

ORIGINAL RESEARCH**Nasal packing, periorbital edema and ecchymosis after septorhinoplasty**

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Abstract

Introduction: Edema and ecchymosis after septorhinoplasty is an unpleasant manifestation for both the patient and surgeon. Although routine nasal packing is frequently done after septorhinoplasty, assessing the relevancy of post-surgical periorbital edema and ecchymosis with nasal packing eventually may help to clarify more prohibitable causes of these complications that are unintentionally performed.

Materials and Methods: In an interval of 1.5 years, 124 patients whom were candidates of septorhinoplasty by one surgeon in a center of plastic and reconstructive surgery in Tehran participated in our study. Patients were randomly divided in two groups. For half of them at the end of operation bilateral routine nasal packing was done and for the rest a light dressing limited to the nostril was performed. Thereafter, sequentially in the 1st, 3rd, 7th and 30th postoperative day severity of periorbital edema and ecchymosis were recorded based on a scaling system by a third person who was not informed about the study.

Results: Conventional nasal packing is relevant to an increasing number of cases with periorbital edema and ecchymosis after septorhinoplasty. The difference between patients whom were nasally packed or not was not significant at the first postoperative day but in the 3rd and 7th day it was meaningfully less in number and severity in the unpacked group.

Discussion: This shows that it is not necessary to do pack in every patient after septorhinoplasty and performing a light dressing may suffice.

Keywords: Septorhinoplasty; Nasal pack; Periorbital edema and ecchymosis

Introduction

Nowadays, due to the increase rate of aesthetic surgery and especially septorhinoplasty around the world and in our country; obtaining a pleasing aesthetic and functional result of the surgery is the ultimate goal. Also, precise consideration to the complications and selecting the best and harmless therapeutic modalities to reduce these undesirable consequences is also of great importance. Dissatisfaction after septorhinoplasty is about 10-25% of patients and obviously this number may be more in early post-operation ones (1). Anatomic proximity of nose to the orbit may result in occurrence of post-rhinoplasty complications in periorbital area. Usually periorbital edema and ecchymosis occurs at the day operation and gradually increases in the next two days, reaches to the maximal state in the 3rd post-operative day. But, afterwards and mainly disappear 11 days after surgery (2). After the operation it may take 9 days for the patient to return to the normal life activities (3). One of challenging issues in the nose job is nasal pack after the surgery, even though there is not any clear indication to do that and most of surgeons undertake it at the end of surgery. Though finding any relevance between nasal packing and those periorbital manifestations, it may be possible to limit nasal packing for the unnecessary ones.

Methods:

This study was performed as a randomized control trial in a period of 1.5 years on 124 patients of septorhinoplasty. Among 124 patients 87 were women and 37 were men with the mean age of 27.86 and 27.52 respectively. Patients with medical disease such as diabetes mellitus, hypertension, bleeding dyscrasia or taking any specific medications were excluded from the study. All operations fulfilled under general anesthesia by one anesthesiologist. In none of them corticosteroid of any type were used. For none of them internal splint were used. Patients were divided in two groups in which one

group at the end of surgery, a routine anterior tampon of bilateral nasal cavities with a 15cm sterile mesh that impregnated by tetracycline ointment were used. For other group the same procedure, but with a 5cm mesh and limited to the nostrill were performed. In the next day of operation before discharge and the 3rd day of come back to discarding the dressing or nasal pack and at the 7th day to visit for removing the external splint and columella sutures and finally one month after surgery, patient's data of periorbital edema and ecchymosis were fixed by the scaling system which are shown below.

Periorbital edema is scored as in figure-1 based on the amount of iris and pupil covered by the edematous eyelids into 4 grade by the study of Kara (4).

Grade 1- Periorbital eyelids edema does not cover the iris

Grade 2- Edema covers the iris but does not reach the pupil

Grade3- Edema covers the iris completely

Grade4- Edema covers the iris and pupil and completely closes the aperture

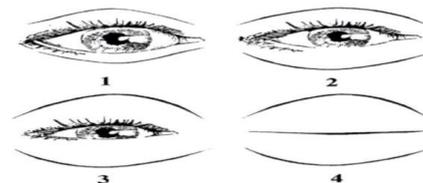


Figure 1

Periorbital ecchymosis is also scaled as shows in figure-2 into 4 grade by the study of Gurlek 5) based on the amount of quarters of the width of the eyelids and conjunctiva which involved by bluish discoloration and ecchymosis.

Grade1- One forth of width of the eye from medial to lateral canthus

Grade2- Half width of the eye from medial to lateral canthus

Grade3- Three quarters of the eye from medial to lateral canthus

Grade4- complete involvement of periorbital area



Figure 2

In all cases the higher grade between left and right side of each patient was noted as his or her score. Eventually gathered data of all patients were compared and analyzed by descriptive statistic and qi-square test.

