British Journal of Plastic Surgery (1987), **40**, 588–591

Surgical treatment of traumatic facial dimples

Y. NAKAYAMA and S. SOEDA

Department of Plastic and Reconstructive Surgery, Institute of Clinical Medicine, University of Tsukuba, Ibaraki, Japan

Summary—Traumatic cheek dimples are commonly encountered following trauma. The majority resolve spontaneously with time. In some cases dimples persist, leaving a cosmetic deformity particularly noticeable with movements of facial expression. We propose an operative technique for such cases where symptoms persist for a year or more.

Our operative methods and representative cases are described.

Cheek dimples due to subcutaneous soft tissue injury sometimes result from facial trauma. For these, conservative treatment is recommended in the first instance. In a small number of cases, traumatic cheek dimples persist and we have operated on these with good results.

Operative technique

The operation is best done under local anaesthetic. Before injecting the local anaesthetic, the margin of the traumatic cheek dimple is marked with dye with the patient in a sitting position. At this time the most depressed area and the direction of cicatricial contraction must be checked with different facial expressions. The margin is incised and the dimple is transformed into a subcutaneous pedicle flap as illustrated in Figure 1A. The subcutaneous pedicle is dissected in the direction of cicactricial contraction. This is confirmed occa-

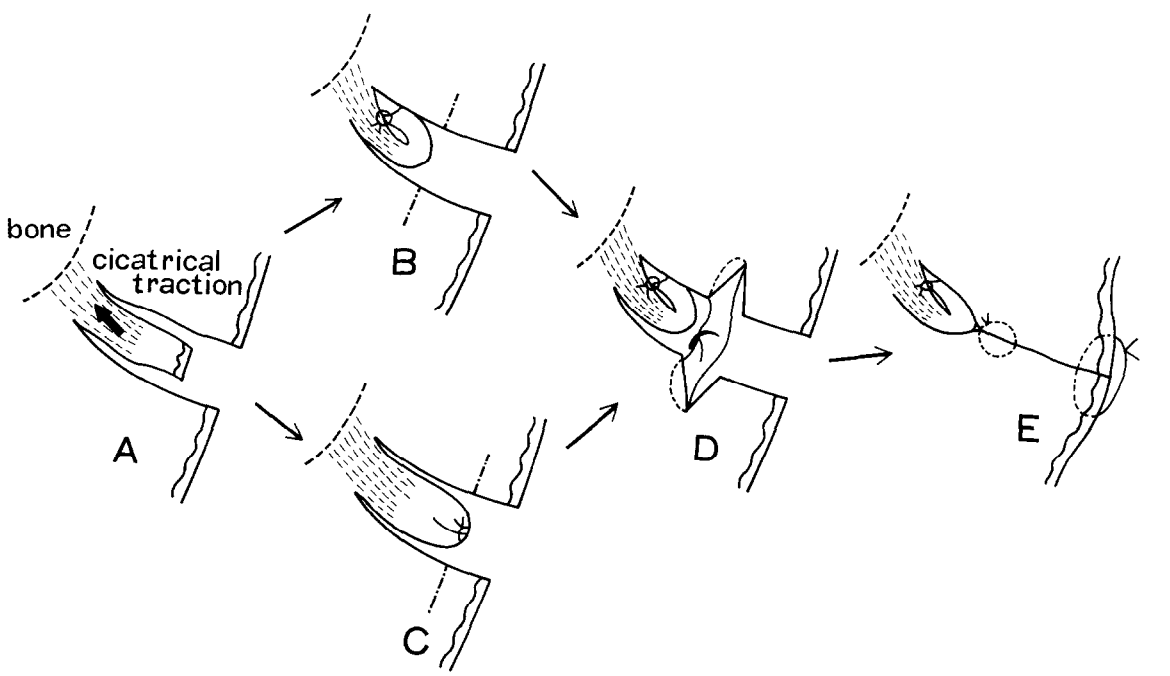

Fig. 1

Figure 1—Operative procedures. (A) Subcutaneous pedicle flap is prepared and dissected in a direction of cicatrical traction. (B) Narrow pedicle is tucked in and sutured. (C) Shaved edges of a wide pedicle are sutured together. (D) Undermining is done and sutured. (E) Procedures are completed.

sionally by asking the patient to smile. When the circumferential skin no longer becomes depressed with smiling, the subcutaneous dissection is terminated.

The skin of the dissected flap is then shaved off. To prevent recurrence of the dimple, one of the following two methods must be employed. In the case of a small dimple, the tip of the narrow pedicle is tucked in and sutured with fine nylon as illustrated in Figure 1B. In the case of a wide or large dimple, the pedicle cannot be tucked in and the shaved edges are sutured together as shown in Figure 1C.

