

**A COMPARATIVE STUDY OF CONSERVATIVE MEDICAL TREATMENT VERSUS TURBINATE REDUCTION SURGERY FOR ALLERGIC RHINITIS WITH INFERIOR TURBINATE HYPERTROPHY****Dr. P. Hari Krishna**

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ABSTRACT Allergic rhinitis is a global health problem and it is increasing in prevalence rapidly. In allergic rhinitis, nasal obstruction is a frequently occurring symptom caused by the enlargement of the inferior turbinates along with excessive sneezing and watery rhinorrhea. It interferes with the quality of life and causes sleep disturbances and psychological issues, as well as decreased school and work performance. In such patients inferior turbinate is of central importance as it gets hypertrophied and there are many turbinate reduction surgeries and medical management protocols which aim at alleviating nasal obstruction and improve compliance of nasal passage. From our study, it was seen that patients who underwent surgical intervention performed better in terms of reduction in the size of the turbinate and NOSE scores than the patients who underwent conservative medical management. Although both modalities offer good relief, surgical intervention gave comparatively better results, especially in patients with allergic rhinitis with inferior turbinate hypertrophy.

KEYWORDS : Allergic rhinitis, Nasal obstruction, Inferior turbinate hypertrophy, NOSE score**INTRODUCTION**

Allergic rhinitis (AR) is an atopic condition caused by IgE mediated Type 1 Hypersensitivity reaction that affects patients' day-to-day activities, resulting from inflammatory changes in the nasal mucosa upon exposure to allergens. It is defined as having 2 or more of the following symptoms: Rhinorrhoea (anterior or posterior), Sneezing, Nasal obstruction, and/or Nasal Itching for more than one hour on most days for two or more consecutive days.

Nasal obstruction, on the other hand, is a prevalent symptom that brings patients to an Otorhinolaryngologist. In allergic rhinitis, nasal obstruction is a frequently occurring symptom caused by the enlargement of the inferior turbinate. Inferior turbinate hypertrophy is an enlargement of the turbinate involving the mucosa and the bone. This hypertrophy, resulting from venous sinusoid engorgement, plays a significant role in blocking airflow at the level of the nasal valve and the lower portion of the nasal cavity. It interferes with the quality of life and causes regular discomfort to patients. As it is a common condition that affects the inferior turbinate and causes nasal obstruction, its treatment should give adequate relief to patients.

There are various objective and subjective methods for assessing patients based on their symptoms of nasal obstruction and quality of life. Different questionnaires have evolved over the years based on patients' symptoms, which are used as subjective methods. Scales or questionnaires, such as the Nasal Obstruction Symptom Evaluation (NOSE) score, also determine the level of improvement in the obstruction.

Nasal Obstruction Symptom Evaluation (NOSE) Scale

Over the past one month, how much of a problem were the following conditions for you?

	Not a Problem	Very Mild Problem	Moderate Problem	Fairly Bad Problem	Severe Problem
Nasal congestion or stuffiness	0	1	2	3	4
Nasal blockage or obstruction	0	1	2	3	4
Trouble breathing through my nose	0	1	2	3	4
Trouble sleeping	0	1	2	3	4
Unable to get enough air through my nose during exercise or exertion	0	1	2	3	4

Total Score (Add 5 questions above):

NOSE Score (multiply your total score x5):

Nasal obstruction severity classification: mild (5-25) moderate (30-50) severe (55-75) extreme (80-100)

Figure 1

The management of Allergic Rhinitis with inferior turbinate hypertrophy includes medical treatment with intranasal topical steroids, H1-antihistamines, and leukotriene receptor antagonists and turbinate reduction surgeries. In cases where turbinate hypertrophy significantly affects nasal airflow, either medical or surgical intervention maybe required. Hence prompt treatment of allergic rhinitis should be initiated to improve the quality of life in patients with allergic rhinitis.

Aim Of The Study : The aim of the study is to compare the efficacy of

medical treatment versus turbinate reduction surgery in allergic rhinitis patients with inferior turbinate hypertrophy

Type Of Study: Prospective longitudinal study**Source Of Data:** 84 patients with inferior turbinate hypertrophy in allergic rhinitis, who visited the E.N.T. department at Government General Hospital, Kurnool over 24 months period make up the study population.**Inclusion Criteria :**

Patients of both sexes between age 15 to 65 years with nasal obstruction and allergic symptoms with bilateral inferior turbinate hypertrophy and no evidence of active infection in ear, nose, throat, and in good general physical condition.

Exclusion Criteria:

Patients with chronic sinusitis, sinonasal polyps, sinonasal tumours, systemic diseases, coagulation disorders, chronic granulomatous disorders.

