

## Journal Oracle



Fig. 1. Oracle picture.



Fig. 2. Oracle picture.

This pressure sore Fig. 1 developed after a prolonged spinal operation in prone position.

The equivalent pressure sore developed mucosally Fig. 2, taking over 3 weeks to heal.

Careful measures must be taken in these procedures to prevent this happening.

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**Comparison of surgical result of anterolateral thigh flap in reconstruction of through-and-through cheek defect with/without CT angiography guidance**

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The anterolateral thigh flap (ALT) is a useful flap for head and neck reconstruction and is becoming increasingly popular but the variable perforators and the time taken to find them and dissect them out may limit its applications.

The ALT flap has however become the flap of choice for head and neck reconstruction in Asia, and other studies focusing on the European patients also revealed its excellent feasibility since the thigh skinfold thickness and circumference in an oral cancer population do not differ significantly from published sino-Asian norms. This flap provides extraordinary benefits for through-and-through cheek defects because there is no need for double free flaps or one free flap plus one pedicle

flap. Two separated perforator-based flaps in one single pedicle can be designed in one ALT flap for the simultaneous reconstruction of the intraoral lining and external coverage. The major limitation of this flap is the uncertainty in predicting the perforator anatomy with regard to size, number, and pathway. With advances in image acquisition and data analysis, more precise and detailed information about the vascular anatomy can be acquired using multidetector computed tomographic angiography (CTA). This has been shown to be highly accurate in demonstrating the intramuscular, subfascial, and subcutaneous segments of individual perforators, with reported high sensitivity and specificities.

No adequate formal analysis of the relationship between the use of preoperative CTA and the surgical results of the free ALT cutaneous perforator flap has been reported until now.

A retrospective study of surgery conducted between February 2005 and July 2009 at the Tri-Service General Hospital, Taiwan, was performed. Patients were included in this study if they had undergone free ALT flap reconstruction for through-and-through cheek defects resulting from radical oncological resection. Thirty-two patients met the study criteria, all of who were male. All reconstructive surgery was performed or supervised by the corresponding author. These patients were divided into two groups depending on whether they had or had not undergone preoperative CTA. Group I comprised 17 patients with a mean age of 50.1 years. The ALT flap was designed based on the traditional handheld Doppler probe. If the result was inconclusive, the limb on the opposite side of the cheek defect was selected. In group II ( $N=15$ ), preoperative imaging with CTA was used to map the perforator number, size, and variations. The preferable left or right thigh was selected based on the suitable and sizable vascular pattern read from CTA. The mean age in group II was 48.4 years. A manual chart review was performed and a database created to include patient age, sex,

personal habits, underlying disease, cancer stage, extent of bone and soft-tissue defects, use of preoperative CTA, size of the flap skin paddle, operating time, length of hospital stay, and post-operative complications.

The patients were evaluated for both major and minor complications.

There were no statistically significant differences between the groups in any demographic factor. The complete flap survival rate was 96.88% (31 of 32 flaps). The use of preoperative CTA was associated with a significant reduction in major surgical complications (1/15 vs 9/17 in the no-CTA group;  $p<0.01$ ), length of surgery ( $13.64 \pm 2.7$  vs  $16.25 \pm 3.5$  h in the no-CTA group;  $p=0.029$ ) and the need for a secondary debulking procedure in patients with lip or oral commissure involvement (0 vs 3/8 for the no-CTA group;  $p=0.026$ ). There were no significant differences between the two groups with respect to minor surgical complications (2/15 vs 2/17 in the no-CTA group;  $p>0.05$ ), postoperative hospitalization period ( $33 \pm 13$  vs  $31 \pm 16$  days for groups I and II, respectively) or oral competence (Table 2). Tolerance of a soft diet (at least) was documented in 14 of 17 patients in group I and in 13 of 15 patients in group II.

Successful free cutaneous perforator flap reconstruction requires precise dissection and localization of the perforator. Although the free ALT flap is a well-documented versatile and is widely used in various reconstructions, there are still some limitations based on concerns over flap vascularity and variations in vascular anatomy with regard to size, number, and pathway.

In conclusion, the use of preoperative imaging with CTA before the use of a free ALT flap for cheek reconstruction has the following advantages: (1) interpret any anatomical variations and facilitate flap design, especially for two skin paddles based on single pedicle; (2) selection the exact suitable thigh for harvesting ALT flap; and (3) significantly reduced major flap-related complications, length of surgery and the need for a further

debulking procedure. A trend toward a reduced postoperative hospitalization period was also evident.

#### **Lateral thoracic perforator flap: additional perforator flap option from the lateral thoracic region**

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Perforator flaps from the lateral thoracic region have not been as popular as other donor sites because of the misconception that the vascular anatomy in this region is less than predictable. However, the skin over the lateral thoracic region is vascularised by three rows of perforators of varied vascular dominance. Two perforator flaps from this region based on the middle and the posterior row of perforators from the thoracodorsal artery have been described. The lateral thoracic perforator flap based on the anterior row of perforators is another useful option. In this paper nine patients underwent reconstructions using the lateral thoracic perforator flap for various defects in the head and neck region and lower limbs as a result of tumour extirpation, crush injury and chronic wound with osteomyelitis. All flaps were raised in the supine position. Three flaps were raised in a chimaeric fashion. The largest flap was 20 cm × 12 cm and the mean size was 106 cm<sup>2</sup>. All flaps survived without major complication. They conclude the lateral thoracic perforator flap is a reliable reconstructive option. It can be readily configured in terms of size, thickness and tissue composition. However, it is not the first-choice flap from this region because the resultant donor scar tends to extend visibly beyond the anterior axillary fold and the arterial and venous pedicles frequently have separate courses. The lateral thoracic region has become a versatile and universal donor site for free-style flap harvest with this additional flap option.