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Technique of Tissues Separation in Endoscopic Rhinoplasty

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Abstract

Open rhinoplasty is usually performed for a wide separation of a tissue from outside. Such kind of preparation is rather traumatic, because supporting elements of the nose are intersected, and prolonged contact with wound surface large area causes the tissue hypoxia (Fig.1). All this can lead to the development of a powerful fibrosis, which in its turn can result in the nose immobility and masklike form.

Figure 1. Wide separation of tissue in open rhinoplasty

Endoscopic rhinoplasty in comparison with open rhinoplasty is performed inside-through a small incision on the mucosa membrane. In such a case, there is no destruction of the nose ligamentous apparatus as well as perichondrium-periosteal flap and the nose tissues do not experience oxygen starvation (Fig.2).

Figure 2. Internal separation the nasal structures for endoscopic. 1. Upper lateral cartilage are detached from nasal septum. 2. The nasal septum. 3. The muco-perichondrium flap separated from nasal septum

Material and Methods

The development included 45 patients operated with the diagnosis of Humpback nose, all stages of the operation were performed under endoscopic control with use Hopkins Telescope 30×40mm, 18cm, 120Z9Z, with video system Karl Storz.

1. The operation began with one-sided incision in the mucosa membrane in the projection of nasal septum lower edge one centimeters long [Fig.3].
2. Muco-perichondreal flap separated from nasal septum with a delicate transition to the nasal vaulting and upper lateral cartilages also known as triangular cartilages [Fig4].
3. The muco-periosteal flap separated deeper [Fig.5].
4. The triangular cartilages are detached from nasal septum in both sides in the transition area [Fig.6].
5. Perichondro-periosteal flap separated above the nasal dorsum [Fig.7, 8].
6. Then medial osteotomy carried out [Fig.9].
7. Bony-cartilages hump removed [Fig.10].
8. The bony structures smoothed by grinding with use Piezo and in some cases with use of the grater.
9. Incision on the mucosa membrane in the projection of foramen piriformis low edge 0, 5 cm long being performed.
10. The part of the lateral wall of the nasal bone pyramid being separated [Fig.11].
11. Lateral osteotomy and narrowed frontal processes of maxillae being performed [Fig.12].
12. The end of the operation suturing the postoperative wounds and applying thermoplastic bandage [Fig.13].

Figure 3. One-side incision in the mucosa membrane in the projection of nasal septum low edge one centimeter long

- a. Low edge of nasal septum.

Figure 4. The muco-perichondreal flap separated from nasal septum

Figure 5. The muco-periosteal flap separated deeper

Figure 6. Triangular cartilages are detached from the nasal septum in both sides in the transition area

Figure 7. The perichondro-periosteal flap is separated above the nasal dorsum

Figure 8. The perichondro-periosteal flap above the nasal dorsum

Figure 9. The medial osteotomy being performed

Figure 10. Bone-cartilages hump is being resected

Figure 11. The part of the lateral wall of the nasal bone pyramid being separated

Figure 12. Lateral osteotomy

Figure 13. The end of the operation suturing the postoperative wounds and applying thermoplastic bandage

Results and discussion

Figure 14. The patient before the operation.

Figure 15. The patient for years after

Figure 16. The patient before

Figure 17. The patient for years after the operation

Conclusions

Endoscopic rhinoplasty is performed under constant visual control. This fact which is principally differs from close rhinoplasty. In close rhinoplasty some stages of the operation are carried out «blindly» and a surgeon can rely on the palpation only.

With endoscopic rhinoplasty the tissue separation is made above bone –cartilages structures which do not touch the ligament apparatus and muscle-facial complex of the nose.

Besides, nasal tissue do not contact with the environment and suffer from the oxygen starvation. It is better in comparison with open rhinoplasty. That is why, the use of endoscopic technologies help to improve the operation results, diminish rehabilitation period and reduce complications.

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Expression of cytokines and osteocalcin in the oral fluid in early postimplantation period

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It is considered that the activity of inflammatory processes, the feature and extent of periodontal tissue damage affects the balance of cytokines and their imbalance can create conditions for the destruction of soft and bone structures of the peri-implantation zone, weakening osseointegration which may lead to implant rejection in the future [1].

It is considered that osteocalcin one of the important markers of bone metabolism, which is a non-covalent calcium-ion binding protein also known as γ -carboxyglutamic acid protein produced by both osteoblast and odontoblast. The available literature data presents the results of the content of osteocalcin mainly in the blood and there are recommendations concerning investigations of its local level. It was reported that TNF- α and IL-1 β inhibits osteocalcin production by osteoblasts [2].

Thus, the assessment of the state of bone tissues and soft tissues of the oral cavity around the implant is necessary to obtain the appropriate information for planning further treatment tactics.

Objective. Comparative assessment of the balance of cytokines and osteocalcin in the OF in patients with uncomplicated course and with an expressed inflammatory processes in the post-implantation period.

Material and methods. Dental intraosseous implantation was performed in 164 patients in the age of 45-60 years (the average age is 54.6 ± 4.17 years). Among examined patients there were 78 (47.6%) men and 86 (52.4%) women. Patients with a loss of more than 3 teeth are prevailed – 124 (75.6%) patients. The causes of teeth losses were complicated caries, periodontitis. There were different GIT pathology in 83 (50.6%) patients, in 59 (36.0%) patients diseases of the upper respiratory tract and allergic diseases were noted and in 22 (13.4%) patients no associated diseases were found. Patients with severe somatic diseases