THE POLICY OF OUR CLINIC IN EARLY ESCHARECTOMY IN BURNS OF THE HAND

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SUMMARY. Early escharectomy in deep partial- and full-thickness burns of the hand has proved to have an advantage over late surgical treatment. It provides an improved functional and cosmetic result. Hand deformities, the need for secondary reconstructive procedures, and morbidity are significantly reduced. In our clinic we prefer to use early escharectomy in all full-thickness burns of the hand unless the patient’s condition prevents it or unless the extent of the burns in the rest of the body would prevent improvement in the general outcome.

- Hand burns represent a small wound area. Despite that, a burned hand has the potential for major short- and long-term disability.
- The multidisciplinary management of hand burns requires the involvement of surgeons, nurses, and physiotherapists.

Early escharectomy and grafting in deep partial- and full-thickness burns of the hand has proved to have an advantage over late surgical treatment. It provides an improved functional and cosmetic result.

Escharectomy involves the surgical removal of the burn eschar - early escharectomy of the hand is performed within 72 h of the burn incident.

It can be used with success in full-thickness or deep partial-thickness burns. In our clinic we prefer to use early escharectomy and grafting, unless the patient’s condition prevents it or unless the extent of the concomitant burns is so great that an improvement in the patient’s general outcome would be unachievable.

With early escharectomy, the necrotic tissue is transformed into a surgical lesion, thus reducing the chemical factors of inflammation, lowering the levels of lactic acid, and depressing the activity and disordered proliferation of fibroblasts and the consequent laying down of immature collagen that is responsible for the burn scar’s pathological evolution.

Escharectomy can be carried out tangentially or down to the level of the fascia.

Tangential excision is used for partial-thickness burns. Using a dermatome, a serial excision of the eschar is performed until punctuate bleeding of the dermis is noted.

Excision up to the fascia is used in cases of obvious full-thickness burns. Care should be taken to retain the dorsal venous network, injury to which would result in severe oedema of the hand.

Meticulous haemostasis is established and grafting with small to intermediate-thickness split-skin grafts follows. Sheets or meshed grafts can be used. The sheets should be placed in transverse direction so that longitudinal scars of the dorsum of the fingers are avoided.

In the recently burned hand, the commonest position of comfort that the patient assumes involves:
- flexion of the wrist
- adduction of the thumb
- hyperextension of the metacarpophalangeal joints
- flexion of the proximal interphalangeal joints

The importance of the correct splinting of the hand should be emphasized even when escharectomy has been performed, in order to avoid debilitating complications (Fig. 1).

Fig. 1 - Escharectomy and grafting performed with incorrect splinting method, leading to hand contracture.

The correct splinting position is:
- extension of the wrist at 30°
- flexion of the metacarpophalangeal joint at 70°
- extension of the proximal interphalangeal joints
- abduction of the thumb
- elevation of the hand

If a deep partial-thickness burn is allowed to heal con-
servatively, it will take a very long time to heal, with consequent immobilization, resulting in functional disability. Also, subsequent superinfection may convert it into a full-thickness burn.

If a full-thickness burn is allowed to heal conservatively, it may take two or three months to heal, with a healing process based primarily on the formation of scar tissue (Fig. 2).

This will result in:
- development of hypertrophic scar
- flexion of the wrist
- adduction of the thumb
- hyperextension of the metacarpophalangeal joints
- flexion of the proximal interphalangeal joints
- web space contractures, post-burn syndactyly
- boutonnière deformity, flexion of proximal interphalangeals, and hyperextension of distal interphalangeals

From the experience of our clinic we have observed that early eschar excision is beneficial (Fig. 3). It achieves quick mobilization. Within a week the hand is gradually mobilized, providing a good functional and aesthetic result. Hospitalization time is decreased and patients can resume their normal activities sooner. Hand deformities and the need for secondary reconstructive procedures are significantly reduced.1-12

RÉSUMÉ. L’escarrectomie précoce dans les brûlures profondes de la main à épaisseur variable et totale s’est démontrée supérieure au traitement chirurgical tardif. Elle produit une amélioration des résultats fonctionnels et cosmétiques. Il y a une réduction significative des difformités, de la nécessité de procédures reconstructives secondaires et de la morbidité. Les Auteurs, dans leur clinique, préfèrent utiliser l’escarrectomie précoce pour toutes les brûlures de toute l’épaisseur des mains à moins que les conditions générales du patient ne l’empêchent ou à moins que l’extension des brûlures dans le reste du corps ne risque d’empêcher toute amélioration du résultat global.

BIBLIOGRAPHY

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