Methodology:

The study was conducted in the Department of ENT from April 2023 to April 2025. All patients were informed about the study, and written consent was obtained. A detailed history was taken from patients, and a thorough ENT examination was done. CT PNS and DNE were done in all patients to confirm the diagnosis and to grade the inferior turbinate by Camacho et al. grading of inferior turbinate.

Table 1:

Camacho et al DNE grading of Inferior turbinates	CODING
When the inferior turbinate occupies 0 to 25% of total airway space	Grade 1
When the inferior turbinate occupies 26 to 50% of total airway space	Grade 2
When the inferior turbinate occupies 51 to 75% of total airway space	Grade 3
When the inferior turbinate occupies 76 to 100% of total airway space	Grade 4

All patients filled out the pre-treatment NOSE questionnaire. The patients were divided into 2 groups of 42 patients each. Group 1 were given medical management (intranasal combination spray of antihistamine + steroid and oral antihistamines). Group 2 i.e., another 42 patients were managed by surgery (out fracturing and then in fracturing of the hypertrophied inferior turbinates). Postoperatively, nasal packing was done and removed on post-op day 2. Intranasal spray (steroid + antihistamine), decongestant nasal drops, oral antihistamines, analgesics, antibiotics, and saline nasal douching were given.

At 3 week follow-up in both groups, outcomes were assessed using the NOSE questionnaire and DNE. Results were compared between both groups.

RESULTS:

The mean age in our study is 29.60 years. There was a majority of patients with chief complaints of nasal obstruction with excessive sneezing as seen in 59.5% and nasal obstruction with watery rhinorrhea was seen in 40.5%.

Pre-treatment CT findings of Mild deviated nasal septum (DNS) to Right with bilateral inferior turbinate hypertrophy (ITH) was seen more frequently than to the left, 53.6% had mild DNS to right with bilateral ITH whereas 31.0% had mild DNS to left with ITH. Overall, bilateral ITH was seen in 15.5% of the patients in the study .19.0% had bilateral ITH in the surgical group and 11.9% had it in the medical group.

There was no significant difference in the pretreatment NOSE scores among both groups. However, post treatment this sequence reversed with majority of patients having mainly mild scores (54.8%) followed by Moderate, Severe and Extreme scores.

There was significant improvement in the nasal obstruction post treatment with the surgical group doing better than the medically treated group.

The overall mean NOSE scores showed a statistically significant reduction from 84.28 prior to starting treatment to 34.76 after treatment, reflecting good outcomes with both methods. The mean scores in the surgical group reduced from 85.47 to 15.23 and scores in the medical group reduced from 83.09 to 54.28 .

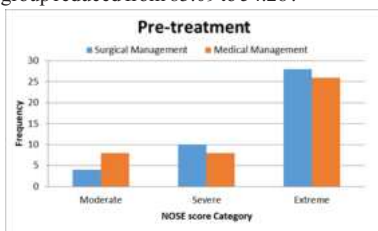


Figure 2



Figure 3

Prior to starting treatment majority of the patients had grade 4 bilateral inferior turbinate hypertrophy (56%) as seen on DNE. The groups managed by medical and surgical methods also had grade 4 turbinate hypertrophy in majority.

After turbinate reduction surgery there was a significant reduction in the turbinate size with majority of the patients having a grade 1 turbinate (81%) on DNE. On comparing the DNE findings pre and post treatment there were significant differences in the turbinate size distribution among both the groups ($p=.001$). However, post treatment significant improvement was seen in both groups with the surgical group showing much better results and reduction in turbinate size.

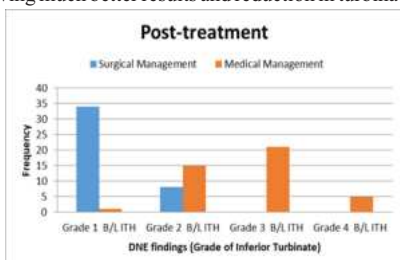


Figure 4

CONCLUSION

Allergic rhinitis is a common disorder that brings patients to the Otorhinologist. It is quite troublesome and affects the quality of life in the long run. It is triggered by environmental agents, and hence its prevention and treatment are very important. There are medical and surgical options for the treatment of allergic rhinitis, though the surgical options are not routinely sought. From our study, it was seen that patients who underwent surgical intervention performed better in terms of reduction in the size of the turbinate and NOSE scores. Although both modalities offer good relief, surgical intervention gave comparatively better results, especially in patients with allergic rhinitis with inferior turbinate hypertrophy. Hence, we recommend consideration of surgical intervention at an initial stage in the treatment of allergic rhinitis so as to give better results and patient satisfaction.

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