ORIGINAL ARTICLE

SATISFACTION OF PATIENTS UNDERGOING NASAL SEPTOPLASTY FOR SEPTAL DEFORMITY

Muhammad Younas,[1] Abdul Aziz Hamid[2]

ABSTRACT

Objective: *To assess the degree of satisfaction of patients submitted to septoplasty based on the disease-specific quality of life questionnaire.*

Methodology: *This prospective, descriptive study was conducted from April 2010 to April 2011 at Benazir Bhutto Shaheed Teaching Hospital Abbottabad Pakistan on 256 patients, who underwent septoplasty. Patients were assessed by the Nasal Obstruction Symptom Evaluation (NOSE) questionnaire before and 03 months after septoplasty. Patients were asked to evaluate the severity of their nasal congestion, nasal obstruction, trouble breathing during sleep and their difficulty during breathing overall. The severity of their symptoms were recorded based on a scale from 0-4, 0 standing for absence of symptom and 4 for severe problem. Probable scores ranged from 0 to 20.*

Results: *Of the 256 patients undergoing septolpasty, 224 subjects (136 male and 88 female) were available for final assessment. The age range was from 7 to 53 years. Preoperative mean NOSE score was 2.23($\pm$0.956) while 3-months postoperative mean NOSE score was 0.60($\pm$0.71) showing a significant decrease in the symptoms ($p<0.01$). Preoperatively, the NOSE score was ranging from 2-11 in 89 (39.7%) cases and 12-13 in 63 (28.1%). Postoperatively the NOSE score was 0 in 66 (29.5%) patients and 1-2 in 52 (23.2%) patients. In patients with allergic rhinitis, the decrease in mean NOSE score was 43% as compared to non-allergic (70%). Four (1.8%) patients commented that the operation was unsuccessful.*

Conclusion: *In patients with septal deformity, nasal septoplasty results in significant improvement in disease specific quality of life and high patient satisfaction.*

Key Words: *Septoplasty, Nasal Septum, Nasal Obstruction, Nasal Obstruction Symptom Evaluation (NOSE) Scale.*

This article may be cited as: Younas M, Hamid AA. Satisfaction of patients undergoing nasal septoplasty for septal deformity. Khyber Med Univ J 2012;4(3):115-118.

INTRODUCTION

Difficulty in nasal breathing is probably the most common complaint in rhinologic practice. Among the major causes are *deflected* nasal septum (DNS) and allergic rhinitis. About 80% of the general population has a DNS to some degree.[1] The treatment of the DNS is surgical with high success rates, in terms of patient's satisfaction.[2] Patient satisfaction is an important measurement for the evaluating the quality of medical care provided to the patients.[3] When deciding on the best therapeutic strategy for patients with DNS, one must have a tool for the assessment of subjective symptoms. Due to dual chamber design of the nose, objective measures of nasal airway patency correlate only partially with patient sensation of nasal obstruction. The Nasal Obstruction Symptom Evaluation (NOSE) scale is a disease –specific quality of life instrument for use in the nasal obstruction developed by Stewart et al.[4] An objective assessment of nasal airway patency can be provided by Rhinomanometery (Active anterior, Acoustic) and Peak Inspiratory nasal flow.[5] In Pakistan various studies have been conducted on the outcome of nasal septal surgery[6-10] but none has evaluated the patients' degree of satisfaction regarding septoplasty. The aim of this study was to assess the outcome of septoplasty in term of patients' satisfaction using self-assessment subjective measures.

1 Department of Otorhinolaryngology, Head Neck surgery, Benazir Bhutto Shaheed Teaching Hospital Abbottabad Pakistan

2 Department of Otorhinolaryngology, Head Neck surgery, Mian Rashid Hussain Shaheed Hospital Pabbi, Noshehra

Address for Correspondence:

Dr. Muhammad Younas
Department of Otorhinolaryngology, Head Neck surgery, Benazir Bhutto Shaheed Teaching Hospital Abbottabad Pakistan
E mail: ent.plastic@gmail.com
Date Submitted: May 30, 2012
Date Revised: September 13, 2012
Date Accepted: September 15, 2012

