British Journal of Plastic Surgery (1987), **40**, 407—409

Surgery for severe trismus in submucous fibrosis

N. M. KAVARANA and H. M. BHATHENA

Department of Plastic and Reconstructive Surgery Service, Tata Memorial Hospital, Bombay, India

Summary—Bilateral full thickness naso-labial flaps have been used successfully in three patients to give long-term relief of the severe trismus caused by oral submucous fibrosis. The flaps are set into defects created by incision of the oral mucosa.

The postoperative rehabilitation compared favourably with other methods and we now advocate the technique for all cases of submucous fibrosis requiring correction of severe trismus.

Submucous fibrosis has been described as "a peculiar oral disease seen mainly amongst East Indians". The condition is chronic and is clinically characterised by blanching and stiffness of the oral mucosa. Histologically, the oral connective tissue becomes hyalinised and the overlying epithelium markedly atrophic. The disease may be due to an irritant (Chili ?), acting over a long period of time. There is evidence that submucous fibrosis may be considered an important precancerous condition in south-east Asia (Pindborg and Sirsat, 1966). Another Indian habit of chewing betel nut in the "Pan" quid is also suspected of playing an aetiological role in the production of the disease (Sirsat and Khanolkar, 1962). The areas usually affected are the buccal mucosa, soft palate and anterior faucial pillars; in a few cases the tongue and the lips are also affected. The mucosa shows a blanched, pearly-white appearance interspersed with fibrous bands.

Submucous fibrosis which presents with a severe degree of trismus remains a difficult surgical problem. Several procedures have been tried in the past to relieve the trismus, such as injections of cortisone derivatives (triamcinolone acetonide) combined with antihistamines. The only partially successful surgical procedure to date consisted of incising the mucosa down to the muscles from the angle of the mouth to the anterior tonsillar pillar, taking care to prevent damage to the stoma of the parotid duct, followed by split skin grafting of the defect (Yen, 1982). Although this procedure gives an immediate good result, the contracture gradually recurs and the patient invariably ends up in the same terrible state as before surgery.

We have evolved a technique using naso-labial flaps instead of split skin grafts.

Material and methods

Three patients with severe submucous fibrosis, each having an open bite (interincisor distance) of less than 1 cm, were chosen for surgery. Their main complaint was inability to open the mouth. Two of these patients had already received treatment with intra-lesional injections of Kenacort, with little subsequent improvement. One patient had received a full course of such injections for 10 weeks along with antihistamines for 3 months. She did show improvement with this treatment, but on follow-up examination after 2 years she had again developed severe trismus.

Operative technique

Under general anaesthesia, the mucosa is incised from the angle of the mouth to the anterior tonsillar pillar on both sides, down to muscle. This releases the trismus. The resultant defects are filled with two inferiorly based naso-labial flaps, each approximately 4×1.5 to 2 cm (Figs 1, 2 and 3). The pedicles of the flaps are divided after 3 weeks and the insetting is so done as to ensure that the divided bases of the flaps come up to the vermilion border at the angle of the mouth (Fig. 4). This results in an average open bite of 2.5 cm and more.

Results

One case was followed up for 2 years, another for $1\frac{1}{2}$ years (Fig. 5) and the third for 1 year. All three showed an unaltered open bite, which remained the same as seen in the immediate postoperative period. The patients found that they could eat solid food with ease. They were advised not to chew pan or tobacco and to avoid spices. The external scars were acceptable.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Figure 1—Operative technique—flaps marked out. Note maximum opening of mouth. Figure 2—Bilateral flaps raised and brought through intraorally. Mucosa has been incised, showing an increase in open bite. Figure 3—Completion of first stage. Figure 4—Second stage. After 3 weeks pedicle of flap has been divided, brought into mouth and advanced to angle of lip.

Fig. 5

Figure 5—Late result, 18 months after surgery, showing flap and mouth opening of more than 2.5 cm.

Discussion

To date, no successful surgical procedure has been reported for the relief of severe trismus caused by submucous fibrosis. We have a number of patients with severe submucous fibrosis which had undergone squamous cell carcinomatous changes, requiring wide excision and flap reconstruction; we noted that this part of the cheek remained soft and supple even many years after repair. This led us to develop our technique which has proved satisfactory in our small series.

References

Pindborg, J. J. and Sirsat, S. M. (1966). Oral submucous fibrosis. *Oral Surgery, Oral Medicine and Oral Pathology*, **22**, 764.

Sirsat, S. M. and Khanolkar, V. R. (1962). Submucous fibrosis of the palate and pillars of the fauces. *Indian Journal of Medical Sciences*, **16**, 3.

Yen, D. J. (1982). Surgical treatment of submucous fibrosis. *Oral Surgery*, **54**, 269.

The Authors

N. M. Kavarana, MS, Chief of Plastic & Reconstructive Surgery, Tata Memorial Hospital; Consultant Plastic Surgeon, Breach Candy Hospital, Bombay; Consultant Maxillo-Facial and Plastic Surgeon, BARC.

H. M. Bhathena, MS, MCh, Assistant Plastic Surgeon, Tata Memorial Hospital.

Requests for reprints to: Dr N. M. Kavarana, MS, Chief of Plastic Surgery, Tata Memorial Hospital, Parel, Bombay 400 012, India.