The circumferential skin is then undermined. The level of the undermining is at the tip of the sutured flap and the extent is approximately 3 to 5 mm. These undermined portions are sutured together using non-absorbable materials (Fig. 1D). This manoeuvre increases the distance between the skin and the manipulated subcutaneous pedicle flap. Skin edges are approximated using fine nylon and a light pressure dressing is applied.

Five patients with traumatic cheek dimples have been operated upon. Both patients and surgeons were gratified with the results.

Representative clinical cases

Case 1

This 18-year-old female struck her cheek in a traffic accident 2 years previously and suffered multiple lacerations. The scars became soft with the lapse of time but a wide, depressed area below the malar eminence became evident when she smiled (Fig. 2A).

Scar revision of the depressed area, according to the technique described, was done under local anaesthetic. A relatively large, wide subcutaneous pedicled flap, which included scar, was prepared. In this case the shaved edges were sutured together and buried. After 6 months her traumatic cheek dimple had disappeared (Fig. 2B).

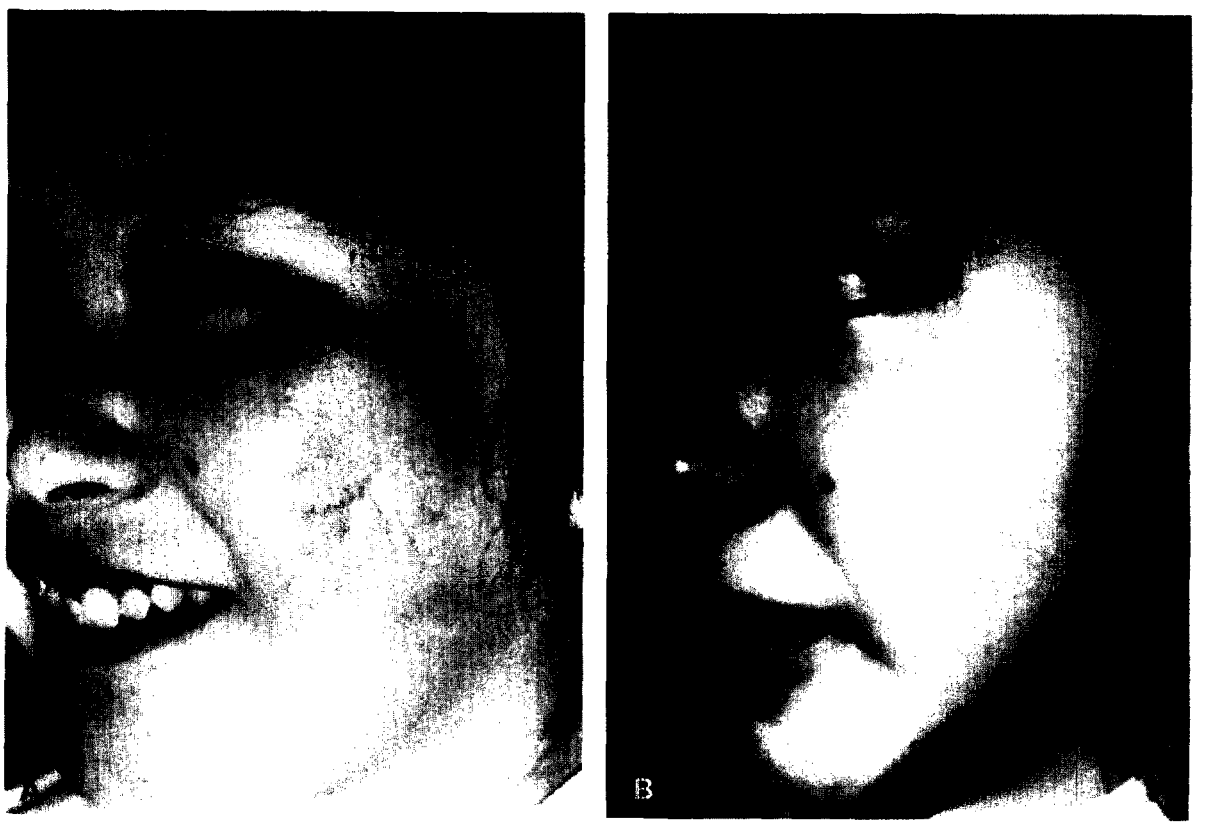

Fig. 2

Figure 2—*Case 1*. (A) Preoperative state. (B) Six months after the operation.