METHODOLOGY

This prospective study was conducted from April 2010 to April 2011 at Benazir Bhutto Shaheed Teaching Hospital Abbottabad Pakistan. During the study period, 256 patients who were due to undergo septoplasty, were enrolled in the study. Patients with nasal obstruction due to DNS, without turbinate hypertrophy, symptoms persisting for >3 months, no response to medical treatment

(anti-histamine, nasal decongestant) were selected. Patients suffering from allergic rhinitis with DNS were also included in the study. Patients undergoing other simultaneous surgical procedures e.g. turbinectomy or septorhinoplasty were excluded. All patients in the study were admitted one day prior to the surgery. Written informed consent was obtained.

Patients were asked to complete the Nasal Obstruction Symptoms Evaluation Scale (NOSE). Patients were asked to evaluate the severity of their nasal congestion, nasal obstruction, trouble breathing during sleep and their difficulty during breathing overall.

NASAL OBSTRUCTION SYMPTOM EVALUATION (NOSE) SCALE SCORE PRE-OPERATIVELY

NOSE score	No. of patients n=224
2-11	89 (39.7%)
12-13	63 (28.1%)
14-16	57 (25.5%)
>16	15 (6.7%)

Table I

NASAL OBSTRUCTION SYMPTOM EVALUATION (NOSE) SCALE SCORE AT 03 MONTHS POST-OPERATIVELY

NOSE score	No. of patients n = 224
0	66 (29.5%)
1-2	52 (23.2%)
3-5	40(17.9%
6-7	38 (16.9%)
>7	28 (12.5%)

Table II

The severity of their symptoms were recorded based on a scale from 0-4, 0 standing for absence of symptom and 4 for sever problem. Probable scores ranged from 0 to 20. Patients completed the NOSE questionnaire on the day before the surgery, and 03 months after the septoplasty.

All patients underwent anterior rhinoscopy and the data collected about the presence of DNS, its site (R/L), severity (1: <25% obstruction, 2: 25-50% obstruction, 3: 50-75% obstruction, 4: >75% obstruction), the site of maximum deviation based on the five areas division by Cottle.

All patients underwent scheduled septoplasty procedure (Cottle' technique). Nasal splints were placed and the nose was packed for 24 hours. All patients were given paranteral antibiotics for 24 hours. All patients received standard postoperative care. Subjects were put on follow up. Patients with post-operative complications (hematoma syneche) were excluded from the study. Follow up was performed at 03 months after the procedure.

RESULTS

Of the 256 patients, who underwent septoplasty during the study, 243 agreed to participate in the study (response rate 94.2%); 32 patients either failed to return for follow-up or presented with post-operative complications and complete data were available for 224 subjects. Among these 79 patients (35.2%) were having Allergic Rhinitis along with DNS and 145(64.7%) were non -allergic. Of these 136(60.7%) were male and 88(39.2%) were female. Anterior DNS was observed in 189 (73.8%) and posterior DNS in 67 (26.17%). The DNS was towards the right in 123 (48.04%) and to the left in 133 (51.9%).The age range was from 07 years to 53 years.

Preoperative mean NOSE score was 2.23 (+0.956) while 3-months postoperative mean NOSE score was observed as 0.60 (±0.71) showing a significant decrease in the symptoms ($p<0.01$).

COMPARISON OF PREOPERATIVE & POSTOPERATIVE NOSE (NASAL OBSTRUCTION SYMPTOM EVALUATION) QUESTIONNAIRE IN 224 PATIENTS UNDERGOING SEPTOPLASTY

Parameter	Preoperative NOSE Score		Postoperative NOSE Score			
	Mean	± SD	Mean	± SD	Z	Asymp. Sig[a] (2-tailed)
Nasal stuffiness	2.20	1.013	.56	.720	-13.684	.000
Nasal obstruction	2.43	.892	.78	.812	-12.799	.000
Trouble breathing through nose	2.37	.930	.60	.752	-14.217	.000
Trouble sleeping	2.62	.955	.87	.790	-12.493	.000
Difficulty in exercise	1.54	1.005	.23	.511	-12.739	.000

a. Sign Test

Table III

Preoperatively, the NOSE score was ranging from 2-11 in 89 (39.7%) cases and 12-13 in 63 (28.1%) cases (Table I). Three months after septolpasty, the NOSE score was 0 in 66 (29.5%) patients and 1-2 in 52 (23.2%) patients (Table II).

