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A Comparative Study between Septal Quilting Sutures without Nasal Packing and Only Nasal Packing In Post Operative Septoplasty.

Dr. Suneetha Chokkakula
Postgraduate, department of Otorhinolaryngology, NRI Institute of Medical Sciences, Visakhapatnam, Andhra Pradesh.

Dr. S. S. Krishna Prakash
Professor and HOD, Department of Otorhinolaryngology, NRI Institute of Medical Sciences, Visakhapatnam, Andhra Pradesh.

P.Sreekavya
Senior Resident, Department of Otorhinolaryngology, NRI Institute of Medical Sciences, Visakhapatnam, Andhra Pradesh.

I.Hemanth
Assistant Professor, Department of Otorhinolaryngology, NRI Institute of Medical Sciences, Visakhapatnam, Andhra Pradesh.

ABSTRACT
INTRODUCTION: Septoplasty is a surgical procedure done to correct deviated nasal septum.Its normal practice to pack the nose for 24 - 48hrs with variety of materials and techniques which is associated with few problems and complications. Nasal septal quilt suturing is a commonly used alternative to nasal packing after Septoplasty which overcomes the post operative problems and complications associated with nasal packing. Hence this comparative study is done.
AIMS AND OBJECTIVES: The aim and objective of the study was to compare post operative problems and complications between septoplasty with post operative nasal packing and quilting sutures without nasal packing.
MATERIALS AND METHODS: A prospective study was carried out in ENT Department of NRIIMS, Visakhapatnam, over period of 2 years. A total 60 patients with age range between 20-50 years, having symptomatic deviated septum were selected. Out of which 30 patients underwent septoplasty with packing and 30 patients underwent septoplasty without packing but with quilting sutures taken on septum.
RESULTS: The results were tabulated andanalysed. Postoperative discomfort, pain, headache, sleep disturbance, was significantly more in nasal packing group. We also found that crusting more commonly seen in nasal packing group for more than an average of two weeks in the post operative period. Quilting the nasal septum has significantly avoided these post operative problems and complications.
CONCLUSION: The patients were more comfortable with quilting the nasal septum without nasal packing as compared to nasal packing after septoplasty. Nasal packing should only be reserved for patients with increased risk of nasal bleeding.
KEY WORDS: *Nasal quilting, nasal packing, septoplasty.*

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I. INTRODUCTION:

Septoplasty is a common surgical procedure performed by otorhinolaryngologistto overcome nasal obstruction due to a deviation in the midline cartilage or bony part of septum of the nose. People who are born with a deviated septum, some people acquire a deviation as a result of trauma during sports[1]. 80% general population found to have nasal septal deviation[2]. Septum deviation symptoms such as nasal obstruction, epistaxis, headache, as well as dysfunctions in the nasal cavity, paranasal sinus, and middle ear[3].

Postoperative nasal packing decreases the chances of haemorrhage, synechiae formation and haematoma of the septum. Packing is thought to keep the septum in the midline by altering the cartilage memory provided scoring was done per-operatively.So many of packing materials have been used for this purpose namely simple lubricated gauze pack,Merocel pack, sponge pack, cuticell with gauze to form cigar pack[4].Merocel packing is most popular among these methods[5]. The disadvantages of nasal packing are accommodating nasal breathing, dryness of mouth, nasal pain, vestibulitis, crusting, synechiae, headache, watering from eyes, ear blocking, irritation of throat, difficulty in swallowing, hypoxia, hypoxemia, and secondary infection. It also increases hospital stay[6].

Alternatively, nasal septal suturing can avoid the pain caused by packing and removal, repair the torn mucosa, fix the nasal septum cartilage, and alleviate mucosal edema. It is a treatment that is regularly performed after septoplasty[(2,7)]. Quilting sutures prevent complications such as synechiae, hematoma, bleeding, perforation, infection, as well as in making patients more comfortable by decreasing or minimizing postoperative headache and pain[8]. It also reduces patients hospital stay.

II. MATERIALS AND METHODS:

60 subjects were selected between 20-50 years age group in NRI INSTITUTE OF MEDICAL SCIENCES, VISAKHAPATNAM attending ENT OPD during the study period between 2020 November to 2022 November.

INCLUSION CRITERIA:

1. Subjects with nasal obstruction due to deviated nasal septum.
2. Subjects with episodes of epistaxis due to deviated nasal septum.
3. Subjects with deviated nasal septum due to trauma.
4. Age between 20-50 years of both sexes.

EXCLUSION CRITERIA:

1. Patients withadded partial turbinectomy and functional endoscopic sinus surgery and previous nasal surgery.
2. Patients with mid facial anomalies.
3. Patients with HIV, severe renal failure, heart diseases excluded from the study.
4. Subjects not giving consent for this study.

III. METHODOLOGY:

Patients were randomly selected for either quilting or nasal packing and were divided into two groups. Informed written consent was taken. Before operation both the nasal cavities were packed with ribbon gauze soaked in 4 % xylocaine. The nose was prepared with topical decongestant spray and infiltration given with 2 % lignocaine in 1:1,00,000 adrenaline. Killian's or Freer's incisionswere used as per surgeon's preference or the requirement based on patient condition.The 30 patients underwent septoplasty with packing, Soframycin soaked ribbon gauze was used for packing group. Pack was removed after 48hrs. 30 patients underwent septoplasty without packing and Quilting sutures are placed through the septum to hold the flaps together and to prevent hematoma formation. A 3-0 vicryl on a curved cutting needle is used. The slightly curved needle is straightened until a very slight curve remains at the tip. A knot is made at the end of the suture and the needle is passed through the septum from one nasal cavity to other starting from the anterior end of the middle turbinate to the vestibule where the knot was tied[9].

