both cases, while still in supine position (Fig. 4), the patient's trunk was placed near the table edge with pelvis secured and strapped onto the operating table which was tilted to the opposite side (Figure 3B). The arm of the donor side was abducted on a hand surgery table support (Figure 3A) and a folded surgical drape was placed along the vertebral column under the right scapula to lift patient's right trunk. Standard method of LD free flap harvest was performed. Nearly the entire LD muscle was released with the flap. Flap inset at the recipient site (First case -Fig. 1C & Second case - Fig. 2C) and microsurgical anastomoses done simultaneously with donor site closure. For the first case, a 7x7 cm area at the donor site was unable to be approximated thus covered with split skin grafting (SSG) (Fig. 1F) while the donor site was closed primarily in the second case. In both cases, drains were inserted at the Donor site. The latter case, collagen dressing was applied on the muscle (Fig. 2D) with delayed SSG for coverage (Fig. 2E & F).

DISCUSSIONS: Several studies have reported that supine harvesting of LD flap is practical and effective allowing simultaneous resection and harvest however this was done separately in our first case due to difficulty in performing neck dissection with placement of cushion underneath the patient's shoulder. Besides reducing risk of contamination by avoiding manipulation of initial sterile field, it also provides comfort for the surgeon, who carried out all the dissection and hemostasis in a sitting position; followed by microsurgical anastomosis – performed together with donor closure by the assistant. With the arm naturally positioned in abduction, the approach to the pedicle, being located close to the anterior muscle margin was easier. Since the patient is anesthetized supine and stayed in the same position throughout the surgery, the endotracheal tube remains secure with minimal disturbance in vital signs monitoring. These altogether reduces the intraoperative time and simplifies the operation.

CONCLUSIONS: LD free flap harvest in supine is a feasible way to cover very large defects replacing the classical and more tedious method of harvest in lateral or prone position.

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