

# A study of improvement in quality of life after septoplasty in patients of allergic rhinitis and DNS

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## Abstract

A comparative prospective clinical study was conducted at Dr. D. Y. Patil Medical College Hospital and Research Institute, Kolhapur from June 2015 to June 2017. The aim was to determine the Effect of Septoplasty on Quality of life in patients of Allergic Rhinitis with Deviated nasal septum. Total 100 cases were studied, out of which 50 underwent septoplasty along with conservative treatment (study group) and 50 were treated by conservative treatment only (control group). Both groups were given a questionnaire in the beginning and at the end of three months. After analyzing the results, we conclude that septoplasty significantly improves the quality of life and hence should be considered along with conservative treatment in patients of Allergic Rhinitis with Deviated Nasal Septum.

**Key Word:** Allergic Rhinitis, Deviated Nasal Septum, Septoplasty.

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considered important include dust mites, pets, pests, and some moulds and as well as seasonal pollens and moulds.<sup>1</sup> Co-existence of Deviated Nasal Septum (DNS) aggravates the symptoms of AR and presently, a lot of controversies exist regarding the effect of surgery on the allergic symptoms. Treatment of symptomatic DNS is Septoplasty. A therapeutic challenge for the ENT surgeon is often seen when there is a co-existence of DNS with AR. The main aim of the current study is to analyze the effect of septoplasty by the help of self-assessment and subjective measures on quality of life related to AR.

## INTRODUCTION

The inflammation of the nasal mucosa is defined as Rhinitis in a broad sense. It is a common disorder affecting upto 40% of the population. According to etiology, The classification of Rhinitis is done in the following categories: IgE-mediated (allergic), autonomic, infectious and idiopathic (unknown).<sup>1</sup> The most common type of chronic rhinitis is Allergic Rhinitis (AR), having a prevalence of 10 to 20% of the population. Quality of life, sleep and work performance are severely impaired in severe symptoms of AR.<sup>1</sup> The allergens which are

## METHODOLOGY

A prospective comparative clinical study was carried out at Dr. D.Y. Patil Medical College Hospital and Research Institute, Kolhapur between June 2015 to June 2017. 100 patients between the age groups of 20-40 years attending the ENT O.P.D with complaints of nasal obstruction, repeated attacks of sneezing, running nose were screened by a detailed history, clinical examination, anterior rhinoscopy and nasal endoscopy and were selected on confirmation of the diagnosis of DNS with AR. Out of this, 50 such patients who consented for surgery

underwent routine blood and urine investigations and after anaesthesia fitness, were posted for septoplasty and were also given conservative treatment post operatively (study group). 50 patients who were not willing for septoplasty were treated with only conservative treatment (control group). All patients were given a questionnaire and were asked to fill it in the beginning of study and at

the end of three months. The data was collected, results were tabulated and statistical analysis was done. All the results were analyzed by SPSS software. Chi-square test and student t test were used for assessment of level of significance. P-value of less than 0.05 was taken as significant.

## RESULTS

**Table 1:** Comparison of physician visits pre-treatment and post-treatment in subjects of study group and control group

No. of Physician visits per month	Study group					Control group				
	Pre-op		Post op		p-value	Pre- treat		Post-treat		p-value
	No.	%	No.	%		No.	%	No.	%	
0-2	8	16	45	90	0.00 *	25	50	27	54	0.369
3-5	40	80	5	10		20	40	19	38	
>5	2	4	0	0		5	10	4	8	
<b>Total</b>	50	100	50	100		50	100	50	100	

**Table 2:** Comparison of days off work pre-treatment and post-treatment in subjects of study group and control group

Days off work per month	Case group					Control group				
	Pre-op		Post op		p-value	Pre- treat		Post-treat		P-value
	No.	%	No.	%		No.	%	No.	%	
0-2	11	22	45	90	0.000 *	22	44	22	44	0.525
3-5	33	66	3	6		16	32	20	40	
>5	6	12	2	4		12	24	8	16	
<b>Total</b>	50	100	50	100		50	100	50	100	

**Table 3:** Comparison of social withdrawal score post-treatment in subjects of study group and control group

Withdrawal from social life	Study group					Control group				
	Pre-op		Post op		p-value	Pre- treat		Post-treat		p-value
	No.	%	No.	%		No.	%	No.	%	
Less	12	24	8	16	0.00 *	11	22	8	16	0.568
Some	22	44	0	0		27	54	30	60	
More	16	32	0	0		12	24	12	24	
No	0	0	42	84		0	0	0	0	
<b>Total</b>	50	100	50	100		50	100	50	100	

**Table 4:** Comparison of patient satisfaction score post-treatment in subjects of study group and control group

Patient satisfaction	Study group		Control group	
	Number	%	Number	%
Less	5	10	12	24
Satisfied	45	90	1	2
No	0	0	37	74
<b>Total</b>	50	100	50	100

