Research Paper

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Evaluation of Septoplasty Outcome Using Nose (Nasal Obstruction Symptom Evaluation) Scale

Medical Science

KEYWORDS : Nasal Septum, Septoplasty, Deviation

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ABSTRACT

Background: Nasal obstruction is the most common complaint in an average rhinologic practice and a deviated nasal septum is the most common cause of nasal obstruction. The deformities of the septum are usually congenital, developmental, traumatic or iatrogenic in nature with traumatic and iatrogenic being the most common.

Objective: The objective of the study was to evaluate patient based outcome on subjective based opinion in patients undergoing Septoplasty.

Methods: The present study was conducted on 40 patients who presented with signs and symptoms attributed to septal deviation who were managed and followed up in the Postgraduate Department of Otorhinolaryngology and Head and Neck Surgery, SMHS Hospital an associated Hospital of Government Medical College, Srinagar.

Results: On Statistical analysis of Nasal Obstruction Symptom Evaluation (NOSE) score of patients (n=40) at baseline & at Post-operative 3 and 6 month follow-up mean+SD was 61.63+11.46, 9.50+5.75 and 8.75+3.86 respectively with p<0.0001 for pre-operative and 3 month post-operative follow up which is highly significant and p>0.05 for 3 and 6 month follow up and hence insignificant.

Conclusion: Septoplasty results in significant improvement in disease specific quality of life with high patient satisfaction.

INTRODUCTION:

The Nose is a midline facial structure meant not only for the purpose of breathing and smell but also associated with the facial aesthetics more than any other structure in the face. Nose is composed of a skeleton covered by "skin soft tissue envelope". The nasal skeleton is composed of several bones and cartilages of different shape connected together. Very important component of the skeleton which is inside the nose is the "Nasal Septum". The nasal septum is a central support structure for the nose. When significantly deformed, the septum may cause dysfunction and cosmetic deformity, potentially having an impact on the many functions of the nasal cavity.[1]

A straight septum is the exception rather than rule. Nasal obstruction is the most common complaint in an average rhinologic practice [2] and a deviated nasal septum is the most common cause of nasal obstruction. It has been estimated that as many as one third of the population has some nasal obstruction and as many as one quarter of these patients pursue surgical treatment.[3]

The evaluation of a septal deviation causing nasal obstruction depends heavily on examination and possibly imaging. Once a septal deviation is diagnosed, however medical management targeting the nasal mucosa is typically attempted first with topical nasal steroids, antihistamines and decongestants as tolerated. If the patient fails medical therapy Septoplasty is considered to correct the underlying septal deformity.[1]

The Nose scale is a validated outcome instrument assessing quality of life related to nasal obstruction.[4] (Table 1).

Table 1: NASAL OBSTRUCTION SYMPTOM EVALUATION [NOSE] SCALE

	Not a problem	Very mild problem	Moderate problem	Fairly bad problem	Severe problem
Nasal congestion/ stuffiness	0	1	2	3	4
Nasal blockage/ obstruction	0	1	2	3	4
Trouble breathing through nose	0	1	2	3	4
Trouble sleeping	0	1	2	3	4
Unable to get enough air through during exertion	0	1	2	3	4

OBJECTIVE:

A prospective study of patients presenting to the Postgraduate Department of Otorhinolaryngology and Head and Neck Surgery, SMHS Hospital for Septoplasty was conducted to evaluate patient based outcome on their subjective opinion.

MATERIAL AND METHODS:

The present study was conducted on 40 patients who presented with signs and symptoms attributed to septal deviation who were managed and followed up in the Postgraduate Department of Otorhinolaryngology and Head and Neck Surgery, SMHS Hospital an associated Hospital of Government Medical College, Srinagar from May 2011 to December 2012

Inclusion criteria:

Patients with age more than 18 and less than 50 years of both sexes with septal deviation were included in the study.

