

Septum Surgery Without Packing

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Abstract

After the septoplasty operation, which is one of the most common otorhinolaryngologic surgical procedures, almost all nasal surgeons use different anterior nasal packing. This is a rather troublesome procedure for patient and also causes local or systemic complications.

In this study, 59 patients, including 14 female (24 %) and 45 male (76 %) who have had septoplasty operations, were divided into 3 groups. Septal suture, Merocel-pack of foam rubber with a ventilation tube and gauze with dexpanthenol have been applied to 1st, 2nd and 3rd groups respectively. Then the groups have been compared in respect to postoperative discomfort and complications.

As a result septal suture was found statistically superior to the other two groups in respect to postoperative pain, edema, discomfort and nasal respiration. Also postoperative secretion and crusting was significantly less in group 1 than in group 3.

Key Words: Septoplasty, septal suture, nasal packing.

Tamponsuz Septum Cerrahisi

Özet

Hemen hemen bütün nazal cerrahlar, en yaygın otorinolarinolojik cerrahi işlemlerden biri olan septoplasti ameliyatından sonra farklı anterior nazal tampon kullanırlar. Bu, hasta için oldukça sıkıntılı bir prosedürdür ve aynı zamanda da lokal ya da sistemik komplikasyonlara neden olabilir.

Bu çalışmada septoplasti ameliyatı yapılan 14'ü kadın (% 24) ve 45'i erkek (% 76) 59 hasta 3 gruba ayrıldı. Birinci gruba septal sütür, 2. gruba ventilasyon tüplü merocel tampon ve 3. gruba dekspantenol emdirilmiş gaz tampon uygulandı. Gruplar postoperatif rahatsızlık ve komplikasyonlara göre karşılaştırıldı.

Sonuç olarak septal sütürün, postoperatif ağrı, ödem, rahatsızlık ve nazal solunum açısından diğer iki gruba göre istatistiksel üstünlüğü bulundu. Birinci grupta postoperatif sekresyon ve kabuklanma 3. gruptan anlamlı derecede az gözlemlendi.

Anahtar Kelimeler: Septoplasti, septal sütür, nazal tampon.

Nasal septal deviation is a frequent pathology in the general population. Its major symptom is nasal obstruction. The surgical correction of this pathology has been carried out over a century. Also at present, the septoplasty operation is one of the most frequent otorhinolaryngologic surgical procedures (1). Almost all nasal surgeons use pack after septoplasty operation (2). The surgeon's choice of nasal packing is mostly determined by his personal preference (3). The purpose of packing is to prevent haematoma formation between septal flaps, to support moving parts newly given shape to stand on the middle line and to provide hemostasis by means of pressure (2). Nasal packings prepared by different

ways have local and systemic adverse effects. Especially for old people and patients with cardiac problems, systemic adverse effects may reach serious levels (4). These unwanted effects force ENT surgeons to make septoplasty operations without packings. Alternative methods to packing are septal mucosal suture and human biological glue method on which although there is no statistical study in literature (2).

In this study, septal suture without packing, Merocel-pack of foam rubber with a ventilation tube and gauze with dexpanthenol have been compared for postoperative discomfort and complications.

Material and Method

Fifty nine patients, who have applied to ENT outpatient clinic with complaints like nasal obstruction, difficulty of breathing and snoring while asleep and underwent septoplasty operations after diagnosis of septum deviation have been included in this study.

During the inquiry of patients, those were made sure that if any given patient is allergic, addicted to any drug or himself (herself) or his (her) family had a bleeding disorder or not.

By ENT examination, the position of deviation, the conditions of nasal mucous membrane and nasal and postnasal discharge were determined.

Those tests were applied to the patients:

Water's roentgenogram, complete blood count, bleeding and clotting time, postero-anterior chest roentgenogram, ECG for age over 40 years, total IgE for allergic patients, leucocyte formula and prick test. The patients, who were

found allergic and having infections, have first been treated medically. All operations were applied under local anesthesia. Approximately 45 min. before the operation, premedication was carried out with 0,01 mg/kg atropine and 1mg/kg petidin HCl. Local cleansing of external nose was done with povidon iodine. Local anesthesia was provided by 2 % lidocaine HCl containing 1:100.000 epinephrine. All the operations were done by using Cottle technique.

Patients were divided into 3 groups:

1st group: Total 18 patients (6 female and 12 male) were applied septal suture.

