Surgical Management of Inferior Turbinate Hypertrophy

T L MALIK
Department of ENT, Services Institute of Medical Sciences/ Services Hospital, Lahore
Correspondence to Dr. Taimoor Latif Malik, Assistant Professor ENT

This is a study involving 45 patients undergoing submucosal diathermy, galvanic cauterization and partial inferior turbinectomy operations done for obstructive inferior turbinate hypertrophy, not responding to medical treatment. The patients were divided in three groups randomly, each group comprising of 15 patients. Group A underwent galvanic cauterization, Group B and Group C underwent submucosal diathermy and partial inferior turbinectomy respectively. The study was conducted at ENT department of Services Hospital, Lahore which is fully equipped with latest medical facilities. The patients were selected randomly of all age groups belonging to both sexes and representing rural as well as urban population. The patients presented with complaints of nasal obstruction (100%), rhinorrhoea (66%), sneezing (44%), headache (40%) and post nasal drip (34%) mostly. The local examination findings were reduced nasal patency with inferior turbinate hypertrophy in all the patients. X- ray paranasal sinuses, water's view was done in all the patients to rule out sinus disease besides all routine laboratory investigations. The specimens of the turbinates were subjected for histopathology to document the diagnosis and rule out any malignant transformation. All the patients were followed – up postoperatively for six months. Nearly 79% of the patients got rid of nasal obstruction after partial inferior turbinectomy, 33% after galvanic cauterization and only 17% were freed from nasal obstruction after submucosal diathermy. No case of atrophic rhinitis or ozena was seen in the present study. It has been concluded that the operation of partial inferior turbinectomy is a safe procedure in trained hands but bleeding may create a problem in a very few cases especially after inadequate packing. In the present study , the benefits after partial inferior turbinectomy overweighed the hazards of the procedure and the chief complaints of nasal obstruction was relieved in most of the cases.
Key words: Atrophic rhinitis

Nasal obstruction due to inferior turbinate hypertrophy is a problem commonly seen in ENT patients. This condition not only affects humans but also dogs, cats and horses. The hypertrophy may be due to an increase in the amount of soft tissue of the turbinate or due to increase thickness of the bone. Persistent enlargement of inferior turbinate is mainly due to allergic and vasomotor rhinitis. Hypertrophic inferior turbinate causes obstruction mostly at the level of pyriform aperture. The symptoms of the patients with enlarged inferior turbinates are nasal obstruction, sneezing, nasal discharge, headache and occasionally epistaxis. The complications which arise due to enlarged turbinates may be due to the stasis of infected secretions or hypoventilation through the nasal cavity. The nasal hypoventilation may lead to mouth breathing, rhinosinusitis, nasal polyposis, snoring or sleep apnoea syndrome.

A long list of treatment regimens have been used to deal with this problem. These include intranasal and systemic medicaments, submucosal injection of sclerosants or corticosteroids, cryoturbinectomy, galvanic cauterization, submucosal diathermy, partial inferior turbinectomy and laser turbinectomy.

The primary aim of the present study is to compare three treatment modalities in the surgical management of inferior turbinate hypertrophy, namely

1. Submucosal diathermy of inferior turbinate.
2. Galvanic cauterization.
3. Partial inferior turbinectomy.

Regarding improvement in symptomatology.

Materials and methods:

Forty five cases of inferior turbinate hypertrophy were selected attending the outpatient dept of ENT unit 1, Services hospital Lahore. Study was conducted in collaboration with radiology and pathology departments of services hospital / postgraduate medical institute. The patients were divided in three groups randomly pertaining three treatment modalities.

1. Group A: 15 patients undergoing galvanic cauterization.
2. Group B: 15 patients undergoing submucosal diathermy.
3. Group C: 15 patients undergoing partial inferior turbinectomy.

All cases were admitted in the ward. After history taking, ENT and systemic examination of the patients of three groups carried out. After the procedures follow-up of the patients was done for six months on monthly basis.

Results:

In this study, patient's age ranges from 15y to 55y with the average age of 35y.[table 1] 66% of the patients were males and 33% were females.[table 2] Nasal obstruction was the main symptom noticed in all the 45 patients (100%). Sneezing was observed in 20 patients (44%). Nasal discharge was seen in 30 patients (66%). Headache and facial pain was present in 18 patients(40%). Post nasal drip was noticed in 15 patients.[table 3]

Regarding post-operative benefits, 79% of the patients got their nasal obstruction relieved after partial

inferior turbinectomy as compared to other two groups. 40 % patients had no rhinorrhoea and 64% patients got rid of sneezing after partial inferior turbinectomy.

Table 1. Age range

Age Range	n=	%age
15-25y	15	33
26-35y	10	22
36-45y	15	33
46-55y	05	11

Table 2. Sex incidence

Sex	n=	%age
Male	30	66
Female	15	33

Table 3. Symptomatology

Symptoms	n=	%age
Nasal obstruction	45	100
Sneezing	20	44
Rhinorrhoea	30	66
Headache	18	40
Facial pain	18	40
Postnasal drip	18	40

Discussion:

Uptil now there is no uniformly agreed procedure for the treatment of hypertrophied inferior turbinates causing nasal obstruction. Total surgical resection has been used to treat this condition. It has been suggested that total inferior turbinectomy leads to increased airflow thereby reducing the humidifying capabilities of nasal mucosa resulting in drying, crusting, ciliary destruction and mucous membrane atrophy.

Partial inferior turbinectomy, galvanic cauterization and submucosal diathermy are the procedures in practice now-a-days. This study do the comparison of these three procedures. Nasal obstruction was present in all the patients with enlarged inferior turbinates which is similar to the work done by Ophir in 1990. 79% of the patients showed good airway improvement after partial inferior turbinectomy, similar results have been shown by a study conducted by Serrano and Percodarri J in 1996. No patient complained of excessive nasal crusting or foul odour after partial inferior turbinectomy which is similar to the results of study done by Faulcon and Amarron in 1998.

After comparing the three groups, better results are seen in patients undergoing partial inferior turbinectomy. Post – operatively these patients showed significant relief from nasal obstruction in their routine follow-up visits. Only two patients develop adhesions in the nasal cavity which were break during follow-up visits. It is suggested that nasal packing should be removed after 48h to avoid heavy bleeding and later on nasal toilet should be done regularly to avoid any adhesion formation.

Conclusion:

Partial inferior turbinectomy is a safe and effective procedure for the relief of nasal obstruction due to enlarged inferior turbinates .

References:

1. Lane JE. Canine and feline nasal disorders : ENT and oral surgery of the dog and cat, Bristol :Bristol PSG. 1982 :41-79.
2. Ahmed I and Raza N. Total inferior turbinectomy in the treatment of chronic nasal obstruction in Pakistan. Postgraduate medical journal 2000 :16-17.
3. Haight, Cole I. Journal of laryngology 1983 : 44.
4. Donald PJ. Minor intranasal procedures. Otolaryngologic clinics of North America 1983 ; 6 :712-725.
5. Goode R L. Diagnosis and treatment of turbinate dysfunction , America Academy of Otolaryngology 1987 36-52.