**Table 5:** Comparison of quality of life score post-treatment in subjects of study group and control group

Quality of life	Study group		Control group	
	Number	%	Number	%
Better	48	96	0	0
Same	2	4	50	100
<b>Total</b>	50	100	50	100

## DISCUSSION

When an allergen is inhaled by a person having a sensitized immune system, the antibody immunoglobulin E (IgE) is produced by the trigger of the allergen. Studies suggest that there is proof that eosinophils are involved in pathophysiology of allergic respiratory diseases. Allergens and irritants stimulate the airway when they are inhaled. Thus there is stimulation of mast cells which leads to production of IgE and cytokines which acts as enhancing factors for infiltration of eosinophils in allergic disease.<sup>2</sup> In the study group, 8 patients (16%) had a pre-operative physician visit score of 0 to 2, and 40 (80%) patients had a pre-operative physician visit score of 3 to 5. 2 patients (4%) had score of more than 5. The patients showed significant improvement in the physician visit score post-operatively with 45 patients (90%) having score of 0 to 2 and only 5 patients (10%) having score of 3 to 5 (P- value < 0.05). In the control group, 25 (50%) and 20 (40%) patients showed pre-treatment physician visit score of 0 to 2 and 3 to 5 respectively. 5 patients (10%) had score of more than 5. Post-treatment, 27 (54%), 19(38%) and 4(8%) patients had a post-treatment physician visit score of 0 to 2, 3 to 5 and more than 5 respectively. Non-Significant results were obtained while comparing the pre-treatment and post-treatment physician visit score in patients of control group (P- value >0.05). In the study group, 11 patients (22%), 33 patients (66%) and 6 patients (12%) had a pre-operative days off work score of 0 to 2, 3 to 5 and more than 5 respectively. The patients showed significant improvement in the days off work score post-operatively with 45 patients (90%) having score of 0 to 2 and only 3 (6%) and 2 (4%) patients having score of 3 to 5 and more than 5 respectively (P- value < 0.05). In the control group, 22 (44%), 16 (32%) and 12 (24%) patients showed pre-treatment days off work score of 0 to 2, 3 to 5 and more than 5 respectively. Post-treatment, 22 (44%), 20 (40%) and 8 (16%) patients had days off work score of 0 to 2, 3 to 5 and more than 5 respectively. Non-Significant results were obtained while comparing the pre-treatment and post-treatment day off score in patients of control group (P- value >0.05). In the study group, 23 (24%) patients had LESS withdrawal from social life, 22 (44%) patients had SOME withdrawal from social life and 16 (32%) patients had MORE withdrawal from social life respectively in the pre-operative period. Significant results were obtained while assessing the improvement of the patients of the study group in terms of social withdrawal post-operatively (P- value < 0.05). In the control group, 11 (22%) patients had LESS withdrawal from social life, 27(54%) patients had SOME withdrawal from social life and 12 (24%) patients had MORE withdrawal from social life respectively in the pre-

treatment period,. Non-significant results were obtained while comparing the pre-treatment and post-treatment social withdrawal score in patients of control group (P-value > 0.05). In the study group, post-operatively, 45 patients (90%) were satisfied while only 5 patients (10%) were less satisfied, whereas in the control group, post-treatment 37 patients (74%) were not satisfied and 12 patients (24%) were less satisfied. In a similar study conducted by Reddy-Kolanu, all the patients who replied to the questionnaire stated that the outcome of septoplasty surgery was satisfactory or more than satisfactory. 90% felt that septoplasty was the correct procedure to address their complaint of nasal blockage.<sup>5</sup> Our study correlates with the above study. In the study group, 48 patients (92%) showed better quality of life post-operatively, while only 2 patients (4%) showed same quality of life as was pre-operative. In the control group, all the 50 patients showed same quality of life as was present pre-treatment. In a study by Satish and Sreedhar, majority of patients who underwent septoplasty showed marked improvement in disease-specific symptoms, satisfaction, good quality of life (QOL), and decreased medication use. Severe preoperative nasal obstruction indicated a higher predicted improvement, p-values being <0.0001, <0.0002, <0.0001, and <0.0001 for nasal obstruction, loss of smell or taste, nasal discharge, and facial pain respectively.<sup>6</sup> Schwentner *et al* found a remarkable improvement in nasal symptoms, sleep, practical problems, and overall quality of life. They concluded that Septoplasty creates a lasting impact on patients' disease specific Quality of life.<sup>7</sup>

## CONCLUSION

In patients with Allergic Rhinitis and Deviated Nasal Septum, Septoplasty Significantly improves the quality of life in patients, as compared to those not undergoing septoplasty and hence should be considered along with conservative treatment in patients of Allergic Rhinitis with Deviated Nasal Septum.

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