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Comparison of septoplasty with and without packing and splints.

Amrat Kumar[1], Ashok Kumar[2], Shabir Mehar[3], Dileep Kumar[4], Muhammad Wasi Ullah Khan[5]

1. MBBS, MS
Senior Registrar ENT
Isra University Hyderabad.
2. MBBS, MS
Senior Registrar ENT
Muhammad Medical College
Mirpurkhas.
3. MBBS, DLO, MS
Senior ENT Specialist
Ghulam Muhammed Mehar Medical College Sukkur.
4. MBBS, FCPS
Assistant Professor (ENT)
Peoples University of Medical and Health Sciences Nawabshah.
5. MBBS, FRCS
Associated Professor ENT
Muhammed Medical College
Mirpurkhas.

Correspondence Address:
Dr. Ashok Kumar
Senior Registrar ENT Department
Muhammad Medical College
Mirpurkhas.
drashokkumarpk@gmail.com

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ABSTRACT… Objective: During septoplasty, nasal packing is routinely used by surgeons for hemostasis and balancing the cartilage and bony skeleton of the nose. However, these new techniques are not totally mild and therefore new ways are adopted to check their efficiency and reason their value. The study was performed to compare the use of plastic intranasal splints with or without anterior nasal packing to determine the need of nasal packing after septoplasty. **Study Design:** Comparative Study. **Setting:** ISRA University Hyderabad. **Period:** March 2018 to April 2019. **Material & Methods:** A total of 50 patients presenting with nasal septum in this period were prospectively examined. For the purpose of comparative study, we divided the patients into two groups: Group A –Patients who underwent septoplasty with packing and Group-B –Patients who underwent septoplasty without packing. We recorded the pain felt using Visual analogue scale before and after the surgery and also noted the Mean Age gender wise and recorded treatment results for statistical analysis using SPSS Version-20. **Results:** In our data, a total fifty (50) patients comprising 28 Males (68%) and 22 Females (32%) were listed in the study. The mean± standard deviation VAS scores of Group-A was at 5.2 ±0.9 and Group-B is 2.9±0.61 showing less pain in Group B-without splints and packing. However the complication rate in patients without Splints and packing was only 18%. **Conclusion:** Thus we find septoplasty without nasal splints and packing is more effective and cause lesser bleeding and pain to patients.

Key words: Complications, Nasal Packing, Septoplasty, Visual Analogue Scale, With and Without Splints.

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INTRODUCTION

Our nose consist of two different nostrils alongside a bone and cartilage also called “Septum”. When this septum is displaced, we call it septum deviation with usual symptoms of nose bleeds and pain. However some people have birth defect of a bent septum, some suffer a trauma sue to a sport injury or falling etc.

Commonly used method in outpatient’s clinics is Septoplasty for septal deviations. Septoplasty is a regularly conducted procedure for symptomatic deviation of nasal septum. It helps nasal airflow post operation. Erkan Eski, et al.[1] describes it as the third frequent Otolaryngology surgery. In the 1970’s, a nasal packing made of a cotton fleece material, dipped in a water-repellent, porous, plastic film was used to treat the mucosal barrier and is still used as nasal packing.[2] The real use of nasal packing is to inhibit postoperative hemorrhage and septal hematoma. It is also assumed to soothe the remaining cartilaginous septum and lessenreoccurrence of septal deviation.[3]

Nasal packing is an old treatment for both anterior and posterior epistaxis. We see that a good range of packing materials are available whereas usually the customary nasal packing is made up of ribbon gauze soakedin a lubricant or antibiotic ointment however since these nasal packs caus pain to patients when they were removed therefore stitches were suggested instead. Not only this nasal packs also caused nasal breathing, dry mouth, nasal valve narrowing, vestibulitis, ear blocking, crusting, synechiae, headache,

watering from eyes, throat irritation, difficulty in swallowing, hypoxia, hypoxemia, and secondary infection.[4,5]

According to a study[6] around 60%of the population is assessed to undergo minimum one event of nosebleed and a study from (NEDS) Nationwide Emergency Department Sample conducted from 2009 to 2011 showed above 1 million emergency department appointments for epistaxis in the United States, overall 0.32% cumulative presentations in ER department.[7]

Elsewhere it recorded complaints with over 450,000 visits per annum and a cumulative occurrence of 60% ranging from a minor to a severe case of hemorrhage with about 5 to 10% anterior epistaxis of all clinical presentations in outpatient clinics.[8] In our study we have compared the outcomes of septoplasty with and without nasal packing and the need for nasal packing and its complications after septoplasty.