Results

In this study any important complication did not occur and just in 6 patients of unpacked group some hours after operation in the ward, because of bloody dressings they needed to change dressing and in two of them that was

not enough and by nasal packing bleeding eventually stopped. The patient's main discomfort was feeling of fullness and nasal obstruction and pain which of course more frequent among the patient of packed group. According to the result of study which are shown here in table-1 and 2, in the 1st post-operative day there was not any statically significant difference in the P-value of 0.05 between two groups; but in the 3rd post-operative day in all degree of edema and ecchymosis the difference were significant with the P-value of less than 0.05 and there seems to be higher in the packed group. At the 7th day in mild degrees (1 and 2) of periorbital edema and ecchymosis there seen significantly higher number of patients in the unpacked group and it means that there may be a faster resolution in them; but in the moderate to severe degrees (3 or 4) in the 7th day, there were not any significant difference between the two group. In the data, a month after the surgery periorbital edema and ecchymosis were healed in near to all patients and there were not any significant difference between them.

Table-1

PERIORBITAL EDEMA		G ¹	G ²	G ³	G ⁴	G ⁵
1 st day	packed	8(12.9%)	15(24.3%)	31(50%)	6(9.6%)	2(3.2%)
	unpacked	11(17.7%)	6(9.6%)	43(69.5%)	2(3.2%)	0(0%)
3 rd day	packed	2(3.2%)	4(6.6%)	32(51.6%)	17(27.4%)	7(11.2%)
	unpacked	18(29%)	18(29%)	24(38.8%)	2(3.2%)	0(0%)
7 th day	packed	14(29.0%)	19(30.8%)	23(37.0%)	2(3.2%)	0(0%)
	unpacked	29(46.7%)	29(46.7%)	4(6.6%)	0(0%)	0(0%)
1 month	packed	54(85.5%)	7(11.4%)	1(1.6%)	0(0%)	0(0%)
	unpacked	53(85.5%)	9(14.5%)	0(0%)	0(0%)	0(0%)

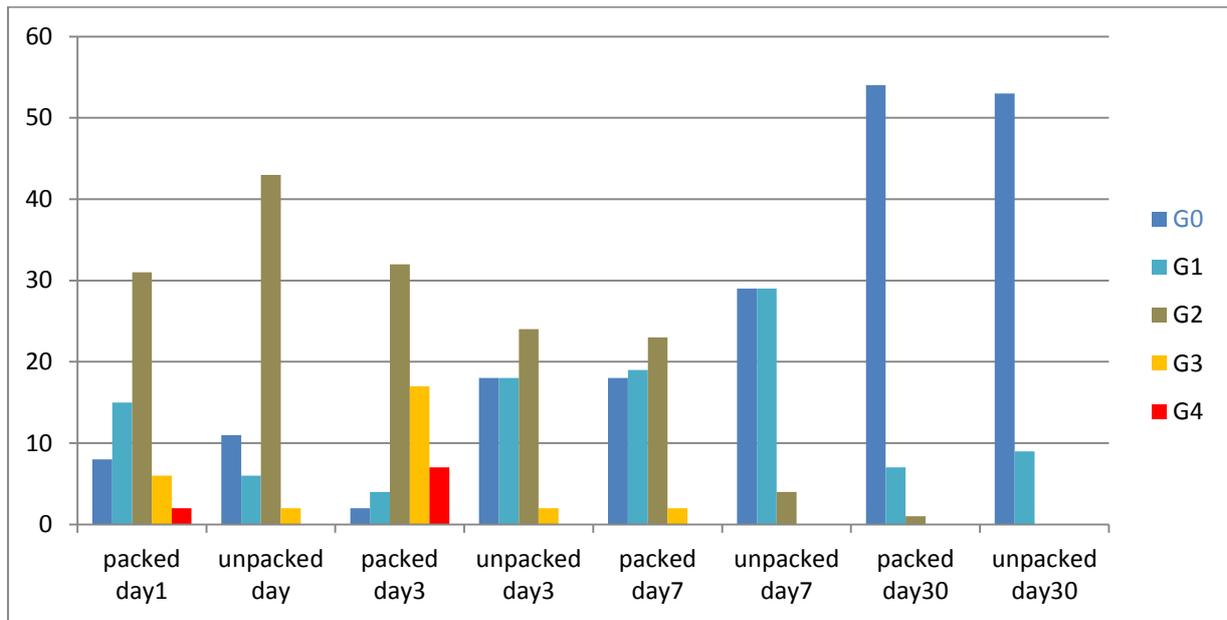
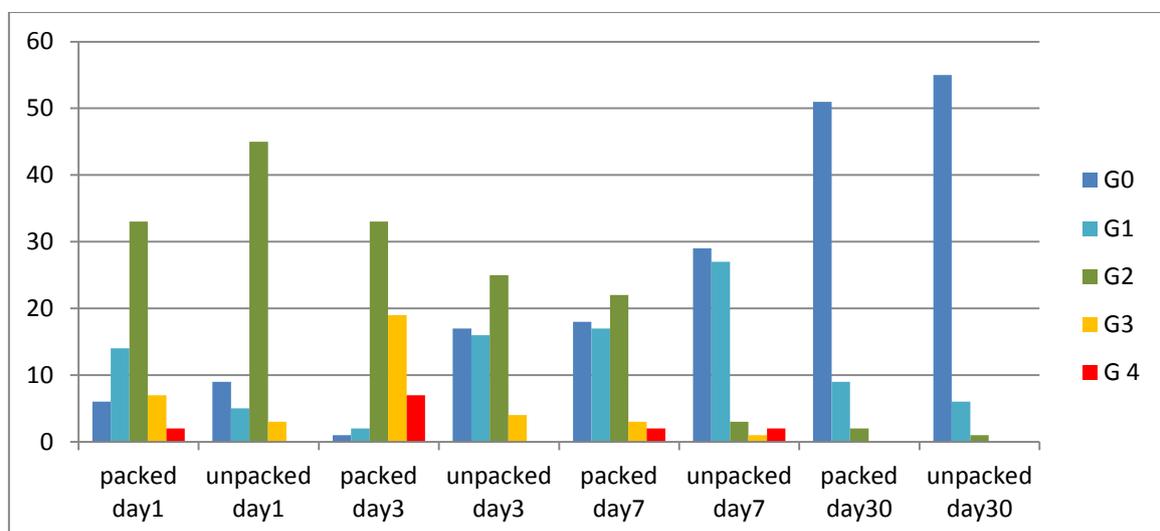