We used 3/0 chromic catgut suture material with special needle. Starting with a fixation suture near the hemitransfiction site, we proceeded upward through ement of continious mattress sutures. After making a U-return from the highest point within reach of the operative field, we returned back to our first fixation suture site and the suture was tied (Figure).

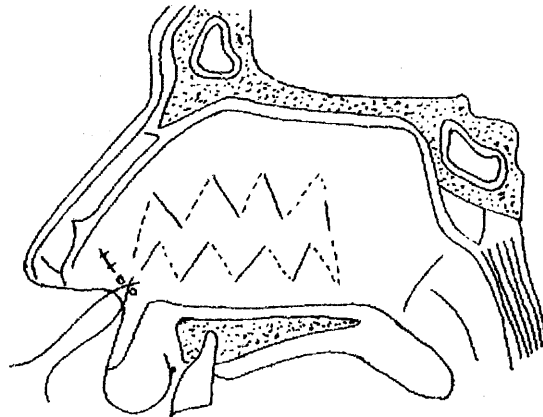


Figure. Schematic illustration of septal suture.

2nd group: Merocel-pack of foam rubber with a ventilation tube were inserted in either side of total 20 patients (4 female and 16 male) and moistened with normal saline solution.

3rd group: Gauze with dexpanthenol were inserted in each nasal cavity of total 21 patients (4 female and 17 male).

All packings of 2nd and 3rd groups were removed after 48 h. Merocel packings were moistened with normal saline solution 10 min. before removing.

All patients have got routine postoperative care and existence of pain, edema, fever, discomfort, nasal respiration, bleeding levels of patients without packing were recorded in the

next morning and the second day following the operation. For patients with packing, bleeding levels were evaluated after packing removal. Pain, edema and discomfort scores ranged between 0 and 3 (no complaint, slight, medium, strong) and bleeding was evaluated as unimportant and important. In the postoperative period, the patients were followed every other day during 1 week, and then once in a week during 2 months. While dressing, dexpanthenol pomade was rubbed into nasal cavity. At the end of 2 months, the patients were evaluated for good result, persistent secretion, crusting, and nasal blockage, septum perforation and adhesion. All findings and symptoms were recorded on follow-up cards prepared for each patient individually.

Statistical analyses were done by Mann-Whitney U and Chi-square tests.

Findings

Fifty nine patients being included in our study were consisting of 14 female (24 %) and 45 male (76 %) and their ages were ranging between 17-43 (average: 25.8) years. No significant difference in respect to sex or age between groups was found.

Complications met on patients in the first and the second postoperative days were shown in Table 1.

Complications noted at 2 months after septoplasty are presented in Table 2.

Table 1. Complications noted in 48 h postoperatively.

Complications	Score	Group		
		1 n : 18	2 n : 20	3 n : 21
Pain	0	6	4	2
	1	7	8	5
	2	4	5	7
	3	1	3	7
Edema	0	13	3	1
	1	5	8	6
	2	0	7	10
	3	0	2	4
Discomfort	0	13	4	1
	1	4	13	13
	2	1	2	4
	3	0	1	3
Fever > 38° C		0	1	2
Haematoma		0	0	0
Abcess		0	0	0
Bleeding	Unimportant	6	3	4
	Important	1	2	1
Nasal Respiration		13	5	0

Table 2. Complications noted at 2 months follow-up.

Complications	Group		
	1 n : 18	2 n : 20	3 n : 21
Good result	16	18	19
Persistent secretion/crusting	0	3	8
Persistent nasal obstruction	3	2	2
Septal perforation	1	0	1
Adhesion to turbinate	1	0	1

Table 3. Statistical comparison between groups in respect to complications.

Complications	Groups					
	1 and 2		1 and 3		2 and 3	
Pain	U: 269.4	p < 0.05	U: 306.6	p < 0.05	U: 286.6	p < 0.05
Edema	U: 323.5	p < 0.02	U: 444.0	p < 0.02	U: 288.8	p < 0.05
Discomfort	U: 440.0	p < 0.02	U: 282.5	p < 0.05	n.s.	
Fever > 38 ° C	n.s.		n.s.		n.s.	
Haematoma	n.s.		n.s.		n.s.	
Abcess	n.s.		n.s.		n.s.	
Bleeding	n.s.		n.s.		n.s.	
Nasal respiration	χ^2 : 8.5	p < 0.005	χ^2 : 22.7	p < 0.001	χ^2 : 5.9	p < 0.05
Good results	n.s.		n.s.		n.s.	
Persistent secretion/crusting	n.s.		χ^2 : 8.6	p < 0.005	n.s.	
Persistent nasal obstruction	n.s.		n.s.		n.s.	
Septal perforation	n.s.		n.s.		n.s.	
Adhesion to turbinate	n.s.		n.s.		n.s.	

