A Case of Microstomia Subsequent to Toxic Epidermal Necrolysis Surgically Treated by Simple Technique

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Summary: Toxic epidermal necrolysis (TEN) is a rare but severe adverse dermatitis that is an autoimmune reaction to drugs such as nonsteroidal anti-inflammatory drugs. TEN most severely affects the mucosal membranes including the mouth and could develop into microstomia; however, microstomia in relation to TEN has rarely been reported in the literature. We describe an adult female patient who developed microstomia due to scar contracture of the bilateral oral commissures subsequent to TEN and was successfully treated by a simple surgical technique consisting solely of transverse incision of the commissure and longitudinal closure. (Plast Reconstr Surg Glob Open 2013;1:e21; doi:10.1097/GOX.0b013e3182980067; Published online 6 June 2013.)

CASE REPORT

A 53-year-old Japanese woman was admitted to the dermatology department because of fever and progressive partial thickness skin loss and was diagnosed as having TEN by biopsy (Fig. 1). This disease was probably caused by ibuprofen, one of the nonsteroidal anti-inflammatory drugs. The patient responded well to steroid pulse therapy with prednisolone during her 3 months of hospitalization.

After several months of dermatological follow-up, the patient was referred to the plastic surgery department because of development of cicatricial microstomia. She complained of no pain but difficulty...
in taking meals or undergoing dental therapy. Physical examination revealed fibrotic scar bands on the bilateral oral commissures, which narrowed the oral orifice and caused microstomia. The scar bands were located on and medial to the vermilion, indicating that the main injury by TEN occurred in the mucosal areas. The maximal interlabial and intercommissural distances were measured as 25 and 28 mm, respectively, at the first examination (Fig. 2A).

Even after 6 months of observation, the oral aperture showed no improvement and the patient was still suffering from severe microstomia. Thus, a surgical procedure to release the commissural contracture was carried out with agreement from our dermatologist that TEN was inactive.

**Surgical Procedure**

Because the microstomia was caused by scar contracture at the bilateral commissures, a simple surgical technique incising the commissure transversely and closing it longitudinally was applied to release the contracture (Fig. 3). An incision line was marked just along the scarring line running transversely at each commissure. An incision was made to the surface of the orbicularis oris muscle, and rhomboid cutaneous and mucosal defects in the commissures were made. The subcutaneous layer was undermined to provide mucosal and cutaneous flaps with good mobility. The mucosal and cutaneous flaps were simply stitched in a longitudinal direction in 1 layer. The commissures were then extended far enough to allow complete and easy mouth opening.

**RESULTS**

The interlabial and intercommissural distances were considerably enlarged to 40 and 45 mm, respectively, in the immediately postoperative period. And as
of 6 months after the operation, no recurrence of scar contracture occurred and the reconstructed lip showed a good outcome with improved interlabial and intercommissural distances of 38 and 42 mm, respectively, which is almost equal to the average of Japanese adult women\(^3\) (Fig. 2B and Table 1). No difference in oral aperture was seen between the left and right sides.

**DISCUSSION**

The lip is one of the most remarkable features of the face and has important roles in eating and speaking; thus repairing microstomia, whether congenital or acquired, requires both aesthetically and functionally satisfactory outcomes. Although a number of different surgical procedures to treat microstomia after burns have been reported,\(^4\) no case of microstomia subsequent to TEN was reported as we searched. A clinical picture of TEN is similar to that of a large second-degree burn;\(^1\) however, microstomia caused by TEN is distinctly different from postburn ones in terms of the location of fibrosis. TEN induces severe inflammation in the epidermal and mucosal surfaces, as reepithelialization occurs typically after 1–3 weeks and the cutaneous area heals well.\(^5\) Therefore, while burn contractures necessarily involve the dermis, TEN necessarily spares the dermis; it is epidermal necrosis. This is why a simple surgical procedure to break the contracture and elongate the circumference produces fully commissural restoration.

**CONCLUSION**

We experienced microstomia subsequent to TEN that showed scar contracture at the bilateral oral commissures, and the simple surgical procedure consisting solely of transverse incision of the commissure and longitudinal suture proved to be effective for providing a functionally and aesthetically satisfactory outcome.

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