In patients with allergic rhinitis, the decrease in mean NOSE score was 43% as compared to non-allergic (70%). Four (1.8%) patients commented that the operation was unsuccessful.

Table III shows that all parameters in NOSE scale (nasal stuffiness, nasal obstruction, trouble breathing through nose, trouble sleeping & difficulty in exercise) showed significant reduction on third month after septoplasty as compared to preoperative assessment.

In patients with allergic rhinitis ,the decrease in mean NOSE score was 43% as compared to non-allergic (70%).04 patients commented that the operation was unsuccessful.

Following septoplasty, a general decrease in NOSE scores was observed. It was observed that the average decrease was greater in young adults, male patients and in non –allergic patients. The subjective increase in the airflow on the given side following septoplasty was found to be significantly higher.

DISCUSSION

DNS and allergic rhinitis are among the most common causes of nasal obstruction. Though the DNS occurs in all races and in almost all age ranges, it is more diagnosed in young adults. Its prevalence varies according to the age range groups.[11] The best management of patients with DNS is still under debate. There are no evidence based guidelines for which patient to operate on, which patient will benefit the most. Septoplasty is one of the most commonly performed surgical procedure in Otorhinolaryngology and its selection largely relies on clinical judgment alone. Septoplasty had its origin at the end of 19th century and comprised the simple removal of nasal septum structure. It achieved a high level of excellence with the work of Cottle e Gullen[12]. Regardless of the magnitude of the DNS, most patients benefit from its surgical correction, because it eliminates a possible contributing factor.[13] It has been clearly demonstrated that the location of the septal deformity is strongly related to both surgical outcome and airway resistance.[14]

In general, the available diagnostic tools are patient's history, the Nasal obstruction Evaluation Scale (NOSE) questionnaire, incorporating a visual analog scale,[15] the Fairley Nasal symptom Score, the Nottingham health profile and the general health questionnaire[16] and objective evidence such as rhinomanometery, acoustic rhinometery[17], computed tomography, and peak inspiratory flow.

In this study we employed the NOSE Scale, which is a disease –specific quality of life instrument. Its major advantage is that it is superior to history in evaluating the subjective symptoms in the much accurate possible way with regard to difficulty in breathing. In this study 85.2% patients were having fairly good results which is in accordance with previous study (89.5% and 84.9%).[18,19]

The greater decrease in NOSE score in the non–allergic group post-operatively, compared to the allergic group, as found in this study, agrees with the clinical experience that has been previously documentd[20]. This finding may be attributed to the fact that regardless of the final surgical outcome, patients with Allergic rhinitis may exhibit more crusting, swelling and discomfort, or may need additional medication to control the allergy. Another feasible explanation would be the wrong attribution of symptoms by the clinician to the DNS pre-operatively, whereas in fact these symptoms are more related to allergic rhinitis.[21]

CONCLUSION

It can be concluded from this study that in patients with septal deformity, nasal septoplasty results in significant improvement in disease specific quality of life and high patient satisfaction. Proper selection of the patient for septoplasty is important as patients with allergic-rhinitis along with DNS are likely to be less satisfied with the septoplasty. Patients should be kept infirmed and given more detailed information regarding the outcome.