n.s.: Non-significant

Pain was significantly less in group 1 than in the other two groups, also in group 2 pain was significantly less than in group 3 in 48 h postoperatively (U: 269.4, p<0.005; U: 306.6, p<0.05; U: 286.6; p<0.005 respectively, Table 3). In 48 h postoperatively congestion was significantly less in group 1 than in the other two groups, also in group 2 congestion was significantly less than in group 3 (U: 323.5, p<0.02; U: 444.0, p<0.02; U: 288.8, p<0.05 respectively, Table 3).

In 48 h postoperatively discomfort was significantly less in group 1 than in the other two groups (U: 440.0, p<0.02; U: 282.5, p<0.05 respectively, Table 3), but there were no significant differences between group 2 and group 3 in respect to discomfort.

Rate of nasal respiration was significantly higher in group 1 than in the other two groups, also in group 2 rate of nasal respiration was significantly higher than in group 3 (χ^2 : 8.47, p<0.005; χ^2 : 22.7, p<0.001; χ^2 : 5.97, p<0.05 respectively, Table 3).

At 2 months postoperative follow-up, persistent secretion and crusting was significantly less in group 1 than in group 3 (χ^2 : 8.62, p<0.005). But there were no significant differences between groups 1 and 2, and between groups 2 and 3 (Table 3).

There were no significant differences between groups in respect to other complications.

Discussion

Anterior nasal packing is one of the most common procedures done at the end of nasal operations and in the presence of epistaxis. By nasal packing, those are intended to provide hemostasis by means of pressure; to prevent haematoma formation; and to support the moving parts of septum, which is newly given shape, to stand on the midline (2,5). Anterior nasal packing is kept in nasal cavity mostly for 48 h. This is rather troublesome procedure for patient and causes complications.

In the postoperative period with packing, in addition to the adverse effects like nasal discharge, fullness and tightness sensation of nose, agitation, cardiovascular changes, hypoxia, infection, toxic shock syndrome; it is not rare to occur bleeding during packing removal (5,6). Those had been reported that the anterior nasal packing causes hypoxia, hypotension, bradycardia and reductions in pulmonary functions (8,9).

To lessen those adverse effects partially and/or to eliminate completely, different types of nasal packings have been used. Unfortunately, although these packings have some partial superiority to each other, no optimum result has been obtained as expected with any given packing (2,10).

Reiter et al. (11) had reported that they have applied mucosal suture by "quilting" technique without packing in a study of 75 patients and have found no postoperative edema, haematoma and an active bleeding.

Also Koyuncu et al (5) had indicated that there have been no complaint after operations and in examinations of patients to whom they have applied septoplasty without packing.

Şahin and Dulundu (12) had reported that they applied mucosal suture in a study of 42 patients and have found no serious bleeding, edema, nasal stuffiness or septal abscess, but a single patient developed a septal haematoma.

Replacement of nasal packing by septal suture reduces postoperative discomfort without leading to a considerable increase in postoperative nasal bleeding, septal haematoma, permanent nasal block, adhesion and crusting incidence. It has been made known that the complication ratio after septal surgery is between 0-5 % (except 19 % permanent nasal block). This low complication ratio does not only reflects the result of the use of nasal packing; probably it reflects the low morbidity of septal surgery (3).

In the work carried out here as well, those were determined that; in the 1st group with septal suture, the postoperative pain, edema and discomfort are significantly lower in respect to the other two groups and also persistent secretion and crusting is statistically lower than the 3rd group. Rate of nasal respiration was significantly higher in group I than the other two groups. For the other complications there were no significant differences and these results were matching with previous reports.

Consequently, although the use of septal suture may lead to a slight increase in postoperative complications in respect to nasal packing, this does not mean that the packing application is reasonable for all patients. Hence, from the viewpoint of postoperative discomfort, the use of septal suture after septal surgery may be preferred by patients and surgeons and lead to widespread use.

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