Saline nasal irrigation was advised for 2 weeks of post operative period and application of topical nasal decongestant was advised for 5 days. Oral antibiotic and antihistamine was given for 10 days. Postoperatively patients were followed up at 1, 2, 4, 6and 12 weeks.

IV. RESULTS AND OBSERVATIONS:

TABLE- 1:AGE DISTRIBUTION OF THE PATIENTS

AGE (YEARS)	QUILTING SUTURES	NASAL PACKING	TOTAL(%)
20-30	18	16	34 (56.66%)
30-40	8	10	18 (30%)
40-50	4	4	8 (13.33%)

Majority of patients were between 20-30 years age group.

TABLE-2: AGE AND SEX DISTRIBUTION OF THE PATIENTS

AGE	MALE	FEMALE	TOTAL
20-30	20	12	32
30-40	14	6	20
40-50	4	4	8
TOTAL	38 (63.33%)	22 (36.66%)	60 (100%)

Male and female patients were more in 20-30 years age group.

TABLE-3: SEX WISE DISTRIBUTION OF PATIENTS IN TWO GROUPS

GROUPS	MALE	FEMALE	TOTAL
QUILTING SUTURES	20	10	30
NASAL PACKING	18	12	30
TOTAL	38	22	60

Male patients were more than female patients

TABLE-4: SUBJECTIVE ANALYSIS OF PATIENTS SYMPTOMS

COMPLICATIONS	QUILTING SUTURES	NASAL PACKING
POST OP NASAL BLEEDING	16(53.33%)	12 (40%)
POST OP PAIN AND HEADACHE	6 (20%)	24 (80%)
SLEEP DISTURBANCE	2 (6.66%)	18 (60%)
EPIPHORA	2 (6.66%)	6 (20%)

TABLE-5:POST OPERATIVE NASAL BLEEDING IN TWO GROUPS

GROUPS	POD-1	POD-2	POD-3
QUILTING SUTURES	**12**	**3**	**1**
NASAL PACKING	**10**	**2**	**0**

P<0.05; statistically Significant.

TABLE-6:POST OPERATIVE PAIN AND HEADACHE IN TWO GROUPS

GROUPS	MALES	FEMALES	TOTAL
QUILTING SUTURES	4	2	6
NASAL PACKING	16	8	24

P<0.05, statistically significant.

TABLE-7: OBJECTIVE ASSESSMENT OF THE PATIENTS

COMPLICATIONS	QUILTING SUTURES	NASAL PACKING
SEPTAL HEMATOMA	0 (0%)	0 (0%)
CRUSTING	4 (13.33%)	18 (60%)
SYNECHIAE	1 (3.33%)	8 (26.66%)

V. DISCUSSION:

The majority of subjects in the present study were between 20-30 years age group withsimilar findings were seen in Walikar et.al[1] study. Male patients were more in comparison to females and similar findings were noted in study by Rajashri et.al[9]. The postoperative pain was more in the nasal packing group than in the quilting group, mainly because of the significant mucosal trauma that happens while packing and removal of nasal packing. Although the use of Merocel packs reduces the trauma, still its use can cause significant pain postoperativelywith similar results from the studies by Walikar et.al[1] and Vijay Ramalingam et.al[2].

Post operative bleeding was seen more in quilting group than nasal packing group. The similar results were seen in Rajashri et.al[9] study while VijayRamalingam et.al[2] and Cukurova et al[10]had different findings. Sleep disturbance was more in nasal packing group than quilting group with a corelationto study conducted by Jawaid et al[11].

The headache was more commonin the nasal packing group than in the quilting group. This headache is due to the obstruction of the normal sinus drainage pathway because of nasal packing and retention sinusitis with similarfindings noted on Bajaj et.al[12].Septal haematoma is not uncommon post septal correction done for marked septal deviation. This results secondary to poor handling of the mucoperichondrium and mucoperiosteum during the surgery. Septal hematoma was not observed in our study. Some studieslike Dandan

wang et.al[3] study had shown that nasal packing after septoplasty can manage the corrected nasal septum, compress and stop the bleeding, and prevent hematoma.

In our study, crusting was more in nasal packing group than quilting group with similar findings noted in Nunez DA et.al[13] study. Nasal packing causes some degree of mucosal trauma that results in crust formation which in turn can leads to synechiae formation.Synechiae formation was observed more in nasal packing group than the quilting group. Similar findings were observed in study conducted by Kula M et.al[14].Quilting sutures also reduces the hospital stay.

VI. CONCLUSION:

The use of quilting sutures to nasal septum after septoplasty stabilizes the remaining nasal septum and prevent complications like post operative pain, head ache, sleep disturbances.

Quilting sutures reduces crust formation and synechiae formation and can effectively reduce the hospital stay.

Nasal packing group had minimal post operative nasal bleeding in comparison to quilting sutures.

To conclude, a simple septal deviation can be safely treated with septoplasty and nasal Quilting sutures though this study might be elaborated with a larger sample size to know the efficacy.

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