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Case Series

Medical management versus chemical cautery with medical management in treatment of inferior turbinate hypertrophy: a comparative study

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ABSTRACT

Patients having inferior turbinate hypertrophy causing intractable sneezing, rhinnorhoea which is non-responsive to conventional medication require alternative therapies. Aim of the study was to compare medical management vs chemical cautery with medical management in treatment of inferior turbinate hypertrophy since both these treatments are easily accessible, cost effective to the patients as well as not associated with major complications. The complaints sneezing, rhinorrhoea, nasal blockage, headache, eye irritation and redness of patients are reduced and quality of life of patients improved after chemical cautery with medical management as compared to medical management alone. 50 patients of age group 15-75 years with c/o Sneezing, rhinorrhoea, nasal blockage and headache were included in our study. Inferior turbinate hypertrophy was diagnosed on the basis of anterior rhinoscopy and diagnostic nasal endoscopy. Patients were divided randomly in 2 group-group A (medical management), group B (chemical cautery with medical management). The 22 question sino-nasal outcome test (SNOTT22) score and rhinomanometry was done before and after treatment to compare the efficacy and detect symptom free period in both groups. Percentage of relief was more among group B patients as compared to group A patients. Symptom free period was more in group B patients as compared to group A patients and both of them were analysed on the basis of SNOTT22 score and rhinomanometry. Chemical cautery with topical application of silver nitrate coupled with medical management is more effective in treatment of inferior turbinate hypertrophy as compared to medical management alone.

Keywords: Nasal blockage, Inferior turbinate hypertrophy, Medical management, Chemical cautery

INTRODUCTION

Nasal airflow disturbance occurs in about 30% of the population causing nasal obstruction and most common cause being hypertrophied inferior turbinate. Nasal obstruction is a result of submucosal or mucosal hypertrophy due to increased vascularity as the anterior end of the inferior turbinate is an erectile tissue.[1] Usually hypertrophied inferior turbinate are treated with drugs like antihistamines local decongestants, steroids. When conservative management is not able to relieve the nasal obstruction completely, other interventional treatments are used one of which is chemical cautery whose main purpose is to relieve nasal obstruction and maintain good nasal health. The aim of our study is to compare efficacy of chemical cautery with medical management in treatment of inferior turbinate hypertrophy with medical management alone.

Aim of this case series is to compare medical management vs. chemical cautery with medical management in treatment of inferior turbinate hypertrophy.

The objective of this case series are; 1. To evaluate efficacy of medical management vs. chemical cautery with medical management. 2. To study symptom free period post chemical cautery. Following material method used:

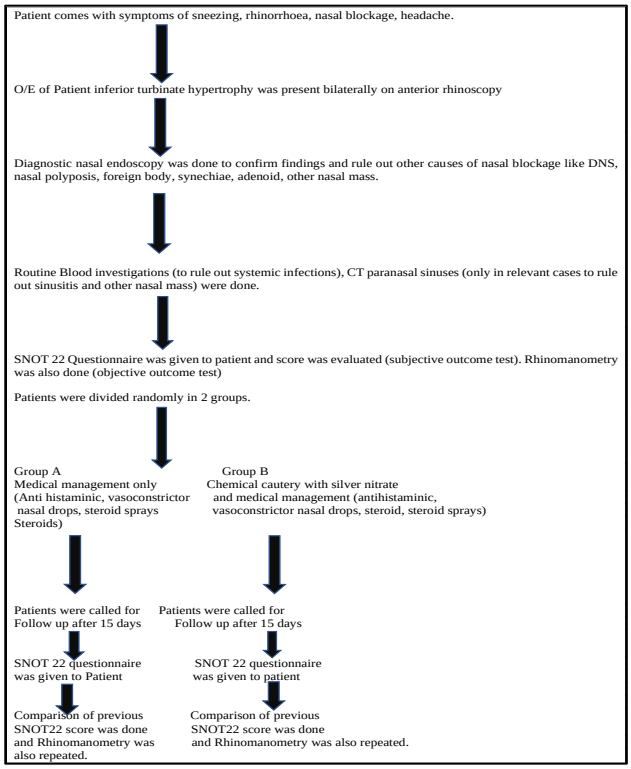

Figure 1: Material method used.

