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Evaluation of the quality of life before and after septoplasty among patients with deviated nasal septum using nasal obstruction symptom evaluation questionnaire

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ABSTRACT

Background: The objective of the study was to evaluate the quality of life before and after septoplasty among patients with nasal obstruction.

Methods: This study was done in Government Medical College Srinagar from September 2017 to September 2018 for a period of 12 months. A total of 33 patients with deviated nasal septum who underwent septoplasty were included in the study. They were given a questionnaire nasal obstruction symptom evaluation (NOSE) to be fulfilled preoperatively, then 3 months and at 6 months after surgery.

Results: The preoperative NOSE score was 72.62 ± 22.69 and postoperative score was 10.78 ± 15.27 at 3 months, 5.72 ± 10.1 at 6 months.

Conclusions: Disease specific health related quality of life measured with NOSE in patients undergoing septoplasty showed improvement at 3 months and 6 months postoperatively.

Keywords: Septoplasty, NOSE scale, Quality of life

INTRODUCTION

Quality of life (QOL) is an important assessment in clinical interventions. QOL is a subjective evaluation of the effects of a disease or therapeutic effects of its treatment on patient's health and several patients with the same objective conditions may have different QOLs. It includes not only symptoms of the disease but also a wide spectrum of daily life activities such as social and physical activities, practical and emotional problems, and general feeling of patients related to their disease. Therefore; we need a questionnaire to cover all of the aforementioned items to assess the QOL appropriately.

The effectiveness of rhinologic surgeries came with development of outcome research techniques. Originating in 1970s, outcome research grew out of the study of the

geographical variation and appropriateness of medical care. Outcome of research uses validated questionnaires called instruments to study effects of diverse therapies on patient's health related quality of life (HR-QOL).²

The American Academy of Otolaryngology commissioned a study to develop a disease-specific outcomes instrument for nasal obstruction, known as the nasal obstruction symptom evaluation (NOSE) scale.³ This validated instrument has been used to study the effectiveness of septoplasty for treatment of nasal obstruction. The questionnaire addresses the severity of complaints that the patient experiences- nasal congestion/stuffiness, nasal blockage/obstruction, trouble breathing through nose, trouble sleeping, and unable to get enough air through the nose during exercise or exertion.

Septoplasty comprises one of the most common procedures performed by otolaryngologists today. According to the analyses of the Federal Health Monitoring frequency of septoplasty occupies position 37 of all surgical procedures, these data can be comprehended by bearing in mind that 25% of the population suffer from non-allergic nasal obstruction.⁴

METHODS

This prospective hospital based study was conducted in the postgraduate department of otorhinolaryngology, head and neck surgery, Government SMHS hospital, Srinagar from September 2017 to September 2018. All patients attending the department were included after fulfilling the inclusion criteria.

Inclusion Criteria included patients who underwent septoplasty for DNS and patients aged 18 years or above. Written informed consent was taken from all the patients. Detailed history was taken and complete ENT examination was done. Non-contrast enhanced computed tomography was done as and when required. In all patients disease specific quality of life measurement was done using NOSE scale. This was done on three occasions- preoperatively, 3 months and at 6 months after surgery.

Data was entered in Microsoft Excel spreadsheet. Continuous variables were summarized as mean and standard deviation. Categorical variables were summarized as percentages. Comparison of NOSE scores before and after rhinologic surgeries were done using paired 't' test. Two sided p values was reported and a p<0.05 was considered as statistically significant.

RESULTS

A total of 33 patients underwent septoplasty in our institution during study period. The NOSE questionnaire was given pre and post operatively among patients with deviated nasal septum who met inclusion criteria. NOSE scale changed from 72.62±22.69 preoperatively to 10.78±15.27 at 3 months and 5.72±10.1 at 6 months. Nasal congestion/stuffiness changed from 15.12±3.83 preoperatively to 2.54±2.79 at 3 months, 1.32±1.75 at 6 months (Table 1). Nasal blockage/ obstruction changed from 16.05 ± 4.23 preoperatively to 2.37 ± 3.52 at 3 months, 1.40±2.84 at 6 months (Table 2). Trouble breathing through nose changed from 12.64±3.77 preoperatively to 1.35±2.68 at 3 months, 0.52±1.31 at 6 months (Table 3). Trouble sleeping changed from 13.02 ± 4.07 preoperatively to 2.05 ± 2.75 at 3 months, 1.29±2.58 at 6 months (Table 4). Unable to get enough air through nose during exercise/ exertion changed from 9.82±3.65 preoperatively to 1.32±1.80 at 3 months, 0.43±1.09 at 6 months (Table 5). Nasal obstruction changed from 5.97±3.14 preoperatively to 1.15±1.73 at 3 months, 0.76±0.53 at 6 months (Table 6).