REFERENCES

1. Gery LP. Deviated nasal septum: Incidence and etiology. Ann Otol Rhinol Laryngol 1978; 87: 1-20.
2. Jalwayski AA, Yuh YS, Koziol JA, Davidson TM. Surgery for nasal obstruction. Evaluation by rhinomanometery. Laryngoscope 1983; 93: 341-5.
3. Lee DS, Tu JV, Chong A, Alter DA. Patient satisfaction and its relationship with quality and outcomes of care after acute myocardial infarction. Circulation 2008; 118: 1938-4.
4. Stewart MG, Smith TL, Weaver EM, Witsell DL, Yueh B,Hannely MT, Johnson JT, Outcome after nasal septoplasty; result from the Nasal Obstruction Septoplasty effectiveness (NOSE) study. Otolaryngol Head Neck Surg 2004; 130: 283-90.
5. Pirila T, Tikanoto J. Unilateral and bilateral effects of nasal septum surgery demonstrated with acoustic rhinometery, rhinomanometery and subjective assessment. Am J Rhinol 2001: 15: 127-33.
6. Mirza N Baig MN, Malik AA, Ajmal M, Ashfaq AH. Comparison of quilting of mucoperichondrial flaps with routine nasal packing in patients undergoing septoplasy. Rawal Med J 2012; 37(2): 187-90.
7. Rashid A, Aziz B, Khan MA, Hameed A. Analytical assessment of nasal packing in septolpasty. Pak J Med Health Sci 2011; 5(2): 232-5.
8. Hafeez M, Ullah I, Iqbal K, Ullah Z. Septoplasty without nasal packing. Gomal J Med Sci 2010; 8(2):

141-2.

9. Sharif M, Ali S, Zaman T. Nasal septal surgery without splints, without packing. Ann Abbasi Shaheed Hosp Karachi Med Dent Coll 2007; 12(1): 17-23.
10. Latif S, Aslam N. Management of deviated nasal septum by Septoplasty Proceeding Shaikh Zayed Postgrad Med Inst 2005; 19(1): 7-11.
11. Wulldtien SR. Septoplasty without post operative nasal packing. Mucosal repair of the upper airway with human biological glue. Hals Nasen Ohrenheilkunde (HNO) 1979; 27 (9): 302-4.
12. Cottle M. Concepts of nasal physiology as related to nasal surgery. Arch Otolaryngol 1960; 72: 11-20.
13. Starling–Schwaz R, Peak HL, Salome CM, Toelle BG, Ng KW, Marks GB, et al. Repeatability of peak nasal inspiratory flow measurement and utility for assessing the severity of rhinitis. Allergy , 2005; 60: 795-800.
14. Dinis PB, Haider H. Septoplasty: Long term evaluation of results. Am J Otolaryngol 2002; 23: 85-90.
15. Hirschberg A, Rezek O. Correlation between objective and subjective assessment of nasal patency. ORL Otorhinolaryngol Relat Spec 1998; 60: 206-11.
16. Fairely JW, Yardlly MP, Durham LH, Parker AJ. Reliability and validity of a nasal symptom questionnaire for use as an outcome Measures in clinical research and audit of functional endoscopic sinus surgery. Clin Otolaryngol Allied Sci 1993;18: 436-7.
17. Alexander DK, George F, Joanna M, Johannes Z, Heinrich I, George A. Septoplasty outcome in patients with and without allergic rhinitis. Rhinology 2009; 47: 444-9.
18. Behroz G, Akbar B, Tayyaba K. Outcomes of Septoplasty in young adults; the nasal obstruction Septoplasty Effectiveness study. Am J Otolaryngol Head Neck Med Surg 2010; 31: 189-92.
19. Zheng C, Pochon N, Lacroix JS. Acoustic rhinometery; comparison of pre and post septolasty. Zhonghua Er Bi Yan Hou Ke Za Zhi 1995; 30: 343-6.
20. Murthy, Mckeron WS. Nasal septal surgery; is routine following necessary. J Laryngol Otol 1995; 109: 320-3.
21. Alevander D, Karatzanis, George F, Joana M, Johannes Z, Heinrich I, et al. Septoplasty outcome in patients with and without Allergic rhinitis. Rhinology 2009; 47: 444-9.

AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

MY: Conception and design, Data collection and Analysis, Critical revision, Final Approval of the manuscript

AAH: Drafting the manuscript

CONFLICT OF INTEREST

Authors declare no conflict of interest

GRANT SUPPORT AND FINANCIAL DISCLOSURE

NONE DECLARED

KMUJ web address: www.kmuj.kmu.edu.pk

Email address: kmuj@kmu.edu.pk