Inclusion criteria- 50 patients of age group 15-75 years with c/o sneezing, rhinorrhoea, nasal blockage, headache and who were probably suffering from allergic rhinitis, inferior turbinate hypertrophy, non-allergic rhinitis were included in our study.

Exclusion criteria- patients suffering from marked deviated nasal septum, sinusitis, nasal polyposis, foreign body, adenoid, synechiae and any other nasal mass were excluded from the study.

We compared efficacy of group A vs group B on the basis of SNOTT score (Figure 2) and it was found that chemical cautery with medical management is effective treatment as compared to medical management alone in treatment of inferior turbinate hypertrophy. Also, we found that % relief in group B patients is more as compared to group A (Figure 3 and 4). SNOTT score is a subjective outcome test hence we confirmed our findings by doing rhinomanometry (Figure 5-7) and found similar results.

We also compared symptom free period on basis of SNOTT22 score and rhinomanometry in group A patients (Figure 8 and 9) vs group B patients (Figure 10 and 11). It was found that maximum no. of patients are symptom free upto 1 month in group A which is less as compared to group B where maximum no. of patients are symptom free upto 6 months.

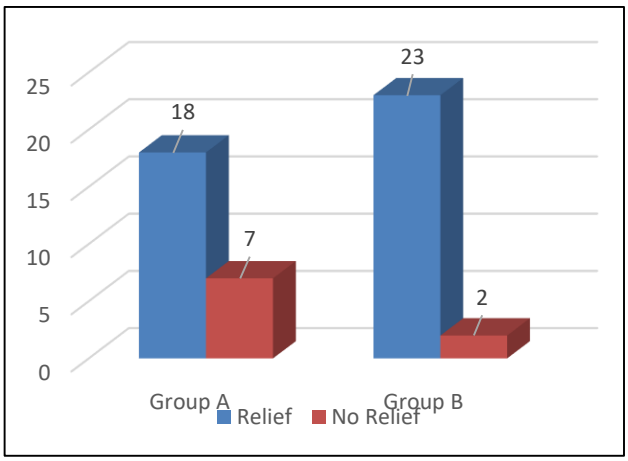

Figure 2: Comparison of efficacy of group A vs group B based on SNOT 22 score.

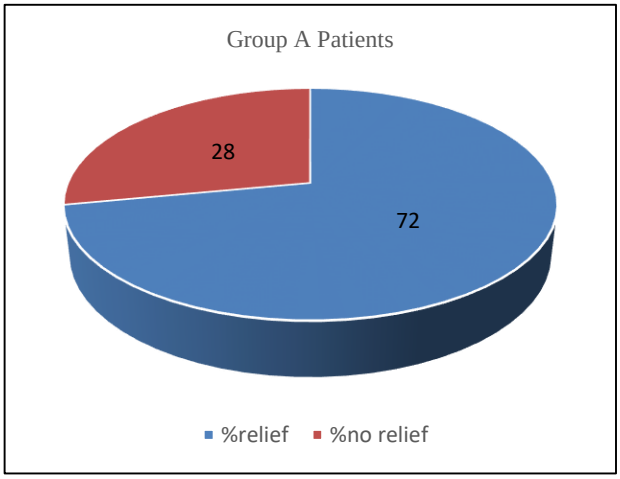

Figure 3: Percentages relief in group A patients on basis of SNOTT22.

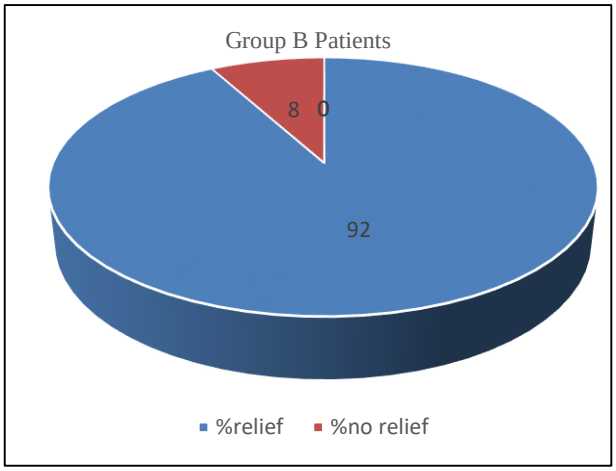

Figure 4: Percentages relief in group B patients on basis of SNOTT22.

