ORIGINAL ARTICLE

Role of Partial Inferior Turbinectomy in Patients with Chronic Hypertrophic Rhinitis

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ABSTRACT

Aim: To determine the outcome of partial inferior turbinectomy in patients with chronic hypertrophic rhinitis in terms of relief of nasal obstruction.
Methods: This study was carried out in the Department of ENT, Nishtar Hospital, Multan from March 2013 to August 2013. A total of 66 patients were included in the study.
Results:- Majority i.e. 32(48.5%) patients were seen in the age group 21-30 years. As regards sex, 42 (63.3%) patients were male and 24 (36.7%) were female. Duration of stay in hospital was 6 days only for 1 patient. Bilateral nasal obstruction was found in 64(97%) patients whereas unilateral nasal obstruction was in 2(3%) patients. Out of 66 patients, 30(45.4%0 had complaint for 6-10 days. Bilateral inferior turbinate hypertrophy was observed in 56(84.8%) patients. Deviation nasal septum was not present in 50(75.6%) patients. Anterior nasal packing was done in 58 (87.9%) patients. Severe bleeding was seen in 8(12.1%) patients. Follow up complications after one month crusting was observed in 11 (16.7%) patients while 14(21.2%) patients had nasal obstruction.
Conclusion: It was concluded from the study that both the procedures are relatively safe and effective and do not need expensive instrumentation that may not be available in our medical centres.
Keywords: Partial turbinectomy, Sub-mucosal diathermy, Inferior turbinate hypertrophy.

INTRODUCTION

Enlargement of the inferior turbinate is a very common cause of nasal obstruction[1]. Certain chronic inflammatory nasal disorders, such as allergic or vasomotor rhinitis cause inferior turbinate hypertrophy as a result of collagen deposition beneath the basement membrane of nasal mucosa as well as mucous gland hyperplasia and hypersecretion. Deviation of nasal septum to one side is often associated with inferior turbinate hypertrophy on the contra lateralside[2]. Surgical treatment becomes necessary when medical treatment fails[3]. Surgical reduction of the turbinates is frequently performed by otolaryngologists. CO_2-LASER chemocautery, electrocautery, cryosurgery, total or partial turbinectomy, out fracture, submucosal turbinectomy, submucosal diathermy, endoscopic submucosal inferior turbinate resection and Argon plasma surgery are the surgical techniques which have been used to reduce the size of hypertrophied inferior turbinate[4]. Laser turbinectomy has been known to cause relapse of turbinate hypertrophy as dose endoscopic turbinectomy and requires special instruments. Electrocautery, chemocautery, total turbinectomy and cryosurgery are destructive techniques[5,6].

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In a study 100 patients were operated upon partial inferior turbinectomy and followed for 9 months. Main operative complication was excessive blood loss in 6% patients. In early postoperative period crusting in nose and adhesion formation were noted in 95% and 12% respectively. Nasal obstruction was relieved in 96% patients. None of the patients developed atrophic rhinitis[7]. Ahmad et al reported that 85 patients with persistent nasal obstruction due to hypertrophied inferior turbinates were treated by partial inferior turbinectomy of the inferior turbinates[8]. Persistent relief from nasal obstruction was seen in 78% patients. After initial tissue healing minor crusting was seen in only 10% patients. None of the patients displayed changes of atrophic rhinitis or ozaena.

MATERIAL AND METHODS

This study was carried out in the Department of ENT, Nishtar Hospital, Multan from March 2013 to August 2013. A total of 66 patients were included.

RESULTS

As regards sex, 42(63.3%) patients were male and 24(36.7%) were female patients. Bilateral nasal obstruction was found in 64(97%) patients whereas remaining 2(3%) patients unilateral nasal obstruction. Bilateral inferior turbinate hypertrophy was observed in 56(84.8%) patients. Deviation nasal septum was

not present in 50(75.8%) patients. Packing was removed after 24 hours in 42(63.6%) patients while in 24(36.4%) patients packing was removed after 48 hours.

Table 1 shows that majority i.e., 32(48.5%) patients were in the age group between 21-30 years of age. Duration of stay in hospital was 1-2 days in 28(42.4%) patients, 3-4 days stay was in 30(45.5%) patients, 6(9.1%) patients stayed in hospital for 5-6 days and only 1(1.5%) was stayed in hospital for more than 6 days (Table 2).