Exclusion criteria:-

1) Patients aged less than 18 years and greater than 50 years were excluded from the study
2) Patients with coexisting debilitating diseases/major systemic diseases.
3) Patients with active upper respiratory tract infections preceding two weeks of surgery.

Informed consent was taken from all patients, explaining the procedure, benefits, possible complications and importance of regular follow up postoperatively.

Preoperative assessment

A detailed and comprehensive evaluation of each patient was made as per the proforma of the study design.

- A relevant history was taken from each patient and recorded on standard proforma designed for the purpose.
- Baseline Nasal Obstruction Symptom Evaluation (NOSE) score.

Postoperative assessment

The patient were followed up for a minimum period of 6 months to record postoperative symptom improvement rate by

- Nasal Obstruction Symptom Evaluation (NOSE) scale at 3 and 6 months.

The results of our study were analyzed on SPSS Software using "Paired 't' test"

RESULTS

In our study of 40 patients, majority of patients i.e. 29(72.50%) were aged between 11-30 years.19 (47.50%) patients were recorded in the age group of 20-30 years and 10 (25%) patients were recorded in the age group of 10-20 years. The youngest patient was 18 years old and eldest patient was 50 years of age. The mean age of presentation was 28.45with a standard deviation of 10.45. 21 patients (52.50%) were males and 19 patients (47.50%) were females with male to female ratio of 1.1:1. In our series of patients (n=40), the preoperative Nasal Obstruction Symptom Evaluation (NOSE) Scores of all the patients were compared to the postoperative NOSE scores to know the functional outcome of the surgical procedure On Statistical analysis of Nasal Obstruction Symptom Evaluation (NOSE) score of patients at baseline & at Post-operative 3 and 6 month follow-up mean±SD was 61.63±11.46,9.50±5.75 and 8.75±3.86 respectively (Table 2) with p<0.0001 for pre-operative and 3 month post-operative follow up which is highly significant and p>0.05 for 3 and 6 month follow up and hence insignificant.

Table-2: Nasal Obstruction Symptom Evaluation (NOSE) Score of patients (n=40) at Baseline and at Post-Operative 3 month & 6 month Follow-Up

	Baseline	3 month	6 month
Mean±SD n=40	61.63±11.46	9.50±5.75	8.75±5.86
S.E.M	1.81	0.91	0.93
95% Confidence Intervals	57.96-65.29	7.66-11.34	6.88-10.62
Min	40	0	0
Med	60	10	5
Max	80	20	20

DISCUSSION

Michael G Stewart et al (2004)[4] in a prospective observational study to assess disease specific quality of life outcomes after nasal Septoplasty in adults with nasal obstruction using Nasal Obstruction Symptom Evaluation (NOSE) Scale found that there was a significant improvement in mean NOSE score at 3 months after Septoplasty (67.5 versus 23.1, P < 0.0001) and this improvement was unchanged at 6 months. Orhan Kemal Kahveci et al (2012)[5] in a prospective observational study of 27 patients with nasal septal deviations who underwent surgery found that the patients had significant improvement in nasal obstruction symptoms after Septoplasty operation (p < 0.01) with mean preoperative NOSE score as 60.2 (SD, 17.45) and mean postoperative score as 11.28 (SD, 10.45).

As the p values calculated for baseline and 3 month postoperative in our study were below 0.01 i.e. (P<0.01), a statistically highly significant improvement was achieved in patients, meaning that there was a very significant improvement in the obstructive symptoms of all patients after surgical intervention at 3 months and this improvement was unchanged at 6 months. Our observations concerning the post-operative assessment of outcome associated with Septoplasty are quite consistent with the observations recorded by above mentioned authors.

CONCLUSION

NOSE Score is a valid , reliable and responsive instrument that is brief and easy to complete and has potential use for outcome studies in adults with nasal obstruction.This validated instrument showed that Septoplasty results in significant improvement in disease specific quality of life with high patient satisfaction.

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