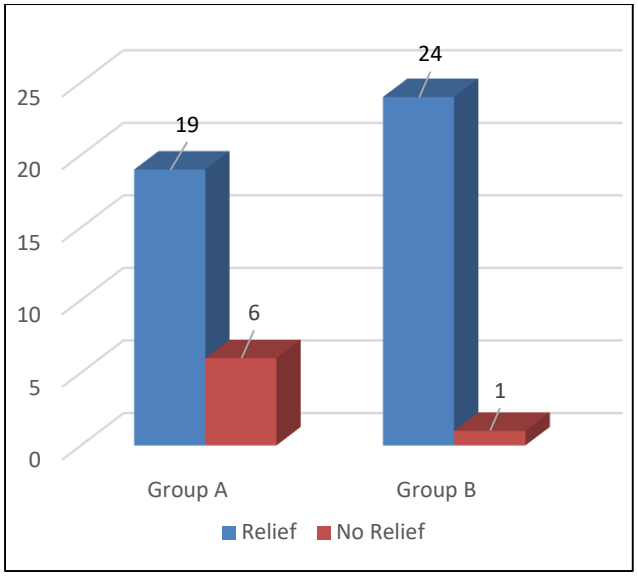

Figure 5: Comparison of efficacy of group A vs. group B based on rhinomanometry.

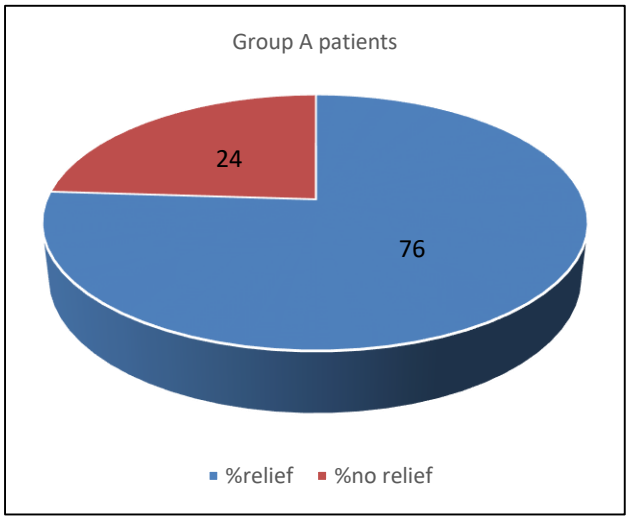

Figure 6: Percentages relief in group A patient on basis of rhinomanometry.

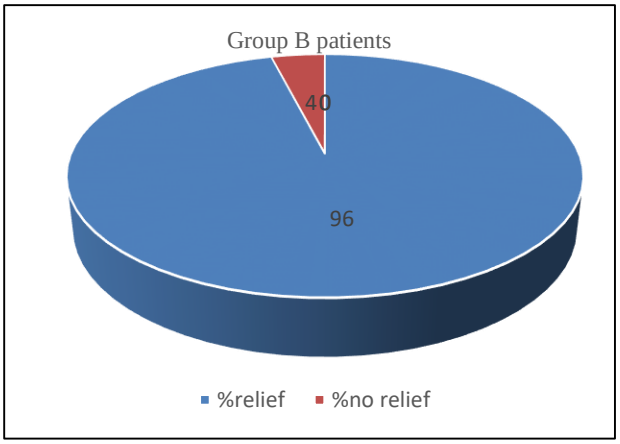

Figure 7: Percentages relief in group B patients on basis of rhinomanometry.