As regards duration of complaints most of the patients 30(45.5%) had complaints for 6-10 days (Table-3). Anterior nasal packing was done in 58 (87.9%) patients whereas posterior nasal packing was carried out in 6(9.1%) as shown in table 4.

Table 5 shows mild bleeding in 22(33.3%) patients, moderate bleeding in 26(39.4%) patients and severe bleeding was seen in 8(12.1%) patients. Only 10(15.2%) patients had no bleeding.As regards follow up complications after one month crusting was observed in 11(16.7%) patients, adhesions was seen in 9(13.6%) while 14(21.2%) patients had nasal obstruction as shown in table-6.

Table 1: Age distribution (n=66)

Duration (days)	n	%age
≤ 20	18	27.3
21-30	32	48.5
31-40	15	22.7
> 40	01	01.5

Table 2: Duration of hospital stay (n=66)

Duration (days)	n	%age
1-2	28	42.4
3-4	30	45.5
5-6	06	09.1
> 6	01	01.5

Table 3: Duration of complaints (n=66)

Duration (days)	n	%age
1-5	26	39.4
6-10	30	45.5
11-15	06	09.1
16-20	04	06.0

Table 4: Nasal packs (n=66)

Status	n	%age
Anterior	58	87.9
Posterior	06	09.1
No pack	02	03.0

Table 5: Postoperative bleeding (n=66)

Bleeding	n	%age
Mild	22	33.3
Moderate	26	39.4
Severe	08	12.1
No bleeding	10	15.2

Table 6: Follow up complications after 1 month (n=66)

Complication	n	%age
Crusting	11	16.7
Adhesions	09	13.6
Nasal obstruction	14	21.2

DISCUSSION

Surgical reduction of the inferior turbinates can be performed by various techniques. Lateral out fracturing of the inferior turbinate using a blunt elevator is a technique with minimal morbidity that results in temporary improvement as the turbinate eventually resumes its original position[55]. Destructive procedures, including electrocautery, cryosurgery or laser surgery have been used to reduce the bulk of the turbinates by inducing scarring or by direct destruction. These procedures can be performed under local anesthesia and are technically simple to perform, but have available long term success and significant risks, including necrosis of the conchal bone, eschar formation and hemorrhage. Long term studies of partial resection of the inferior turbinates have cited nasal airway improvement ranging from 41% to 90%[9]. Complications including synthetic, prolonged crusting and bleeding occur relatively frequently. Hemorrhage requiring anterior nasal packing or operative cautery of bleeding vessels has been reported to occur in upto 10% of cases[10]. The total inferior turbinectomy procedure is rarely performed because of the risk of rhinitis sicca. House first described a submucous resection of the inferior turbinate bone without resection of the inferior turbinate mucosa[11].

We performed partial inferior turbinectomy and submucosal diathermy (SMD) for the treatment of inferior turbinate hypertrophy. Both these procedures are simple and easy to perform. SMD leads to a dramatic fall in nasal obstruction but the patient do not have concurrent medical treatment, inferior turbinate re-hypertrophy within 15 months. Many rhinologists only advocate SMD in those cases where inferior turbinate shrinks with an alpha receptor agonist. While the cyst indeed a very good predictor of satisfactory outcome of SMD, it is not diagnostic and many patients show good response inspite of turbinate showing no decongestion. SMD is done with an insulated needle at three different points. Anterior nasal packing is done to control bleeding[12].

Usually turbinate surgery accompany nasal septal surgery. Marias et al compared the results of septoplasty aloe alone and septoplasty combined with turbinate surgery in terms of changes in minimal cross sectional area and patients satisfaction. Patients who had both procedures performed had significantly greater satisfaction than those who had

septoplasty alone[13]. We feel it is possible that, in this case, the diathermy caused emboli to pass, via the submocual venous plexus stasis and subsequent ischaemia of the superior division of the oculomotor nerve or of the muscles themselves. This theory would also account for the localized sensory loss noted in the case previously reported[14]. In our study none of the patients experienced such loss.

At the end of follow up period, most of the patients were relieved from troublesome nasal obstruction and only a small percentage had significant complaints. However, results were better in patients treated with partial interior turbinectomy.

CONCLUSION

It was concluded from the study that both the procedures are relatively safe and effective and do not need expensive instrumentation that may not be available in our medical centres.

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