

EFFICACY OF TOPICAL NASAL STEROIDS AND TOTAL INFERIOR TURBINECTOMY IN HYPERTROPHIC RHINITIS

Adil Aleem, Tahir Manzoor, Atif Najam

CMH Peshawar

ABSTRACT

Introduction: Nasal obstruction due to hypertrophied inferior turbinate is a problem commonly seen in ENT outpatient department. It is usually due to allergic phenomenon and wide spread use of nasal decongestants. Nasal obstruction forces the patients to adopt mouth breathing resulting in dryness of mouth, increased chance of throat infection, postnasal discharge and anosmia [1, 2]. Total inferior turbinectomy can be performed under local or general anesthesia in chronic nasal obstruction. It is safe and effective procedure to relieve nasal obstruction with low complication [3].

Apart from traditional methods like surgery and topical nasal steroids, newer methods like LASER reduction of inferior turbinate, immune modulation cryosurgery, turbinate cauterization and microdebrider are effective procedure to relieve nasal obstruction caused by inferior turbinate hypertrophy [4, 5]. Topical nasal decongestants can also cause rhinitis and nasal obstruction. Rhinitis medicamentosa results from rebound vasodilatation after prolonged use of nasal decongestants [6].

Objective: To compare the efficacy of topical nasal steroids therapy with total inferior turbinectomy in relieving nasal obstruction caused by inferior turbinate hypertrophy.

Study Design: Randomized Controlled Trials (RCT)

Setting: ENT department, Combined Military Hospital Rawalpindi.

Material and Methods: Sixty patients suffering from allergic rhinitis were divided in Two groups of thirty patients. Group A under went total inferior turbinectomy where as Group B advised Betamethasone nasal drops for two months. Relief in terms of nasal obstruction was assessed on Visual analogue scale two months after commencement of treatment. Chi-square test was applied as test of statistical significance to compare the two groups.

Results: Total inferior turbinectomy was found to be clinically superior to topical betamethasone drops in relieving nasal obstruction caused by inferior turbinate hypertrophy ($p < 0.001$)

Conclusion: Total inferior turbinectomy is a better method of relieving obstruction as compared to topical betamethasone drops in nasal obstruction due to hypertrophied inferior turbinates

Keywords: Inferior turbinate, total inferior turbinectomy, betamethasone

INTRODUCTION

Pathology of the inferior turbinate is one of the major causes of nasal obstruction but its ideal treatment still remains an open question. Medical therapy is generally treatment of choice in mild to moderate turbinate hypertrophy caused by allergic rhinitis, chronic rhinosinusitis or rhinitis medicamentosa. Surgery of the turbinate is reserved for patients with severe hypertrophy and for those who do not respond to the pharmacological treatment⁷. Different surgical methods have been introduced during the last many years but there

is still considerable controversy over the merits of the various techniques. Irreversible destruction of the mucosa of the turbinate and impairment of its function are the main disadvantages of most of the surgical procedures. In search for the best compromise between turbinate reduction and preservation of its function in 1994, surgery with microdebriders has been introduced with excellent results. But still primary modality of treatment is a question for hypertrophied inferior turbinate causing nasal obstruction.

This study was aimed at assessing the efficacy of total inferior turbinectomy and betamethasone drops in relieving nasal obstruction in patients of hypertrophic rhinitis.

Correspondence: Maj Atif Najam, ENT Dept, Combined Military Hospital Peshawar

Email: atifnajam_1617@hotmail.com

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MATERIAL AND METHODS

These randomized controlled trials (RCT) were carried out at ENT department, Combined Military Hospital (CMH) Rawalpindi from 12 Oct 2006 to 08 Jul 2007.

Sixty patients of nasal obstruction due to hypertrophy of inferior turbinate were included. The study sample was consisted of two groups A and B. Each consisted of 30 patients. Group B received nasal steroid betamethason drops and group A subjected to total inferior turbinectomy. Patients between the age of 18 to 40 years regardless of gender with unilateral or bilateral hypertrophic inferior turbinates were included in the study. Exclusion criteria included Patients with history of trauma to nose including previous nasal surgery. Chronic diseases e.g. DM, HTN, TB, Scleroma, Syphilis and Patients having nasal obstruction due to other causes like deviated nasal septum (DNS), Nasal polyposis, Mass in nasal cavity (benign or malignant)

Data Collection

Permission from Hospital Authorities and Hospital Ethical Committee was taken. Patients were diagnosed for having nasal obstruction due to inferior turbinate hypertrophy on the basis of history and clinical examination, which included anterior rhinoscopy and spatula test.

