AESTHETIC CONSIDERATION
IN ORAL AND
MAXILLOFACIAL SURGERY

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Summary

The purpose of this article is to deal with aesthetic consideration of an oral and maxillofacial surgeon when performing routine surgical procedures in the mouth and the face. The most frequently involved components in oral and maxillofacial surgery that may interfere with facial appearance are teeth, gums, lips, facial skin and underneath skeleton. Majority of respective surgical procedures has to fulfill strict aesthetic requirements which urges a surgeon to consider cosmesis when planning surgery. Characteristic cases are described do demonstrate authors phylosophy and skill in attempts to preserve esthetics while performing relatively complex procedures.

Key words: aesthetic surgery, surgery oral maxillofacial

The face is the field where an oral and maxillofacial surgeon exercises his skill and knowledge in order to provide a cure to a diseased or disfigured patient. The face is, unfortunately, the most exposed part of the body and any alteration may produce serious psychological disturbances in an unhappy patient. The primary goal of oral and maxillofacial surgery is to remove lesion, eradicate disease and restore function with simultaneous endeavors not to leave patients with unpleasant defects or ugly scars. Since pleasant facial appearance mostly depends on facial harmony and happy smile this article is intended to deal with components of the face and the mouth that are most frequently involved in routine oral and maxillofacial surgical work with respect not to interfere with facial appearance.

Teeth

Replantation

Loss of anterior teeth due to trauma may contribute to extremely unpleasant appearance (Fig. 1a) therefore every attempt should be made for their replacement1. Replantation in children is routinely performed irrespective of the time of injury. Whenever possible, periodontium should be preserved and the tooth replanted without pulpectomy. Immobilization should be kept in place 10 - 14 days (Fig. 1b) and patient advised to exert light and frequent pressure on the replanted and splinted tooth with the tip of the tongue. By doing so, ankylosis is less likely to occur. Endodontic treatment is postponed for a month and following the removal of the pulp, the root canal is temporary filled by calcium hydroxide for a period of 6 - 12 months and then replaced with permanent root canal filling with gutta-percha (Fig. 1c).
Fig. 1. A 9-year-old boy with avulsed upper left central and lateral incisors. a) Empty sockets with fracture of the alveolar bone in the region of 22; b) The teeth replanted and splinted with wire and composite; c) Condition after completion of treatment.

In the event ankylosis of replanted tooth does occur, resorption of the root by osteoclasts takes some time by which the alveolar bone, instead of being resorbed, grows to a certain extent which can by favourable for future insertion of implants.

**Implantation**

In cases of missing upper central incisor with diastema (Fig. 2a), insertion of an implant (Fig. 2b) is the only acceptable solution that can serve as a foundation for the construction of aesthetically acceptable ceramic crown (Fig. 2c). In cases of total teeth loss, six implants (Fig. 3a) can support a bridge of 12 crowns with a good function and pleasing aesthetic results (Fig. 3b).2

Fig. 2. Missing upper left central incisor in patient with diastema that is replaced by an implant and metal ceramic crown. a) Condition following removal of the tooth; b) Implant following Osseo integration; c) a crown constructed on the implant.
Fig. 3. Edentulous upper jaw that was restored with six implants and metal ceramic bridge. a) Condition after osseo integration. Cover screws removed, implants ready for an impression; b) Metal ceramic bridge constructed.

**Gums**

A gummy smile is the expression for patients that while smiling show not only teeth but a great part of gums. In the event of vertical maxillary excess these are treated by LeFort I maxillary ostectomy with impaction. In cases with short crowns a gingivoplasty is performed providing a sufficient width of attached gingiva is present. Gingival recession that most frequently affects upper canines (Fig. 4a) and lower incisors is successfully treated using a two-layer sliding mucoperiosteal flap (Figs. 4b-d).

Fig. 4. Treatment of buccal gingival recession. a) Preoperative condition on the upper right canine with a flap outlined with ink; b) A two-layer mucoperiosteal flap raised with inner portion sutured into the defect; c) The outer portion placed over the inner and sutured; d) Condition 6 months postoperatively.
**Lips**

Benign and malignant lesions that involve lips require appropriate surgical excision and immediate reconstruction. When small lesions are present the most important measure is to restore the vermilion-skin border. Malignant tumours of the lips necessitate both functional and aesthetic reconstruction. For defects that do not exceed two thirds of the lower lip, Karapandzic repair gives most satisfactory results (Fig. 6). Reconstruction of the entire lower lip is, as far as the aesthetics is concerned, most successfully performed using Webster modification of Fries flaps (Fig. 7). Reconstruction of skin defects following the excision of malignant tumours in the vicinity of the lip vermilion (Fig. 5a) requires meticulous planning otherwise the distortion of the vermilion is most likely. In such cases a triangular skin island sliding flap has proved to be reliable technique that gives satisfactory results (Fig. 5bc).

![Fig. 5](image)

**The Face**

Making incisions in the face is inevitable maneuver in routine oral and maxillofacial surgical practice. Every attempt should be made to place an incision in such a way that it leaves inconspicuous scar postoperatively. In trauma cases such as midface fractures a coronal approach offers wide surgical access and the scar that is placed in the hair. Lower blepharoplasty incision is used for approach to the orbital floor fractures. A typical parotidectomy incision is replaced by face-lift incision that gives a sufficient surgical access for
safe removal of the gland with tumour and leaves almost invisible scar that is well hidden in the tragus, behind the earlobe and in the hair (Fig. 8).

The most striking disfigurement of the face is the result of dentofacial deformities. This problem is dealt by orthognathic surgery which is the filed of maxillofacial surgery where astonishing improvement of facial appearance can be achieved without a single scar in the face6. In cases where both jaws are deformed or a single jaw exhibits pronounced deformity, so called bimaxillary orthognathic surgery is indicated to correct these and accomplish skeletal and dental harmony7,8,9 (Fig. 9). It has to be pointed out that this type of surgery is almost impossible without pre and postoperative orthodontic treatment that is aimed to correct dentoalveolar anomalies and achieve good and stable occlusion10,11. The most difficult cases within dentofacial deformities such as Hemifacial Microsomia (Fig. 10) and Hanhart's syndrome are treated with pericranial and osteopericranial flaps in addition to bimaxillary surgery12,13.

Fig. 6. A male patient with malignant tumour of the lower lip reconstructed with Karapandzic arterial flaps. a) Preoperative condition; b) Condition following the repair.

Fig. 7. A male patient with squamous cell carcinoma of the entire lower lip reconstructed with Webster repair. a) Preoperative condition with flaps outlined with ink; b) Postoperative result.
Fig. 8. A female patient with benign parotid tumour. a) Preoperative finding; b) Face-lift incision applied, skin raised giving good surgical access to the gland; c) The facial nerve exposed following the removal of the tumour; d) Postoperative condition with well hidden scars.

Fig. 9. A patient with pronounced mandibular prognathism treated with bimaxillary surgery. a) Preoperative condition; b) Postoperative result.

Fig. 10. A male patient with Hemifacial Microsomia. a) Preoperative condition; b) Postoperative result achieved with bimaxillary orthognathic surgery and osteopericranial flap.
References