



Contents lists available at ScienceDirect

Burns Open

journal homepage: www.burnsopen.com

Case Report

Wound breakdown reconstructed by reverse lateral arm flap after excision of heterotopic ossification of the elbow following severe burn injury: A case report

Akihiro Hirakawa^{a,*}, Yoshiyuki Ohno^b, Shingo Komura^a, Haruhiko Akiyama^a^a Department of Orthopaedic Surgery, Gifu University School of Medicine, Yanagido 1-1, Gifu City, Gifu 501-1194, Japan^b Department of Plastic Surgery, Gifu Municipal Hospital, Kashima-Chou 7-1, Gifu City, Gifu 500-8513, Japan

ARTICLE INFO

Article history:

Received 13 March 2017

Received in revised form 10 May 2017

Accepted 11 May 2017

Available online xxxx

Keywords:

Burn

Heterotopic ossification

Elbow

Complication

ABSTRACT

We report the case of a wound complication that was reconstructed by reverse lateral arm flap after excision of heterotopic ossification (HO) of the elbow in a patient with severe burns. Careful attention should be paid to wound complication and HO recurrence in patients undergoing surgical treatment for elbow HO following burn injury.

© 2017 The Author(s). Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Heterotopic ossification (HO) is the formation of mature lamellar bone in extrasosseous soft tissues [1]. It is recognized as a complication following direct trauma, central nervous trauma, severe burns, and major orthopaedic surgery, such as hip arthroplasty [2]. In patients with a traumatic brain injury, the hip and thigh are the most common sites of HO, which may be implicated in as high as two-thirds of cases [2,3]. Even more than in traumatic brain injury, HO in patients with a spinal cord injury occurs predominantly in the hip (up to 97% of cases) [3]. Approximately 20% of patients with traumatic injury to the central nervous system go on to develop clinically significant HO [3]. In contrast, elbow is the most common site for HO in patients with a burn injury [1]. The incidence of HO has been reported to range from 0.2% to 4% after severe burn injury [3]. Surgical treatment in patients with elbow HO following burn injury can improve the arc of motion and upper extremity function [4–7]. However, to our knowledge, complications of surgical treatment have not been closely reported. We report our experience with a wound complication following the excision of elbow HO in a patient with a history of severe burns.

2. Case presentation

A 57-year-old man presented with limited motion of his left elbow. He had a history of a burn injury approximately 2 years before presentation. He was admitted to the burn intensive care unit, and received mechanical ventilator support for approximately 50 days. Total burn surface area (TBSA) was 43%, and he underwent five wound debridement and split-thickness skin grafting in the operating room. Examination of his left elbow revealed burn scar tissue and split-thickness skin graft. His elbow was fixed at 65° flexion, and range of motion (ROM) was 65° pronation and 55° supination. A radiograph of his left elbow showed complete osseous ankyloses from HO (Fig. 1).

The left elbow underwent surgery with the patient under general anesthesia. A tourniquet was used. A posterior incision (Campbell Van Gorder approach) was made, the ulnar nerve identified and fully decompressed, and transferred anteriorly to the subcutaneous tissue at the end of surgery. The heterotopic bone was resected as completely as possible using osteotomes and rongeurs.

Furthermore, we excised the posterior capsule release and posterior oblique band of the medial collateral ligament. Intraoperative ROM of the elbow was 20° extension and 135° flexion. A bulky dressing and splint were applied with the elbow at approximately 45° flexion post-operatively. Active gravity-assisted ROM exercises were initiated on the 3rd post-operative day. To prevent heterotopic ossification recurrence, Diclofenac sodium, a

* Corresponding author. Fax: +81 (0)58 230 6334.

E-mail addresses: hirazoh1019@yahoo.co.jp (A. Hirakawa), yoshihono3472@g-mail.com (Y. Ohno), s_komura@gifu-u.ac.jp (S. Komura), hakiyama@gifu-u.ac.jp (H. Akiyama).

