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Nasal pack after septoplasty

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الملخص:

المقدمة: تعد عملية تقويم انحراف الوتيرة من أكثر العمليات الشائعة في قسم الأنف والأذن والحنجرة ويتبعها نزيف يستدعي وضع حشوة أنفية وهو ما يسبب ألماً شديداً عند إزالتها بعد العملية، وهنا ندرس إمكانية اجراء مثل هذه الجراحات دون الحاجة لوضع هذه الحشوات.

الهدف: تحديد الفائدة من إجراء الحشوة الأمامية بعد جراحات انحراف الوتيرة.

طريقة البحث والعينة: بحث مقارن توقعي، أُجْرِي في مركز الهواري للجراحات التخصصية في الفترة من يناير 2012 إلى أبريل 2014. قُسِّمَتْ عدد 88حالة تقويم انحراف الوتيرة عشوائيا، نصفهم بحشوة والنصف الآخر بدونها. وكانت النتائج: معدل أعمار وسطي 28.1 سنة بانحراف معياري 7.4. بأقل عمر 18 وأعلى عمر 48 سنة. أغلب المرضي كانوا من الذكور (75%).

المخرجات المبدئية للبحث كانت نزيفاً ما بعد الجراحة، الصداع والألم الأنفي. ولم يكن هناك فرق إحصائي واضح بين المجموعتين.

الاستنتاج: تبين أنه لا يوجد فائدة واضحة من الحشو الأمامي للأنف بعد عمليات انحراف الوتيرة بل إنه من ناحية أخرى قد يزيد من معاناة المريض من ألم الأنف وصداعه وانسداده كما أنها تزيد من فترة البقاء في المستشفى وبالتالي زيادة النفقات. نوصي بعدم استخدام الحشوة الأمامية للأنف بشكل روتيني، والاقتصار في استخدامها على حالات محددة يتوقع فيها حدوث نزيف بكثرة.

الكلمات المفتاحية: تقويم انحراف الوتيرة، حشوة الانف، مضاعفات.

Abstract

Background: Septoplasty is one of the commonest procedures done in ENT department in which bleeding necessitate packing. Nasal packing is painful and it may be the fearful step of surgery by the patient, her we will study the need of nasal packing after this procedure.

Aim: The aim is to determine the need for an anterior nasal pack (A.N.P.) after septal surgery

Patients and methods: This study is a prospective comparative study that was carried out in Al -Hawari Center for 26 months. Eighty-eight patients were operated on and divided randomly on whether or not to apply a nasal pack.

Research data were collected from each patient. Forty-four cases were packed with Vaseline gauze or merocele and the remaining 44 cases were not.

Results: A total of 88 subjects were included with 44 in each group. the mean age of septal surgery cases was 28.1 years of age; standard deviation (S D) =7.4. The minimum and maximum ages were 18 and 48 years respectively. For the primary outcome of the study (post-operative bleeding, headache and pain), there were no statistically significant differences between the two groups (P-values 0.15, 0.39 and 0.38 respectively). However, The overall complications in both groups show a p-value of 0.02 which is a statistically significant difference

Conclusion: In this small series study, we noticed no significant benefit of nasal packing. On the other hand, it increases the patients suffering by causing complete nasal obstruction, pain and headache. It increases the length of the hospital stay and so the overall cost. Therefore, nasal packing may be of use only in selected cases where bleeding tendencies are more. In a cleanly-performed surgery that does not cause bleeding, nose packing is not needed.

Keywords: septoplasty, nasal packing, complications.

1. INTRODUCTION

Septoplasty is the most common operation performed on the nose since 1875, first by Adams, then modified by Frier and Killian in 1902. Modern septal surgery commenced in 1940 through the work of Coltie, Goldman and Smith.

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Septoplasty is associated with numerous post-operative complications such as septal perforation, loss of septal support and saddle nose deformity. Cerebrospinal fluid rhinorrhea can occur due to damage to the cribriform plate during resection of the bony septum, and recurrent or persistent nasal obstruction. Septal hematomas, synechiae and toxic shock syndromes may occur. In addition, pain and bleeding due to high vascularity and rich nerve supply in this area are characteristics of nasal operations that particularly occur if packing is used. Therefore,

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nasal packing is frequently used post-septal surgery and might be required for 24 hours to control bleeding post-operatively. When splints are used, they are usually removed 5 to 7 days postoperatively to support cartilage. Anti-staphylococcal antibiotics and analgesics should be prescribed if packing or splints are used.

