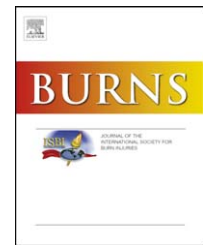


available at [www.sciencedirect.com](http://www.sciencedirect.com)journal homepage: [www.elsevier.com/locate/burns](http://www.elsevier.com/locate/burns)

# Use of the lateral intercostal artery perforator-based pedicled reverse thoraco-abdominal flap for treatment of antecubital burn contractures

Huseyin Karagoz<sup>a,\*</sup>, Fikret Eren<sup>b</sup>, Ersin Ulkur<sup>c</sup>

<sup>a</sup> Maresal Cakmak Military Hospital, Department of Plastic and Reconstructive Surgery, Erzurum, Turkey

<sup>b</sup> Etimesgut Military Hospital, Department of Plastic and Reconstructive Surgery, Ankara, Turkey

<sup>c</sup> Gulhane Military Medical Academy, Haydarpasa Training Hospital, Department of Plastic and Reconstructive Surgery, Istanbul, Turkey

## ARTICLE INFO

### Article history:

Received 5 July 2009

Received in revised form

2 March 2010

Accepted 25 March 2010

### Keywords:

Lateral intercostal artery

Perforator flap

Reverse thoraco-abdominal flap

Antecubital burn contracture

## ABSTRACT

We describe a lateral intercostal artery perforator-based pedicled reverse thoraco-abdominal flap for coverage of the antecubital fossa after burn scar release. In this study we describe raising and inseting the flap and reported our clinical results and observations.

Antecubital contracture release was carried out in six patients, and the lateral intercostal artery perforator-based pedicled reverse thoraco-abdominal flap was raised based on the anterolateral cutaneous perforator of the appropriate intercostal artery. The defects were repaired with this flap.

All the flaps survived and antecubital contractures were repaired successfully. No recurrent contracture occurred in any of the patients at a mean of 15.3 months.

The lateral intercostal artery perforator-based pedicled reverse thoraco-abdominal flap can be used effectively for repair of antecubital tissue defects as an alternative to other reconstructive methods.

© 2010 Elsevier Ltd and ISBI. All rights reserved.

Flexion contractures are late sequelae that occur with burns of the deep antecubital region. Antecubital defects created by radical excision of scar tissue require good soft tissue coverage due to recurrence of contractures that cannot always be avoided even with proper splinting and therapy, even though they have been traditionally released with the use of skin grafts, if tendons and neurovascular structures are not exposed.

In this study, we describe a lateral intercostal artery perforator (LICAP)-based pedicled reverse thoraco-abdominal flap for coverage of the antecubital fossa after releasing contractures of this region in selected cases with limited treatment options. The vascular pedicle of LICAP-based reverse thoraco-abdominal flap has lateral perforators of the posterior intercostal arteries. Nine pairs of posterior

intercostal arteries arise from the descending thoracic aorta and are distributed to the lower nine intercostal spaces. The posterior intercostal artery gives off the lateral cutaneous branches (lateral perforators) at the midaxillary line and these branches pierce the external and internal intercostal muscles and give off the anterior and posterior branches [1]. The posterior branches pass backwards horizontally and are distributed in the skin of the back. The anterior branches travel and pass obliquely anteriorly and downward and enter the subcutaneous tissue of the lateral thorax [2].

LICAP-based flaps (using both the anterior [3,4], and posterior branches[5]) have also been used to reconstruct upper extremity defects. We also used the anterior branch of the lateral intercostal artery for nourishment of the flap as did Yunchuan et al. [3] however, at the beginning, we de-

\* Corresponding author at: Maresal Cakmak Asker Hastanesi, Plastik Cerrahi Servisi, 25100 Erzurum, Turkey. Tel.: +90 5325169957.

E-mail address: [hkaragozmd@hotmail.com](mailto:hkaragozmd@hotmail.com) (H. Karagoz).

0305-4179/\$36.00 © 2010 Elsevier Ltd and ISBI. All rights reserved.

doi:10.1016/j.burns.2010.03.010

epithelialised the flap and inset with the dermis down to the antecubital defect that localised on the same side. Then we covered the flap with skin graft that was previously harvested from the flap skin.

## 1. Materials and methods

Six patients who have antecubital burn contracture were repaired using the LICAP-based pedicled reverse thoraco-abdominal flap between November 2006 and December 2008. All of the patients were men, with an age range from 20 years to 26 years (mean 22 years). In five of the cases, LICAP-based pedicled reverse thoraco-abdominal flaps were used because of inadequate healthy skin in the vicinity of the contracture for local flaps, and in one of the cases, the patient did not want another scar on his upper arm.

### 1.1. Surgical technique

The patients were operated upon under general anaesthesia with tracheal intubation in a dorsal decubitus position. Contracture release was performed using a transverse incision through the contracted skin overlying the antecubital fossa, and all scar tissues and contracting bands were completely excised. After full extension of the elbow joint was established, defect size was measured, and a template was prepared.

The anterolateral cutaneous perforator of the appropriate intercostal artery (8th or 9th) was located at the midaxillary line using a hand-held Doppler. The thoraco-abdominal flap was designed by a transverse pattern in the first case, and an oblique pattern towards the umbilicus in the other cases. The width and length of the flap were adjusted according to the template that was prepared previous to placing the perforator



**Fig. 1 – Raising and inseting the flap. (A) Harvesting the skin graft from skin overlying the flap at the left thoraco-abdominal region; (B) the flap which elevated up to the perforator artery at the left thoraco-abdominal region; (C) inset the flap and sutured donor area; (D) ultimate view of the flap covered by the skin graft at the end of the operation.**

Download English Version:

<https://daneshyari.com/en/article/3105026>

Download Persian Version:

<https://daneshyari.com/article/3105026>

[Daneshyari.com](https://daneshyari.com)