Table-2

PERIORBITAL ECCHYMOSES		G ⁰	G ¹	G ²	G ³	G ⁴
1 st day	packed	7(9.8%)	14(22.5%)	33(53.2%)	7(11.3%)	2(3.2%)
	unpacked	9(14.5%)	5(8.1%)	45(72.5%)	3(4.9%)	0(0%)
3 rd day	packed	1(1.6%)	2(3.2%)	33(53.3%)	19(30.6%)	7(11.3%)
	unpacked	17(27.4%)	16(25.8%)	25(40.4%)	4(6.4%)	0(0%)
7 th day	packed	18(29%)	17(27.4%)	22(35.4%)	3(4.9%)	2(3%)
	unpacked	29(46.7%)	27(43.6%)	3(4.9%)	1(1.6%)	2(3%)
1 st month	packed	51(82.2%)	9(14.6%)	2(3.2%)	0(0%)	0(0%)
	unpacked	55(88.6%)	6(9.8%)	1(1.6%)	0(0%)	0(0%)



Discussion

In a study done by Kara (2001) has shown that after septorhinoplasty in 19% of cases periorbital edema and ecchymosis will occur (2). In many studies the role of some factors in relevant to these manifestations has shown like the use of narrow and sharp osteotomes intra-operatively (6) or ice pack post-operatively (7) will result in decreasing number of edema and ecchymosis and also prescription of corticosteroids by decreasing the inflammation (8) or remifentanyl by controlling intra-operative blood pressure (9) will end in better consequences. In one study, it has shown that the injection of epinephrine-lidocaine solution at the start of surgery will not reduce the incidence of periorbital edema and ecchymosis (10). In summary, they did not notice the occurrence of complications surgical factors like dressing and nasal pack. Nevertheless, there is not any need to do nasal pack in many cases after septorhinoplasty, in about one third of operations (11). In another study, which was performed on 74 patients the effect of nasal packing on periorbital ecchymosis was evaluated, but in that research the operation was done in both open and closed way and nasal packing was performed in one side of nasal cavities in each patient and compared to a simple dressing in the other side. That study also showed that periorbital ecchymosis was more frequent and severe in the packed side and no differences were documented between two types of open or closed surgery (11). In our study according to the more incisions which is used in closed type of operation, all patients operated by the open septorhinoplasty and also for reducing the probability of dislocation and disfiguration of treated of cartilaginous nasal scaffold during septorhinoplasty, all final dressing or packing were performed symmetric in both nasal cavities in each patients.

Conclusion

Based on previous and the presenting study we can conclude that in regard to making less

number of cases suffering from periorbital edema and ecchymosis, it is a rational approach to reduce the number of conventional nasal packing after septorhinoplasty because a light and less volume dressing eventually will end in the same slightly results but with less dissatisfactions.

Conflict of interests

Authors declare no conflict of interests.

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