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POSTOPERATIVE RELIEF FROM NASAL OBSTRUCTION IN ENDOSCOPIC VERSUS CONVENTIONAL SEPTOPLASTY

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ABSTRACT

Background-One of the frequently occurring reasons of nasal obstruction is a deviated nasal septum(DNS). Numerous methods have been used to correct a deviated nasal septum, with septoplasty being the most frequent. Endoscopes have been attempted in septoplasty in order to improve visualisation of the posterior region of the septum and perform the surgery more precisely and with less complication as compared to conventional approach. The study's goals were to compare the post operative relief from nasal obstruction in endoscopic septoplasty and conventional septoplasty.

Method-A total sample of 60 patients were taken. Detailed history of all these patients were taken and they were subjected to general physical examination and ENT examination. All routine investigations were done and fitness was obtained prior to surgery. All the patients were randomized into Group 1 and Group 2. Group 1 underwent Endoscopic Septoplasty. Group 2 underwent Conventional Septoplasty. Post operatively patients were followed up.

Results- In group 1, 29(96.67%)patients got relief from nasal obstruction and 1(3.33%) patient had residual nasal obstruction .In group 2, we see that 22(73.33%) of patients got relief from nasal obstruction and 8(26.67%) patients had residual nasal obstruction.The odds ratio came as 10.5455 and the study is statistically significant.

Conclusion- Postoperative relief from nasal obstruction is much better with endoscopic septoplasty than conventional septoplasty, since the endoscopic septoplasty gives much better illumination and magnification which helps in correcting the deformity with more precision.

INTRODUCTION

A deviated nasal septum (DNS) is one of the most prevalent presenting complaints, causing nasal obstruction at any ENT outpatient facility. DNS not only makes breathing difficult but also results in incorrect ventilation of the paranasal sinuses, which causes sinusitis.

Additionally, it has been linked to epistaxis, obstructive sleep apnea, and migraines brought on by contact points with lateral nasal wall components.[1,2,3]

The correction of DNS has been suggested via a variety of operations. Initially, submucosal resection of the septum was suggested; however, septoplasty, which was less radical, eventually took its place.[1] Conventional septoplasty techniques have advanced since Freer[4] and Kilian[5] in the early 20th century, followed by Cottle et al. [6] in the 1950s .[7,8] Additionally, endoscopic septoplasty has been developed as a result of improvements in endoscopic nasal surgery.[9,10,11,12,13]

Greater illumination and magnification resulting in better visualisation make endoscopic septoplasty advantageous. It aids in the precise diagnosis of the location of the septal deviation, the degree of the nasal obstruction, and its relationship to the lateral nasal wall.[2]

Additionally, it facilitates sinus surgery's access to the medial meatus.[14]

The following requirements should be met for a perfect surgical repair of the nasal septum: It should clear up the nasal obstruction, be cautious in approach, avoid iatrogenic deformity, not jeopardise the integrity and functionality of the osteomeatal complex, and allow for revision surgery if necessary in the future.

The nasal airway is improved by standard procedures on the septum, but they typically do not meet the other requirements listed above. Important benefits of endoscopic septoplasty include appropriate vision, space for instrumentation, access to paranasal sinuses, and preparation for additional procedures such transseptal approach to the sphenoid sinus, visualisation, and cessation of post-nasal haemorrhage. In our study we aim to see the postoperative relief from nasal obstruction in endoscopic septoplasty and conventional septoplasty

METHODOLOGY

Study type

It is a Randomized Prospective Case Control Study

Study Period

Study was conducted from January 2021 to January 2022 in Dr. D.Y. Patil Medical College and Hospital, Pimpri, Pune, Maharashtra, India.

Sample size

A total sample size of 60 patients were taken for our study.

