

Inferior Partial Turbinectomy: An Effective Procedure for Chronic Rhinitis

Steven Mucci, MD
Aristides Sismanis, MD, FACS

Richmond, Virginia

Introduction

Chronic rhinitis frequently results from hyperactivity of the mucous glands of the inferior turbinates. Vasomotor disturbances and allergy are the most common causes of this entity. Symptoms of nasal obstruction, rhinorrhea, post nasal drip, morning pharyngeal dryness, headaches, snoring, and sleep apnea can be very distressing to the patient. First-line medical treatment mainly consists of a variety of antihistamines, decongestants, topical and systemic corticosteroids and topical cromolyn sodium. Desensitization management is often helpful for allergic patients. Despite medical management, some of these patients will continue to have refractory symptoms and surgical treatment becomes necessary. Inferior partial turbinectomy (IPT) is an old technique that has been criticized by many for its potential of inducing atrophic changes and crusting. This has prevented this procedure from gaining full acceptance. It is the main purpose of this communication to present the effectiveness and safety of this technique.

Material and Methods

Fifty-five patients, 34 men and 21 women, underwent IPT for chronic rhinitis. The mean age of these patients was 42.1 years (range 17-69). The majority of these patients had failed previous medical treatment which consisted of antihistamines, corticosteroids or sodium cromolyn inhalers and desensitization. This procedure was performed in conjunction with septoplasty on 39 patients (72.2 percent) and functional endoscopic sinus surgery on 2 patients (3.7 percent). One patient failed to return for follow-up and was dropped from the study. The average follow-up of patients was 18 months (range 12-39 months) with an average number of follow-up visits of 4.3 per patient (range 1-10).

The majority of patients were operated under local anesthesia with intravenous sedation. Prior to resection, 2 percent

lidocaine with 1:100,000 epinephrine was injected submucosally along the entire length of the turbinate with a 25 gauge spinal needle. The turbinate was then fractured medially using a Goldman elevator and its inferior 1/3 was resected under direct visualization using an angulated turbinate scissors (Figure 1). Exposed conchal bone and ragged mucosa were debrided with a Takahashi forceps and hemostasis was achieved with a Bovie suction cautery. Doyle splints were secured to each side of the septum if septoplasty was performed. Bacitracin ointment was applied to the inferior meati after outfracturing the turbinate stumps. Patients were generally discharged to home later that day.

Post operative care consisted of a seven day course of an oral antibiotic, usually Cephadrine, and saline nasal spray. Doyle splints were removed on the second post-operative day. After topical decongestion and anesthesia were applied, the turbinates were cleaned meticulously of crusts using bayonet forceps and suctioning. Patients were then followed-up at weekly intervals until complete healing had occurred.

Results

Overall results are summarized in Table 1 and for IPT only in Table 2. Post-operative complications include two cases of epistaxis (3.7 percent). One patient bled profusely while in the recovery room, necessitating placement of an anterior-

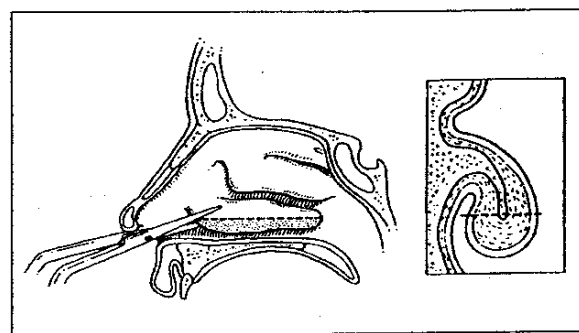


Figure 1. Inferior Partial Turbinectomy.

Presented at The American Laryngological, Rhinological & Otolaryngological Society Eastern Section Meeting, January 29, 1993, New York City, New York.

Correspondence to: Aristides Sismanis, MD, FACS, Department of Otolaryngology - Head and Neck Surgery, Medical College of Virginia, P.O. Box 146, Richmond, VA 23298.

Table 1. Overall Results (54 Patients).

Symptom	Present Pre-Op (Patients)	Present Post-Op (Patients)	Success Rate
Nasal Obstruction	52	4	92.3%
Rhinorrhea	20	3	85.8%
Snoring	22	4	81.8%
Headache	18	3	83.3%
O.S.A.	11	4	63.6%

O.S.A.=Obstructive Sleep Apnea

Table 2. Results of Turbinectomy (13 Patients).

Symptom	Present Pre-Op (Patients)	Present Post-Op (Patients)	Success Rate
Nasal Obstruction	13	1	92.3%
Rhinorrhea	3	1	66.7%
Snoring	4	1	75.0%
Headache	4	1	75.0%
O.S.A.	3	2	33.3%

O.S.A.=Obstructive Sleep Apnea

posterior pack and two day hospital admission. Another patient had an episode of mild epistaxis requiring placement of absorbable packing. No cases of atrophic rhinitis were encountered. The average number of post-op visits was 4.3 per patient. In general, patients reported a gradual diminution of nasal crusting over a 4 to 6 week period. No patients reported this crusting as very troublesome.