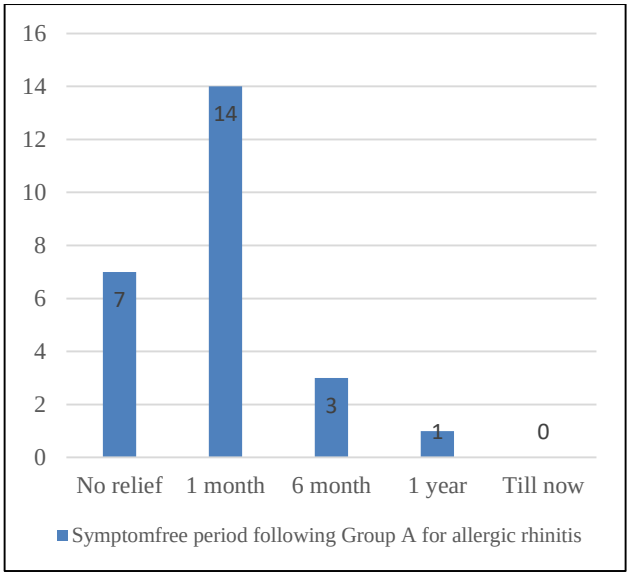

Figure 8: Symptom free period following group A based on SNOTT 22 score.

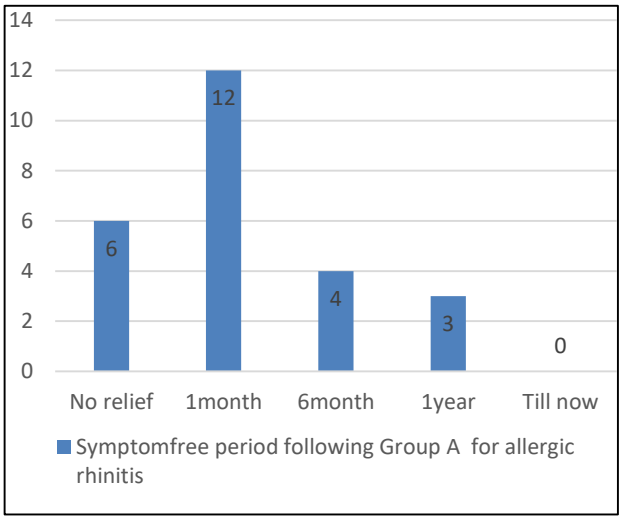

Figure 9: Symptom free period following group A based on rhinomanometry.

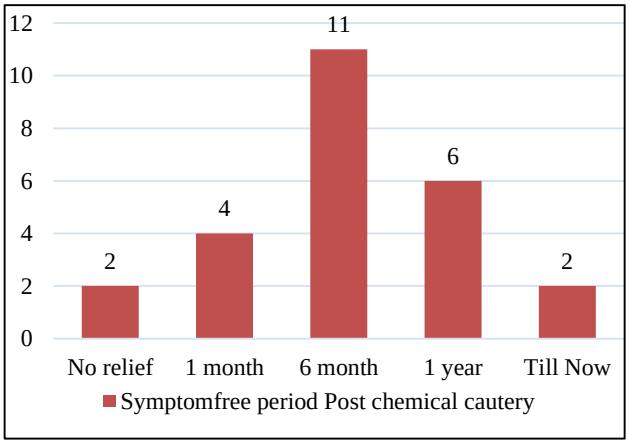

Figure 10: Symptom free period in group B patients based on SNOT22 score.

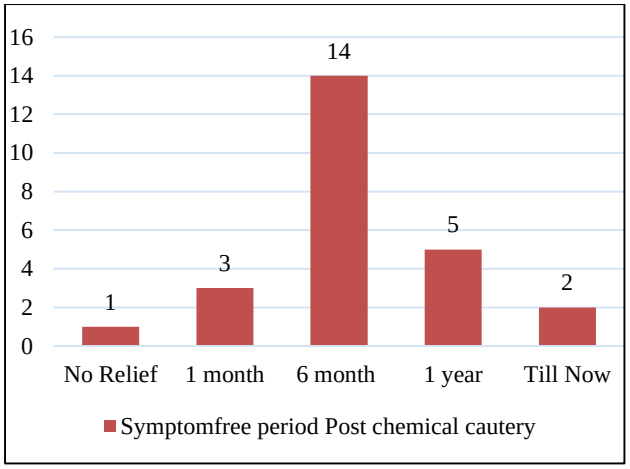

Figure 11: Symptom free period in group B patients based on rhinomanometry.