Inclusion Criteria

- Patient’s age more than 21 years
- Patients with chief complaint of nasal obstruction

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- Patients with DNS
- Patients who are fit for surgery

Exclusion Criteria

- Patient with chronic history of allergic rhinitis
- Patients with sinusitis
- Patients with nasal polyp or mass in nasal cavity
- Patients who are unfit for surgery

Data Collection Method

All patients fitting in the inclusion criteria for the study were taken consent and informed about the details of the study. Detailed history of all these patients were taken and they were subjected to general physical examination and ENT examination. All routine investigations were done and fitness was obtained prior to surgery. All the patients were randomized into Group 1 and Group 2.

Group 1 underwent Endoscopic Septoplasty

Using a zero degree endoscope infiltration was given with 2% xylocaine with adrenaline in the columella and septum and hemitransfixion incision was taken.The mucoperichondrial and mucoperiosteal flaps were elevated. Osteocartilaginous junction was broken. Cartilage was seperated from the maxillary crest below. Inferior one third of the cartilaginous strip was removed. With Luc's forceps, the anterior 0.5 cm edge of the ethmoid's perpendicular plate was excised. Spur removal was done where it was required. Three-inch chromic catgut suture was used to seal the wound. Merocel packs were used for packing the bilateral nasal cavities.

Group 2 underwent Conventional Septoplasty

Under headlight vision infiltration was given with 2% xylocaine with adrenaline in the columella and septum and hemitransfixion incision was taken. Same procedure was done as mentioned above using and endoscope

Post operatively patients were followed up.

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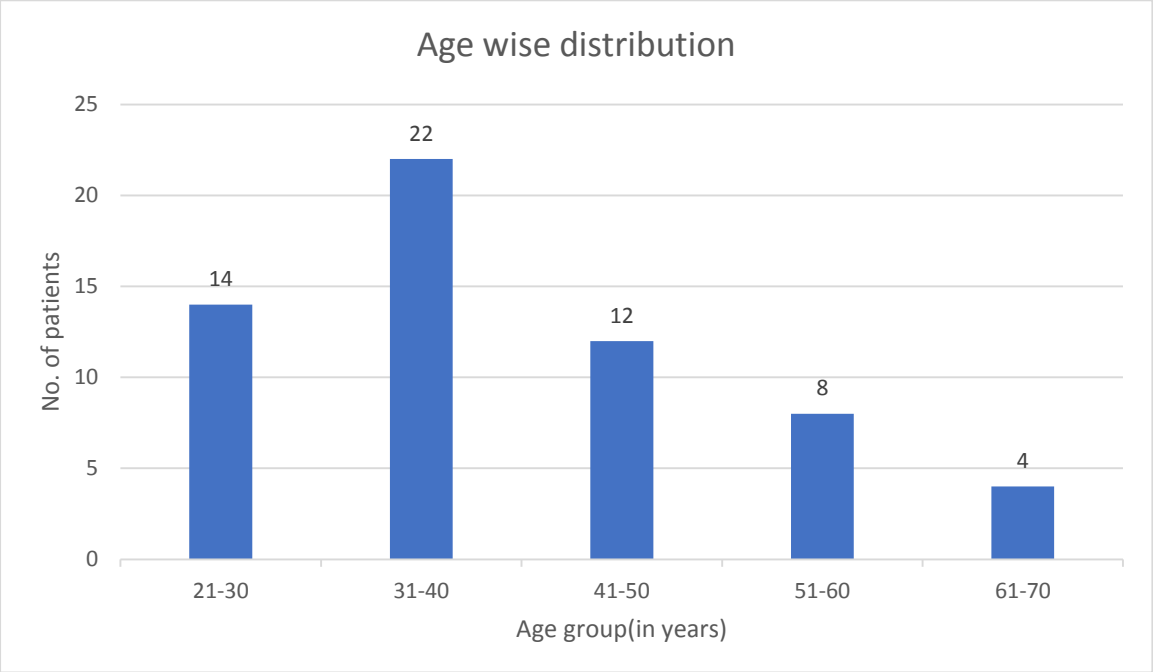
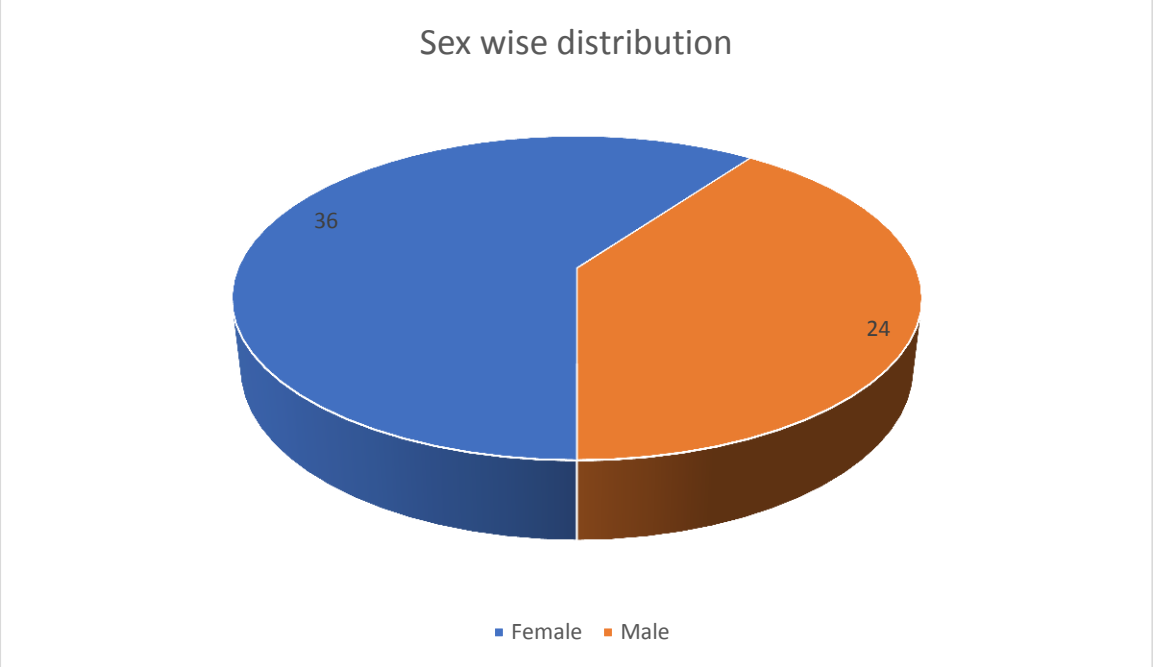
OBSERVATION AND RESULTS