Splints may be placed to provide support during the postoperative period while the perichondrium re-attaches to the nasal septal cartilage in its new straightened position.[1]

Nasal packing as a definition is the application of gauze or cotton packs in the nasal chambers[2]. Vaseline gauze, Oxidized Cellulose (surgical), Nasal tampon (Merocel) and Rocket pack (Rhino rocket) are the types of materials used for anterior nasal packing.[2]

Nasal packs are designed to provide hemostasis after epistaxis or surgery and they provide support for the cartilaginous, bony structure and nasal conchae or soft tissue (i.e. sliding flaps). In addition, they help to minimize post-septoplasty complications such as mucosal damage, hemorrhage, formation of synechiae and septal hematoma. It also advances the healing of wounds. Unfortunately, it is linked to various complications including postoperative pain, discomfort, interrupted sleep, disordered breathing, infection, pressure necrosis, nasal obstruction, risk of sinus infection and toxic shock syndrome.[3]

2. AIM OF THE STUDY

The aim is to determine the need for anterior nasal packs (A.N.P.) after septal surgery.

3. STUDY QUESTION

Do septal deviation surgeries without nasal packs in Libyan patients at Al-Hawari Center reduce the incidence of postoperative pain, bleeding and headache?

4. OBJECTIVES

Primary outcome: estimate the incidence of post-operative pain, bleeding and headache. The predictive variable of this study is the application or not of nasal packs.

5. PATIENTS & METHODS

This study is a prospective comparative study that was carried out in Al -Hawari Center for 26 months. Approval from the Institutional Review Board was obtained. Subjects with a symptomatic deviated nasal septum who required septal correction surgery such as septoplasty or submucosal resection were included. Eighty-eight patients were operated on and divided randomly on whether or not to apply a nasal pack according to different surgeons' preferences.

Patients were admitted one day before surgery and kept for 24 to 48 hours post-operatively for observation. The removal of the nasal pack was according to each surgeon's practice. Research data were collected from each patient such as name, age, gender, history of nasal obstruction, and nasal bleeding. The exclusion criteria included subjects younger than 18 years of age as the nose continues to grow until puberty, and those with a history of diabetes, hypertension, or bleeding tendency, as they may have more tendencies for infection or nasal bleeding respectively. Also, subjects who had a history of sinusitis or nasal polyposis were excluded since both cause headache and nasal obstruction. In addition, subjects with a history of recent nasal trauma (less than 3 months) or previous nasal surgery were excluded as well, because fibrosis and bleeding will be more common than usual. The exclusion criteria were chosen to prevent the effect of confounding and increasing the validity of the study result.

A complete ORL examination was done, and a zero rigid nasal endoscope was used to complete the examination. Routine preoperative laboratory tests were performed; written informed consent was obtained from each subject. Under general anesthesia, all operations were performed by different surgeons. During surgery, a 3-4 horizontal trans-septal mattress suture and vicryl suture No.2 round needle were used to approximate the mucoperichondrial flap and stabilize the remaining cartilage. Bilateral flexible splints were inserted and fixed in place by silk on straight needle No.2.

Forty-four cases were packed with Vaseline gauze or merocele and the remaining 44 cases were left without nasal packing. All subjects received an oral antibiotic and analgesics. Post-operatively, each was evaluated for pain, nasal obstruction and bleeding, or any additional complaint stated by the subjects. The nasal pack was removed after 24 - 48 hours and the splints were kept for one week post-operatively.

6. STATISTICAL ANALYSIS:

Data were described statistically by the use of mean ± Standard deviation(SD), percentages, and the number of cases when appropriate. Chi-square or Fisher exact tests were performed to analyze differences in postoperative complication rates as well as for group comparisons for categorical data when appropriate, while a t-test was used for comparison of continuous data. A p-value less than 0.05 were considered statistically significant. All the calculations were done using (SPSS) version 22.

7. RESULT:

A total of 88 subjects were included with 44 in each group. The mean age of septal surgery cases was 28.1 years of age, standard deviation (S D) =7.4. The minimum and maximum ages were 18 and 48 years respectively, most of the cases (75.0 %) were males and 25.0 % were females. More than three-quarters (76.14 %) of the cases were operated on by a septoplasty type of operation and 23.86% of them were operated by a submucosal resection.