Discussion

The merits of surgery for chronic rhinitis have been debated by rhinologists for decades. Total turbinectomy, which had been advocated at the turn of the century by Jones and Holmes, was implicated in adverse sequelae such as atrophic rhinitis and paradoxical nasal dyspnea.¹² As a result,

turbinate reduction surgery in general fell into disfavor. Gradually, as apprehension subsided, rhinologists began to perform conservative surface destructive procedures.^{3,4} Initially, results were favorable, but turbinate regrowth made long-term results disappointing.

Surface and submucosal electro-cauterization and cryotherapy are effective but of short-term success. In 1988, we reported our experience with submucosal cauterization of the inferior turbinates on 80 patients over an eight year period.⁵ We found the procedure quite effective initially, but like many authors, we have noted a high rate of long-term failure, necessitating additional surgical treatment.^{6,7}

In the 1980s, several authors showed that partial turbinate resection was almost never associated with atrophic rhinitis, and indeed was a safe procedure.^{8,9} This prompted a renewed interest in conservative surgery of the inferior turbinates. Meredith, in 1987, compared results in 100 patients treated with electrocauterization of the inferior turbinate versus 100 patients receiving IPT for nasal obstruction due to chronic rhinitis.⁶ Long-term success rates were 69 percent and 86 percent respectively. Post-operatively, bleeding was similar for both groups (6 and 4.9 percent, respectively). He concluded that partial turbinectomy was a more effective procedure. Our results of 92.3 percent success rate for nasal obstruction are in agreement with Meredith's results. In our patients, a similar success rate was obtained in relieving troublesome rhinorrhea. Our post-op bleeding rate of 3.7 percent is also in agreement with previous reports.

We feel the main drawback of this IPT is the frequent and prolonged post-operative care it requires due to delayed healing and crusting. We have noted an average of 3-4 post-operative visits required over a 4-6 week period for complete healing. It is suspected that a low-grade osteitis of exposed turbinate bone is in part responsible. For this reason, meticulous debridement of any exposed bone intraoperatively is imperative. In the past one year we have solved this problem by performing submucous IPT with turbinoplasty as described by Mabry.¹⁰ With this modification we have achieved similar results regarding breathing and rhinorrhea with faster post-operative healing (2-4 weeks) and less

number of office visits (2-3). This is most probably due to mucosal covering of the resected area, promoting better and faster healing.

Conclusion

The results of this study show that IPT is an effective and safe procedure for chronic rhinitis. Complications of this procedure are minimal when properly performed. We recommend this procedure to others.

Summary

The safety and effectiveness of inferior partial turbinectomy (IPT) as a treatment for refractory chronic rhinitis was studied. Fifty-five patients, 34 males and 21 females, underwent IPT for chronic rhinitis, the majority under local anesthesia and in conjunction with septoplasty. Relief of nasal obstruction, rhinorrhea, snoring, headache, and obstructive sleep apnea was subjectively measured after an average follow-up of 18 months. We noted particularly high success rates -92.3% and 85.5% - for nasal obstruction and rhinorrhea, respectively. Complications, in the form of post-op bleeding, were low at 3.7%. We conclude that IPT is an effective and

safe procedure when properly performed. This work should help otolaryngologists become more comfortable in performing this old but controversial technique for treating chronic rhinitis.

References

1. Jones, TC. Tubinotomy. *Lancet* 1895; 2:496.
2. Homes, CR Hypertrophy of the turbinated bodies. *NY Med J* 1990; 72:529.
3. Ballenger WL. *Diseases of the nose, throat, and ear* (4th ed). Lea and Febiger, Philadelphia, 1914; 144-7.
4. House HP. Submucous resection of the inferior turbinal bone. *Laryngoscope* 1951; 61:637.
5. Barna J, Sismanis A, Abedi E. Submucosal cauterization of the inferior turbinated. Presented at the VIII ISIAN, MD, Baltimore, 1989.
6. Meredith, GM. Surgical reduction of hypertrophied inferior turbinates: A comparison of electrofulgeration and partial resection. *Plast Reconstr Surg* 1988; 81:892-7.
7. Jones AS, Lancer AA. The effect of submucosal diathermy to the inferior turbinates on nasal resistance to airflow in allergic and vasomotor rhinitis. *Clinical Otolaryngology* 1985; 10:249-52.
8. Courtiss EH, Goldwyn RM, O'Brien JJ. Resection of obstructing inferior nasal turbinates. *Plast Reconstr Surg* 1978; 62:249-56.
9. Pollock RA, Rohrich RJ. Inferior turbinate surgery. *Plast Reconstr Surg* 1984; 74:227-33.
10. Mabry RL. Inferior tubinoplasty. *Laryngoscope* 1982; 92:459-61.