DISCUSSION

Inferior turbinate hypertrophy is a common cause of nasal obstruction in which the turbinates are either chronically congested or hypertrophied due to allergic or non-allergic triggers as part of an inflammatory rhinitis conditions.

The inferior turbinates are dynamic structures that form a crucial part of the normal functional nose. However, they are structures that are relatively easy to access. They have been recognized as a cause of nasal obstruction and therefore subject to numerous operative techniques to either reduce their size or excise them completely. [1]

It warms inspired air and maintains linear rather than turbulent airflow within the nose.[2]

Patients with enlarged inferior turbinates will invariably present with nasal obstruction. The complete nasal examination and endoscopy will normally lead to the correct clinical diagnosis of allergic or non-allergic rhinitis. The anterior head of the congested inferior turbinates may appear as a red swelling or be pale and purplish: the latter is typically associated with severe allergic rhinitis.

It is thus important to measure the degree of obstruction in order to audit the effectiveness of medical/surgical intervention. This can be done with SNOT-22. A few departments will have access to physiological measuring technique such as rhinometry.

The SNOT-22 has utility to assess QOL and symptom control in AR, and it is both reliable and responsive in its application to patients with AR. The SNOT-22 may therefore be a convenient and versatile tool in the clinical assessment of patients with AR.[3]

Rhinomanometry is a functional test of nasal aerodynamics that measures transnasal airflow and the pressure gradient allowing nasal resistance to be calculated from these data.[4]

Measures: 1. Trans nasal pressure, 2. Nasal airflow.

Three methods: 1. Active anterior rhinomanometry, 2. Passive anterior rhinomanometry and 3. active posterior rhinomanometry.

Rhinomanometry can be used for: clinical evaluation of the symptom of nasal obstruction; research in nasal physiology; allergy challenge testing; pre-and post-treatment assessments of surgical or medical therapy; and evaluation of patients with sleep apnea.[3,4]

After diagnosing the patient as having inferior turbinate hypertrophy on the basis of anterior rhinoscopy, DNE and excluding other conditions responsible for patient's symptoms treatment options for the condition were studied.

Various treatment options for inferior turbinate hypertrophy includes-1. Medical management, 2. chemocautery with silver nitrate, trichloroacetic acid or chromic acid. 3. Surgeries-a) mucosal preservation surgery- turbinoplasty, submucosal diathermy, lateralisation by out-fracture, coblation, b) mucosal destructive reduction surgery- cryosurgery, laser surgery, micro-debrider mucosal reduction. c) Turbinate excision procedures- partial, subtotal, posterior end.

In this study we are comparing medical management with chemical cautery and medical management because both these treatments can be easily given, readily accepted by the patient, cost effective and can be easily repeated if symptoms recur.

Silver nitrate has been shown to produce a local astringent action by coagulating albumin.[5] The excitability and sensitivity of mucous membrane is reduced due to this action. The anterior part of inferior turbinates and septum are believed to be trigger points for stimulation of sneezing and rhinorrhoea and desensitising this area brings about relief of symptoms.[6-8]

According to Bhargava study, upto 80% got relief at least upto 6 months following chemical cautery with silver nitrate along with medical management.[6,7]

According to our study, upto 90% got relief at least upto 6 months following chemical cautery with silver nitrate along with medical management

The results of our study show that topical 10% silver nitrate application is an effective treatment for reducing symptoms of sneezing and rhinorrhoea in those patients with allergic or vasomotor rhinitis who do not respond adequately to conventional therapy or are unwilling to continue with pre-existing topical and/or systemic therapy.[9]

CONCLUSION

Thus, on basis of improvement in SNOTT 22 score and rhinomanometry findings we come to conclusion that-chemical cautery with topical application of silver nitrate along with medical management is effective in treatment of inferior turbinate hypertrophy as compared to medical management alone.

Symptom free period is more and recurrence rate is less with chemical cautery along with medical management as compared to medical management alone in treatment of inferior turbinate hypertrophy.

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Ethical approval: Not required

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