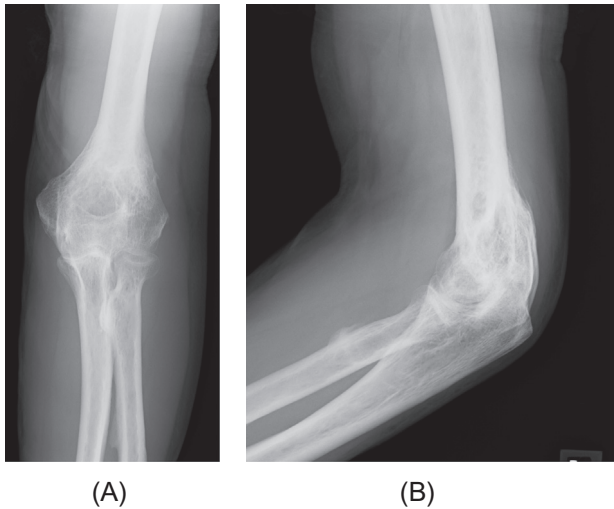


Fig. 1. AP (A) and lateral (B) radiographs showing HO bridging the humeroulnar joint at the initial visit.

nonselective cyclooxygenase (COX)-1, and COX-2 inhibitor were administered orally, 75 mg per day for 4 weeks. Radiation therapy was not performed.

Unfortunately, soft tissue breakdown at the posterior aspect of the elbow occurred (Fig. 2). We used a reverse lateral arm flap (7.5×4 cm) to cover the skin defect 4 weeks post-operatively (Fig. 3). The flap was elevated as to fasciocutaneous flap with a central axial supplying vessel (Posterior radial collateral artery: PRCA) in the same manner as previously described in the literature [8]. After PRCA was ligated at the proximal aspect of the flap, the distant pedicle, which originates from the interosseous recurrent artery, was divided from surrounding tissue until the transposition of the flap was possible. Then, the flap was rotated in a posterior direction to cover the defect. The donor site was closed primarily.



Fig. 2. Clinical photograph on postoperative 2 weeks showing soft tissue breakdown at the posterior aspect of the elbow.



Fig. 3. Intraoperative photographs showing the reconstruction of the posterior elbow defect using a lateral arm flap. The donor site was closed primarily.

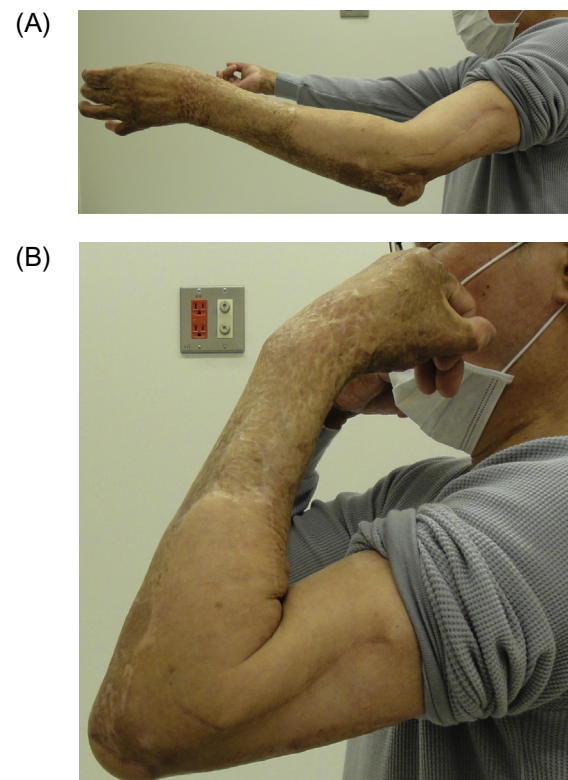


Fig. 4. Clinical photograph showing functional results in extension (A), flexion (B) at 2 years after excision of HO.

After this second surgery, the elbow was immobilized for 10 days to obtain initial wound healing according to a previous report and ROM exercises were restarted [9,10].

Download English Version:

<https://daneshyari.com/en/article/8928706>

Download Persian Version:

<https://daneshyari.com/article/8928706>

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