

Submucosal Diathermy For Inferior Turbinates Hypertrophy - How Long Does It Sustain?

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Abstract

Nasal obstruction is one of the commonest presenting complaints in Otorhinolaryngology Clinic. Oftenly, the obstruction is caused by inferior turbinates hypertrophy. Medical therapy is the mainstay of treatment. However, if it is failed, surgical procedure such as submucosal diathermy of hypertrophic turbinates is performed. The objective of this study is to evaluate the duration-effectiveness of the procedure. This observational retrospective study was conducted at Hospital Universiti Sains Malaysia. A total of 36 patients who underwent submucosal diathermy of turbinates only, within 2000 to 2006 were identified. Nasal obstruction relief for more than one year duration was documented in 50 % of the sample. The results of the study showed that this simple and repeatable surgical procedure offers improvements of nasal breathing in patients with chronic obstructive inferior turbinates, both on a short-term and long-term basis.

INTRODUCTION

Nasal obstruction is one of the most common chronic presenting symptoms encountered by otolaryngologists. In most patients, the underlying problem is either deviated nasal septum or turbinates hypertrophy¹. Those who have septal problem usually need surgical correction either septoplasty or submucosal resection of the septum. On the other hand, patients with nasal obstruction secondary to inferior turbinates hypertrophy usually respond well with medical treatment such as oral antihistamine, local decongestant and allergy desensitization.

When the medical treatment failed, surgical intervention will be offered. Few surgical options available includes trimming of the inferior turbinates, laser therapy, linear cautery, turbinate cryotherapy and submucosal diathermy (SMD). Although the surgical management of inferior turbinate hypertrophy is still controversial², the SMD procedure is more oftenly performed in our centre as compared to the others because it is relatively simple and safe. For example, the risk of bleeding is increased in inferior turbinectomy as compared to SMD³.

However, submucosal diathermy of inferior turbinates hypertrophy is believed to be beneficial for short duration only. This study is performed so demonstrate the effectiveness of this procedure in term of symptom-free duration.

METHODOLOGY

This is an observational retrospective study. The operation theatre registration book was revised and all of the patients who undergone submucosal diathermies of inferior turbinates hypertrophy from 2000 to 2005 were identified.

The patients who underwent SMD together with other procedure will be excluded.

The medical records review was done. Descriptive analysis was performed.

RESULTS

Within the six-year study period from 2000 to 2005, fifty six patients were identified had undergone SMD. However, only thirty six of them underwent SMD procedure only.

The age of the patient ranged from 9 to 57 years old.

More than 50% of patients had good nasal obstruction relief one year post operatively. Two (5.6 %) of them need revision SMD. Only two patients claimed that there were no improvement and both were having deviated nasal septum. The number of default patients (7) was significantly high as compared to study population

Figure 1

Table 1 : Nasal obstruction relief in term of duration

	No. of patient	Percentage (%)
No improvement	2	5.6
< 6 months	3	8.3
6 – 12 months	6	16.7
12 – 18 months	5	13.9
18 – 24 months	2	5.6
> 2 years	11	30.6
Default f/up	7	19.4

DISCUSSION

Submucosal diathermy of inferior turbinates was first documented in 1907. It works by shrinking the bulky space-occupying hypertrophied inferior turbinates in the nasal cavity. It can be performed either under general or local anaesthesia.

It is done by applying coagulative current into the mucosa of the turbinates. The current applied, which is usually at three points on each sides will induce tissue necrosis. Later on, healing will take place with fibrosis. The fibrosis will cause shrinkage of the turbinates soft tissue.

In our study, we have recruited the patients who had undergone SMD operation only. We have excluded about twenty SMD patients because the procedure was performed together or at the same sitting with other procedures that might contribute to the nasal obstruction relief. Other combined procedures in our study population were septal surgery (9 %), adenoid and/or tonsillectomy (5 %) and polypectomy (2 %).

About 50 % of patients claimed that the relief persisted for more than a year post-operatively with 30.6 % of them sustained for more than two years. These results demonstrate the acceptable duration-effectiveness of the procedure.

Fradis et al demonstrated that at the one-year follow-up visit, 65 patients out of 75 were symptom-free with respect to

nasal breathing (86.7 %), and 67 patients (89.3 %) had good nasal breathing as examined with the Gertner-Podoshin plate₁.

However, there are few limitations in our study. The study sample is small and it is worsened by the high rate of default patient. We also use a subjective measurement of nasal obstruction relief ie from patients' complaint only. A better assessment of nasal symptom post-operatively for example nasal air flow₄ which is more objective is needed. Liu CM et al used visual analogue scale, anterior rhinomanometry and saccharin test as the pre and post operative assessment in order to obtain more objective results₅. A prospective study may be helpful as we can decide a standard duration follow-ups for the patients.

CONCLUSION

Submucosal diathermy of inferior turbinates hypertrophy is a relatively minor surgical procedure that offers good nasal obstruction relief up to more than 2 years for 30% of the study population. However, surgery alone rarely helps the patients. The attitude towards the importance of compliant to treatment and follow up are crucial in maintaining the persistence of nasal obstruction relief post-operatively

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