MATERIAL & METHODS

We conducted this study in ENT department of ISRA University Hyderabad between March 2018 to April 2019 and a total of 50 patients presenting with nasal septum in this period were prospectively examined. For the purpose of comparative study, we divided the patients into two groups: Group A –Patients who underwent septoplasty with packing and splints and Group-B –Patients who underwent septoplasty without packing and splints. Group A consisted of 22 and Group B consisted of 28 patients suffering from nasal septum. We took written consent from all patients prior to procedure. For the purpose of this study we noted complete history and test investigations and recorded the pain felt using Visual analogue scale before and after the surgery and also noted the Mean Age gender wise and recorded treatment results for statistical analysis using SPSS Version-20.

Exclusion Criteria

- Patients suffering from diabetes mellitus, cardiac, anxiety and blood dyscrasia.
- Patients suffered from nasal polyposis, drug abuse and nasal sniffers.
- Patients having nasal allergies.
- Patients with a history of nasal septal and nasalturbinate surgery.
- Patients with nasal bridge depression, columnar retraction or gross external nasal deformity.

In a classic procedure, the surgeon would cut across the nose to reach the septum. Then through the mucous membrane, that's shields the septum. Then the deviated septum is moved into the right position. He then removes any extra bone or cartilage remains. In the end the mucosa membrane is relocated. It may need stitches to hold the septum and membrane in place. However, packing the nose with cotton is sometimes enough to keep them in position. While applying the packs, an antibiotic treatment with bayonet forceps is done and advanced. These nasal packs are made ready using compressed hydroxylating polyvinyl acetate (PVA) which inflates after the liquid reaches it. For the purpose of ease and less pain, the packs are lubricated with antibiotics and viscous lidocaine. Along the nasal floor, the packs are put inside nasal cavity using bayonet forceps and subsequently laterally touching the nasal base.

RESULTS

We recorded a total of fifty (50) patients comprising 28 Males (68% of total patients) and 22 Females (32% of total patients) were listed in the study. The mean age recorded was 23 ± 8.43 years where the maximum age documented was 41yrs and minimum was 14 year old. (Table-I).

Most frequent age bracket was 14-23 with 56% of patients falling in it with 22% in 23-32 and 32-41year age bracket while gender breakup is detailed above. There was no prominent change in age amongst the two groups; Group-A and Group-B however gender wise Group A contained only males. (Figure-1)

Considering the pain scores of the two groups Group-A postoperative pain± standard deviation was at 5.2 ±0.9 and Group-B is 2.9±0.61 showing less pain in Group B-without splints and packing. However the other symptoms and complications

observed were all less in scores in Group B in contrast to Group A where the scores of nasal obstruction, eating difficulties, night sleep and pain on removal of packing are summarized in Table-II. We also observed the resulting post-operative complications in patients without nasal splints and packing i.e. Group-A had 1 case of septal hematoma and nasal obstruction and headaches were also more in Group-A than in Group-B. However bleeding during removal of packing was noted in a single patient of Group A-with nasal splints and packing. Complication rate in patients without Splints and packing was only 18%. (Figure-2).

	Variable	Total Population n=50
Demographics	Mean Age ± SD	23 ± 8.43
	Maximum	41
	Minimum	14
	Male to Female	68% : 32%

Table-I. Demographics of Patients.

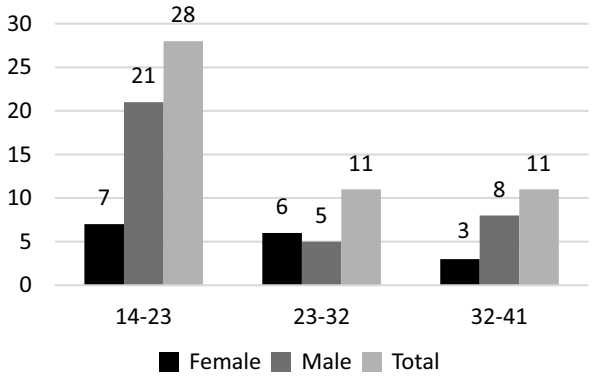

Figure-1. Age range and sex distribution.