For the primary outcome of the study (post-operative bleeding, headache and pain), there were no statistically significant differences between the two groups in these variables (p-value 0.15, 0.39 and 0.38 respectively) as it is shown in Tables (1,2 and 3). However, the result was clinically significant for the higher level of pain observed in the packing group (54%) compared to the non-packing (46%). In addition, subjects with nasal packing had a significant increase in the incidences of headaches (66%) Post-operative packing group versus zero in the non-packing group. The overall complications in both groups show a p-value of 0.02 which is a statistically significant difference as shown in Table 4

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Table 1: Distribution of cases with and without nasal pack according to post-op. bleeding

Use of nasal pack	Bleeding		No bleeding		P-value
	No	%	No	%	
No Pack	0	0	44	51.2	0.15
Pack	2	100	42	48.8	
Total	2	100	86	100	

Table 2: Distribution of cases with nasal packs & cases without nasal packs according to the history of postoperative headache

Use of nasal pack	Headache		No headache		P-value
	No	%	No	%	
No Pack	2	33.3	42	51.2	P=0.39
Pack	4	66.7	40	48.8	
Total	6	100	82	100	

Table 3: Distribution of cases with and without nasal packs according to the history of postoperative pain

Use of nasal pack	Pain		No pain		P-value
	No	%	No	%	
No Pack	23	46	21	55.3	P=0.38
Pack	27	54	17	44.7	
Total	50	100	38	100	

Table 4: Distribution of cases with and without nasal packs according to the number of complications

Use of nasal pack	No complications		Complications		P-value
	No	%	No	%	
No Pack	42	54.5	2	18.2	0.02
Pack	35	45.5	9	81.8	
Total	77	100	11	100	

8. DISCUSSION:

As far as the primary purpose of this study goes, the results indicate that packing or not after septoplasty or submucosal resection has no statistical and clinically significant difference in postoperative bleeding, headache or pain. Nasal packing has been used by otolaryngologists for a long time in anticipation of decreasing the incidence of post-septoplasty complications and improving the outcome of the surgery. The practice of packing the nose after septoplasty was based on a desire to prevent postoperative complications such as bleeding, septal hematoma, adhesion formation and stabilization of the remaining cartilage to prevent postoperative deviation.

Suturing the septum in septoplasty is suggested as a safe procedure that can replace nasal packing, so patients would not have to endure the painful event of pack removal. In a previous comparison between nasal packing and suturing, no significant difference in hemorrhage, crusting or mucosal atrophy was shown.

The result of the current study is in agreement with an Iranian study conducted by BijanNaghibzadeh et.al [4] involving 145 cases which stated that the frequency of bleeding after septoplasty without nasal packing is very low. It concluded that nasal packing should be reserved only for those who bleed more during surgery or developed a septal hematoma. Septoplasty can be safely performed without postoperative nasal packing. Nasal

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packing had no significant benefit that would compensate for its usage. The septal suture is one of the procedures that can be used as an alternative method to nasal packing.[5] In addition, two studies performed in Saudi Arabia and Islamabad showed no significant difference between nasal packing or not for pain and bleeding but showed that nasal packing subjects had more incidences of epiphora, headache, and sleep disturbance. The authors concluded that nasal packing after septoplasty should not be carried out in every patient.[3,6] Another study done in Turkey by Erkan which examined 39 cases had the same conclusion as the current study.[7,8]

However, the recent study contradicts other studies such as a study performed on 44 cases comparing three groups with or without nasal packing and a group with trans-septal suture following a septoplasty. The group with nasal packing showed a significant decrease in post-operative pain.[9] In 2013, a prospective cohort study was conducted in India on 50 cases that showed a significant difference between using nasal packing and not using nasal packing for pain. They concluded that septoplasty for simple deviated nasal septum can be safe without nasal packing and by applying a quilting suture on the septum.[10] In Pakistan, a prospective cohort study conducted on 88 cases concluded that nasal packing has no significant benefits. However, patients with nasal packing complained of post septoplasty epiphora, headache, dysphagia and severe pain during removal of packing. In addition, Ribbon gauze is suggested to be the reason for this post-operative pain due to the significant injury to the nasal mucosa which leads to ciliary movement problem[11,12]

In the current study, subjects with nasal packing had a significant increase in the incidences of headaches. This and the pain affiliated can be attributed to the stretching of the nasal walls by the pack. Post-operative bleeding was not clinically significant. An important factor to minimize bleeding is good homeostasis during surgery, through proper infiltration of epinephrine solution. No bleeding will occur if this is achieved and the mucosal flap is elevated in the right plane.

9. CONCLUSION

Nasal packing is a practice in our hospital for every nasal operation, but in this small series study, we noticed no significant benefit of nasal packing. On the other hand, it increases patients suffering by causing complete nasal obstruction, pain, headache and other complications. It increases the length of the hospital stay and so the overall cost. Trans-septal mattress suture is another alternative to nasal packing as it approximates the flaps, prevents septal hematoma and supports the remaining septal cartilage. Therefore, nasal packing may be of use in selected cases where bleeding tendencies are more, and in a cleanly performed septal surgery that does not cause bleeding, nose packing is not needed.

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