Table 1: Pre and post-operative nasal obstruction symptom evaluation (nose) scale in patients undergoing septoplasty (n=33).

Parameter	Pre-operative score (NOSE)	Postoperative score (NOSE)		P value
		3 months	6 months	
Nasal congestion/ stuffiness	15.12±3.83	2.54±2.79	1.32±1.75	0.003*

Table 2: Pre and post-operative nose scale parameter: nasal blockage/obstruction in patients undergoing septoplasty (n=33).

Parameter	Pre-operative score (NOSE)	Postoperative score (NOSE)		P value
		3 months	6 months	
Nasal blockage/ obstruction	16.05±4.23	2.37±3.52	1.40 ± 2.84	<0.001*

Table 3: Pre and post-operative nose scale parameter, trouble breathing through nose in patients undergoing septoplasty (n=33).

Parameter	Pre-operative score (NOSE)	Postoperative score (NOSE)		p-value
		3 months	6 months	
Trouble breathing through nose	12.64±3.77	1.35±2.68	0.52±1.31	0.004*

Table 4: Pre and post-operative nose scale parameter, trouble sleeping in patients undergoing septoplasty(n=33).

Parameter	Pre-operative score (NOSE)	Postoperative score (NOSE)		P value
		3 months	6 months	
Trouble sleeping	13.02±4.07	2.05±2.75	1.29±2.58	0.009*

Table 5: Pre and post-operative nose scale parameter, unable to get enough air through nose during exercise/ exertion in patients undergoing septoplasty(n=33).

Parameter	Pre-operative score (NOSE)	Postoperative score (NOSE)		P value
		3 months	6 months	
Unable to get enough air				
through nose during exercise/	9.82±3.65	1.32 ± 1.80	0.43 ± 1.09	0.015*
exertion				

Table 6: Pre and post-operative nose scale parameter, nasal obstruction in patients undergoing septoplasty (n=33).

Parameter	Pre-operative score (NOSE)	Postoperative score (NOSE)		P value
		3 months	6 months	
Nasal obstruction	5.97±3.14	1.15±1.73	0.76±0.53	0.014*

DISCUSSION

Sinonasal pathology is one of the most frequent cause of the disease which impairs quality of life. The most common symptoms of diseases of the nose and paranasal sinuses are nasal obstruction or congestion, anterior and posterior nasal discharge, epistaxsis, hyposmia or anosmia, headache, snoring, facial pain, facial pressure. These symptoms may be due to anatomical obstruction of ostium, septal deviation, concha bullosa, paradoxic middle turbinate, nasal polyps, chronic rhinosinusitis (CRS).⁵

Measurement of disease specific quality of life was performed using Nasal Obstruction Symptom Evaluation Scale (NOSE).³ The scale is made of 5 questions about life quality. Each symptom was scored between 0 and 4 depending on the severity: 0 was minimum and 4 was very severe. The points for each patient were calculated for the five questions. Each patient could have a total score ranging between 0 and 20; the preoperative NOSE score for each patient was calculated by dividing the patient score by 20, then multiplying the result by 10. In this way NOSE scale vary from 0 to 100.

In present study NOSE scale changed from 72.62±22.69 preoperatively to 10.78 ±15.27 at 3 months, 5.72±10.1 at 6months. So, disease specific QOL was seen improved post -surgical intervention. Similar results were stated in studies conducted by Karakus et al, Stewart et al, Younas et al, Gandomi et al, Arunachalam et al.^{3,6-9}

CONCLUSION

Disease specific health related quality of life measured with NOSE (nasal obstruction symptom evaluation) scale in patients undergoing septoplasty showed improvement at 3 months and 6 months postoperatively.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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