

Case report

## Resurfacing of fingertip following deep burns: the hypothenar skin graft

A.M. Baruchin\*, Shimon Scharf, Ohad Baruchin, Boris Yoffe

*Department of Surgery and Laser Surgery Unit, Barzilai Medical Centre and the Faculty of Health Sciences,  
Ben-Gurion University of the Negev, 78306 Ashkelon, Israel*

### 1. Introduction

In the reconstruction of the burned hand, each case must be carefully evaluated in the context of total patient care: only then can the proper procedure or management scheme be chosen. When the fundamental problem, is loss of surface coverage, it is usually necessary to add skin-by-skin grafts or flaps. Z-plastics and other local flaps, often do not provide enough tissue and present a higher complication rate when performed, in the context of scars contracture and increase tension, so that further stable tissue coverage is required [1–5].

This paper suggests, the use of the hypothenar eminence as logical a donor site for pulp defects. The procedure is simple and produces an excellent end result. It works best where there is loss of fingertip skin but, when indicated, one can use this method to repair skin losses elsewhere in the hand.

### 2. Case report

A 38-year old employee sustained injury to his hand caught under an oven conveyor while working on the line at a pizza manufacturing plant. As he was cleaning it, the rag he used was caught by the moving conveyor and his right hand was dragged into the nip point. He sustained friction burns and lacerations on his right hand especially the thumb pulp, where a full thickness skin defect was noted (Fig. 1). The patient was taken to Barzilai Hospital for treatment. Under local anesthesia (wrist block), the thumb was

debrided and treated with a graft, harvested with a Silver's Miniature Knife, from the Hypothenar eminence (Fig. 2). Other injuries were treated conservatively.

The wounds were fully healed by 4 weeks (Fig. 3).

In 20 years, we have had no complaints from patients with these donor sites, they are healed before the grafted finger is.

### 3. Discussion

In reconstruction of lost tissue, the fundamental principle consist of replacing the lost tissue with similar tissue. It is obvious that sooner the skin loss can be replaced, the better will be the result. In such burns, as the presented case, this can best be effected by primary excision of the burned area and primary skin grafting of the defect.

The ideal site to the glabrous digital skin is similar tissue harvested from other fingers. This kind of grafts, enable the patients to return rapidly to their work and normal daily life.

However, what should be done if the other fingers are affected as well?

In such case, the hypothenar skin graft is suggested for a single stage reconstruction of fingertip skin losses, providing a glabrous skin and subcutaneous protective padding, minimal morbidity and satisfactory functional recovery and cosmesis [6,5].

In 20 years, we have had no complaints from patients with these donor site, they are healed before the grafts finger is, in our experience the end results seem superior in appearance, and possibly in sensation.

\* Corresponding author. Tel.: +972 8 6739541; fax: +972 8 6739541.  
E-mail address: baruchin@netvision.net.il (A.M. Baruchin).



Fig. 1. Full thickness friction burn to volar aspect of right thumb.



Fig. 3. Appearance 20 days after applying hypothenar graft.



Fig. 2. The hypothenar donor site. Note deep friction burns on the volar aspect of all other fingers.

## References

- [1] Patton HS. Split skin graft from hypothenar area for fingertip avulsion. *Plast Reconstr Surg* 1969;43:427–8.
- [2] Thompson JS. Free hypothenar full-thickness grafts for distal digital defects. *John Hopkins Med J* 1979;145(3):126–30.
- [3] Schneck RR, Cheema TA. Hypothenar skin grafts for fingertip reconstruction. *J Hand Surg (Am)* 1984;9(5):750–3.
- [4] Hong JP, Lee SJ, Chung YK. Reconstruction of fingertip and stump using a composite graft from the hypothenar region. *Ann Plast Surg* 2003;51(1):57–62.
- [5] Gócalan L, Özgür F, Mavili E, Gürsu G. Factors affecting results in thermal hand burns. *Ann Burns Fire Disasters* 1996;4:222–7.
- [6] Rank BK, Wakefield AR, Hueston JT. *Surgery of repair as applied to hand injuries*, 4th ed. Edinburgh: Churchill Livingstone; 1973, pp. 330–4.