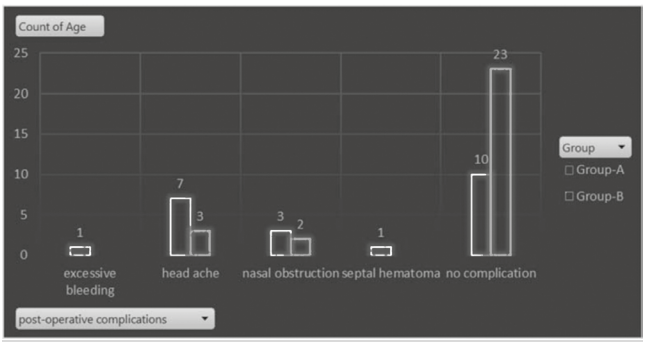

Figure-2. Post-operative complications in Group-A and Group-B.

Group (Mean ± STDev)	Group-A (with splints and packing)	Group-B (without splints and packing)
Age	23.9 ±9.19	22.3 ±7.89
Postoperative pain at 24 hours	5.2 ±0.9	2.9±0.61
Nasal obstruction	5.4 ±0.96	2.8±0.53
Eating difficulties	4.7 ±1.1	3.03±0.46
Night sleep	4.8 ±0.8	3.58±0.6
Pain during removal of packing	5.9 ±0.7	1.14±0.3

Table-II. Complications and VAS Scores of patients with and without splints and packing.

DISCUSSION

Most otolaryngologist use the method of Septoplasty to perform surgeries of patients with primary indications of deviated septum, uncontrollable nose bleedings, nasal airway obstruction or nasal septal deformity however it should be avoided in patients with recurring bleeding issues and diabetes.[9]

In our study, 56% of patients were in the age bracket of 14-23 years and the mean age of group A was 23.9 ± 9.2 years and group B was 22.2 ± 7.8 years. Similar study found the mean age of group A 13.52 years and group B was 13.34 years which shows no significant difference between the two groups.[10] A related study group in a local study showed relatively close mean age of 22.77±6.038 with male to female ratio of 2:1 while our records also calculated a 2:1 male to female ratio in patients.[11] Our data activity on visual analogue scale showed Group B- without splints and packing suffered with less pain than patients in Group A-with splints and packing. Similar supporting study showed pain was higher in Group A (with packing) than in Group B (without packing).[12]

We also observed miscellaneous problems faced by patients with packing such as nasal fullness and dryness of mouth and ear blocking feeling, dryness of mouth, septal hematoma, vestibulitis, crusting, synechiae, headache, watery eyes, throat irritation and hypoxia and hypoxemia in some pateients.[13,14,15,16]

In a local study conducted by Ghafoor shah and group found that nasal adhesion was 14.44% patients in Patients with packing, while in patients without packing it was only developed in 3.33% patients.[11] In our results, complication rate was higher in Group A with only 18% patients having any post-operative complication in Group-B while bleeding was observed in a single patient. Relatively previously data conducted on 70 patients showed septoplasty without nasal packing showed lesser bleeding.[17]

Similar records conducted by Awan MS, et al. displayed removing of nasal pack usually resulted in pain.[18] Some other supporting views were presented by Sashikanth JA, et al.[19] where he thinks preventing nasal packs or splints does not cause bleeding after operation although it could give lesser pain to patients. Elsewhere in works of Sarfaz MB[20], where he titled it "Is nasal packing necessary after septoplasty" and mentioned clearly that many RCT's doesn't recommend nasal packs. Ehab Z et al[21] showed a future concern of cardiac problems being caused due to the pressure produced by the packs on nasal mucosa causing vagal stimulus. More in researches Ali Maeed S Al Shehri[22] showed in his findings that nasal packing is not essential and cause comparatively and more bleeding in patients.

Thus overall all studies show that the use of splints and packing in septoplasty increases complications and it should be only kept for selected cases.

CONCLUSION

Our study compared the septoplasty with and without splints and packing and we found surgery without splints and packing relatively better due to pain and bleeding.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Amrat Kumar	Conception and design, Statistical expertise, Critical revision of the article for important intellectual content.	
2	Ashok Kumar	Data collection.	
3	Shabir Mehar	Drafting of the article.	
4	Dileep Kumar	Data collection.	
5	M. Wasi Ullah Khan	Critical revision of the article for important intellectual content.	