Figure 1:Age wise distribution



In our study the most common affected age group is 31 -40 years followed by 21-30 years.(Figure 1)

Figure 2:Sex wise distribution



In our study majority of the affected population were female(60% of total sample size).The remaining population were male(40% of the total sample size).(Figure 2)

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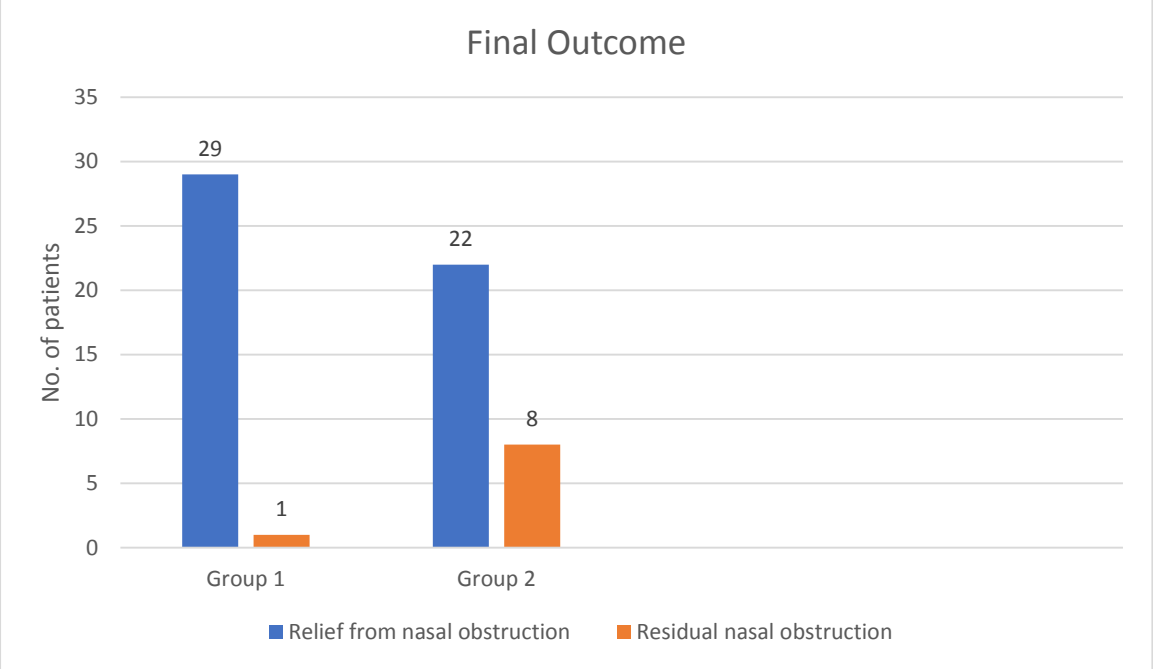
Table 1- Final Outcome

	Group 1 N(%)	Group 2 N(%)	Odds ratio (95% CI)	p value
Relief from nasal obstruction	29(96.67%)	22(73.33%)	10.5455 (1.2266-90.6658)	0.0319
Residual nasal obstruction	1(3.33%)	8(26.67%)		

(CI-Confidence Interval)

Figure 3:Schematic representation of final outcome



In our final outcome (Table 1 and Figure 3)we see that in group 1, 29(96.67%)patients got relief from nasal obstruction and 1(3.33%) patient had residual nasal obstruction .In group 2, we see that 22(73.33%) of patients got relief from nasal obstruction and 8(26.67%) patients had residual nasal obstruction. Thus the odds ratio came as 10.5455. So the odds of relief from nasal obstruction with endoscopic septoplasty is 10.5455 times more than the odds of releief from nasal obstruction with conventional septoplasty.The study is statistically significant with p value < 0.05.

DISCUSSION

In our study the most common affected age group is 31 -40 years followed by 21-30 years.(Figure 1)Thus major bulk of patients were from 2nd to 4th decade .A study conducted by Rao et al[15] shows similar finding. Another study conducted by Semil et al shows the most commonly affected age group is26-35 years.[16]

In our study majority of the affected population were female. (Figure 2)The study conducted by Semil et al also showed female preponderance.[16]

In our final outcome (Table 1 and Figure 3)we see that in group 1, 29(96.67%)patients got relief from nasal obstruction and 1(3.33%) patient had residual nasal obstruction .In group 2, we see that 22(73.33%) of patients got relief from nasal obstruction and 8(26.67%) patients had residual nasal obstruction. Thus the odds ratio came as 10.5455. So the odds of relief from nasal obstruction with endoscopic septoplasty is 10.5455 times more than the odds of releief from nasal obstruction with conventional septoplasty.The study is statistically significant with p value < 0.05.

In a study by Harley et al patients with nasal obstruction and headache had significant improvement was observed in endoscopic group as compared to conventional group.[17]

In the study conducted by Jain et al, that postoperative follow up of the patients showed that 96% cases of endoscopic septoplasty and 38% cases of conventional septoplasty were relieved of nasal obstruction.[18]

Similar study conducted by Chandra et al, nasal obstruction was improved in 96% (n=24) who underwent endoscopic septoplasty and in 80% (n=20) who underwent conventional septoplasty.[19]

CONCLUSION

Thus it can be concluded that postoperative relief from nasal obstruction is much better with endoscopic septoplasty than conventional septoplasty, since the endoscopic septoplasty gives much better illumination and magnification which helps in correcting the deformity with more precision.

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