The patients were assigned to two groups A and B by random number table Group A under went total inferior turbinectomy under general anesthesia. Nasal cavity was packed with Vaseline gauze for 48 hours with adequate antibiotics for 05 days.

Group B were given topical steroids (Betamethason nasal drops 200 microgram per day in two divided doses) for 02 months.

Patients were advised to instill two drops of betamethason (100 micrograms) twice a day in head down position.

Patients were assessed for improvement in nasal obstruction two month after the start of treatment that was either topical nasal steroids or under went total inferior turbinectomy.

Efficacy of two modalities was judged by VAS [8].

VAS was scored from 1 to 10.

Score 1 indicated no relief. Score 10 indicated good relief.

No relief (1-3) .Mild relief (4-6). Moderate relief (7-10).

Data was analysed using SPSS version 15. Mean and standard deviation was calculated for age. Frequency and percentages were calculated for gender and relief from nasal obstruction. Chi-Square test was applied to compare relief of nasal obstruction between both the groups. P-value <0.05 was considered as significant.

RESULTS

A total of sixty patients were included in this study over a period of six months.

Out of the sixty patients there were 47 males and 13 females. The age of patients varied from 18 to 40 years. Mean for age is 31.8 yrs (SD=5.9) in group A whereas mean age in group B was 33 years (SD=5.7).

Group A comprised of 24 (80%) males and 6 (20%) females, while group B of 23 (77%) males and 7 (23%) females. In both the groups were comparable with respect to age ($P>0.05$) and gender ($P>0.05$).

Twenty eight (93.3%) patients in group A had relief of nasal obstruction where as 13 (43.3%) patients had relief from nasal obstruction in group B. ($P<0.001$).

DISCUSSION

Nasal obstruction poses a major problem for the patient and the surgeon caused by inferior turbinate hypertrophy. The multitude of methods reflects the challenge for an ideal treatment but no definite mode of treatment has evolved till now.

Failure of medical treatments will route to surgical procedures like total inferior turbinectomy, partial inferior turbinectomy, submucous resection with microdebridors and the like but proper management of which is still debatable. [4, 5]

Topical steroid are considered most potent pharmacological agents in relieving nasal obstruction secondary to allergic nasal obstruction [8]. Corticosteroids available in the

arsenal of a physician include fluticasone, flunisolide, beclomethasone and betamethasone [9, 10]. I selected betamethasone because of its cost effectiveness and proven efficacy.

My study failed to show marked improvement in nasal obstruction after topical steroid use, the reason for this difference is that all studies quoted above have compared topical steroids with anti histamines. Surgical intervention was the treatment of choice for hypertrophic inferior turbinates but the procedure fell out of favor because of increased post operative complications and the hypothesis by some workers that removal of inferior turbinates was non physiologic and leads to atrophic changes in the nasal cavity [11]. This shifted the treatment to pharmacotherapy. Advances in the subject of physiology proved that there was no significant effect of inferior turbinectomy on nasal physiology [12, 13]. The emphasis once again shifted to surgical reduction of inferior turbinates as treatment of choice in patients of hypertrophic inferior turbinates not responding to medical treatment.

Talmon et al [14] have documented total inferior turbinectomy as a satisfactory procedure and in his study of 357 inferior turbinectomies were performed with a success rate of 97%. Similarly Courtiss et al also have reported similar success rate of relieving nasal obstruction in 139 patients undergoing total inferior turbinectomies [15]. Segul et al performed inferior turbinectomy on 227 children less than 10 years of age and reported significant improvement in nasal obstruction in 179 patients, documenting the efficacy and safety of the procedure in paediatric population [16]. In my study 93% of patients undergoing total inferior turbinectomy experienced mild to moderate improvement in nasal obstruction as compared to only 43% patients on topical betamethasone nasal drops. The results of my

study are similar to above quoted studies but not as marked due to the sample size and short follow up period.

CONCLUSION

Total inferior turbinectomy is very effective in relieving chronic nasal obstruction caused by obstructive inferior turbinates as compared to topical nasal steroids. This procedure be considered when routine medical management have failed or likely to fail to provide adequate nasal airflow.

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