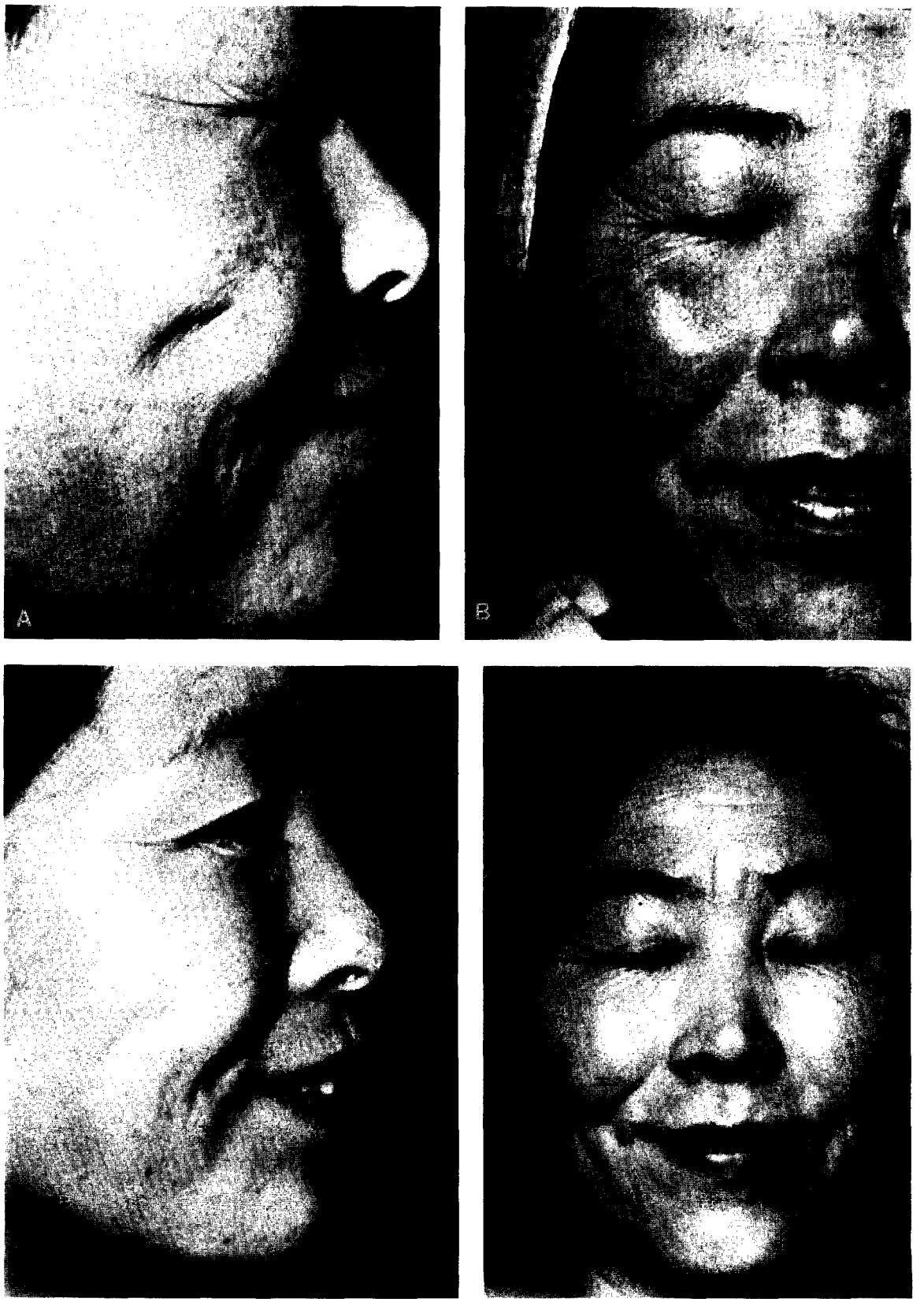

Fig. 3

Figure 3—*Case 2.* (A, B) Preoperative state. (C, D) Six months postoperatively

Case 2

This 44-year-old female contused her right cheek in a traffic accident 3 years previously. After the swelling subsided, a depressed deformity appeared below the malar eminence but no scars were evident. This deformity decreased as time elapsed and was not conspicuous at rest. However, a traumatic cheek dimple became evident on smiling (Fig. 3A, B) and after an observation period of 18 months, operation was performed under local anaesthetic. In this case the shaved tip of the subcutaneous pedicle flap was tucked in and buried. After 6 months the dimple had disappeared (Fig. 3C, D).

Discussion

Traumatic cheek dimples are commonly encountered. The majority of these deformities occur near the malar eminence (Tange, 1965). Usually they are treated conservatively and improve with the passage of time (Miyamoto *et al.*, 1977).

In some cases the deformities persist and are accentuated on mimetic movements. Up to date, no effective treatment has been available (Edgerton, 1977; Knapp *et al.*, 1977). Many surgeons prefer not to operate because it is difficult to get satisfactory results; they also hesitate to incise unscarred skin. We consider that the fine linear scar is a small price to pay to eliminate dimpling.

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The Authors

Yoshio Nakayama, MD, Assistant Professor.
Shugo Soeda, MD, Professor.

Department of Plastic and Reconstructive Surgery, Institute of Clinical Medicine, The University of Tsukuba, Sakura-mura, Niihari-gun, Ibaraki 305, Japan.

Requests for reprints to Dr Y. Nakayama at the above address.

Paper received 20 March 1987.
Accepted 10 June 1987 after revision.