

Medical versus surgical treatment for early ethmoidal nasal polyps

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Objective

To compare the medical and surgical treatments for early ethmoidal nasal polyps.

Subjects and Methods

Sixty patients of grade I and II ethmoidal nasal polyps were selected through non-probability convenience sampling technique. They were divided in two groups; A and B with 30 patients in each group. In group A, patients were given medical treatment i.e. tablet prednisolone 0.5mg/kg/day for fourteen days in tapering doses along with two puffs of intranasal fluticasone in both nasal cavities equivalent to 50mcg/spray for three months while in group B, patients were treated surgically i.e. intranasal polypectomy with intranasal ethmoidectomy. The outcome in both groups was compared by evaluating reduction in size of polyps, nasal obstruction, sense of smell, postnasal drip and snoring.

Results

Mean age of the patients was 34.11 ± 9.48 years. Male to female ratio was 1.7:1. Out of total 60 patients, 23 patients had grade I polyps while 37

patients had grade 2 polyps. 17 grade 1 polyps were treated medically while 6 were treated surgically. Similarly, 13 grade 2 polyps were treated medically and 24 were treated surgically. At the end of treatment, in Group A, reduction in polyp size to grade 0 was seen in 66% of the patients while it was seen in 90% of the patients in group B. There was significant reduction in nasal obstruction, post nasal drip and snoring with surgical treatment however sense of smell showed significant improvement with medical treatment.

Conclusion

Intranasal polypectomy with intranasal ethmoidectomy was better than oral plus intranasal steroids in regard to reduction in size of polyps, nasal obstruction, post nasal drip and snoring. However, loss of smell is better controlled with medical treatment. (Rawal Med J 2012;37:309-312).

Key words

Nasal polyps, prednisone, ethmoidectomy, fluticasone.

INTRODUCTION

Nasal polyps which affect one to four percent of general population are polypoidal masses arising mainly from the mucous membranes of the nose and paranasal sinuses. In most cases, they arise from the middle meatus and clefts of the ethmoid region.¹ Several treatment options, depending upon the severity of the disease have been recommended which include both medical and surgical treatments. Oral and topical nasal steroid administration is the primary medical therapy for nasal polyposis.² However, long-term use of oral steroids is not recommended because of the numerous potential adverse effects. In adults, oral steroids are given in the form of prednisone in a dose of 0.5mg/kg/day for 4-7 days and then tapered over 1-3 weeks. Most nasal steroids (e.g. fluticasone, beclomethasone,

budesonide) effectively relieve symptoms.³ Endoscopic sinus surgery is the surgical treatment of choice but due to unavailability of equipment in many centers in our part of world, intranasal polypectomy with intranasal ethmoidectomy still remains the widely practiced option.⁴

Due to association of allergic rhinitis and high incidence of recurrence with surgery, medical treatment in the form of intranasal and topical steroids is adopted by many ENT surgeons, especially for early nasal polyposis. The incidence of recurrence with surgery has been reported to be up to 70%, however, with any mode of treatment, the aim is to relieve nasal blockage, restore olfaction and improve sinus drainage and to treat any accompanying rhinitis.⁵ The aim of this study was to compare efficacy of the medical and surgical

treatment among the patients with early nasal polyps in our population.

PATIENTS AND METHODS

This was a hospital-based, interventional study where two different types of treatment were compared. One hundred patients, with grade I and grade II ethmoidal nasal polyps, from ENT OPD of Railway Hospital Rawalpindi, were selected from November 2009 to December 2010, through non-probability convenience sampling technique. Their demographic profile, medical history, clinical features and treatment modalities were recorded. A detailed history about nasal obstruction and other symptoms of nasal polyps like post nasal drip, snoring, and anosmia was taken. Patients diagnosed to have conditions like immotile cilia syndrome, cystic fibrosis and Young's syndrome were excluded from the study. Similarly, patients with any previous nasal surgery, deviated nasal septum, inferior turbinate hypertrophy, diabetes mellitus, hypertension or any anticoagulant medications were also excluded from the study. Grading of nasal polyps was confirmed by anterior rhinoscopy and nasoendoscopy. An informed consent was taken from the patients and approval of the study was taken from the hospital ethical committee.

All the patients undergoing surgery were operated by the same surgeon using same surgical technique. In group A, patients were given medical treatment i.e. prednisolone 0.5mg/kg/day orally for fourteen days in tapering doses along with two puffs of intranasal fluticasone in both nasal cavities equivalent to 50mcg/spray for three months. In group B, patients were treated surgically with intranasal polypectomy with intranasal ethmoidectomy. Postoperatively all the patients received same antibiotics and analgesics. All were called for follow up after 4th, 8th and 12th week after initiation of treatment. Anterior rhinoscopy was done on each visit and polyp size was graded from 0 to 3 for each nasal cavity, where 0: No Polyp, 1: Mild Polyposis (small polyps not reaching the upper edge of the inferior turbinate causing only slight obstruction) 2: Moderate Polyposis (medium sized Polyps between the upper and lower edge of inferior turbinate causing troublesome symptoms)

and 3: Severe Polyposis (Large polyps reaching the lower edge of inferior turbinate causing almost total obstruction)

The severity of nasal obstruction was assessed by visual analogue scale (0-10cm) and scored as follows: 0: No symptom, 1: Mild (0-3), 2: Moderate (4-7) and 3: Severe (8-10). Sense of smell, postnasal drip and snoring was recorded as being absent or present. Data was entered in SPSS v 18 and analyzed. Chi-square statistics were used to compare polyp size, nasal obstruction, Sense of smell, postnasal drip and snoring. P value of <0.05 was taken as significant.

RESULTS

The mean age of the patients was 34.11 ± 9.48 (range 20-63). Male to female ratio was 1.7:1.

Table 1. Polyp grade at post treatment visit 1.

Polyp grade	Treatment given		Total
	Medical	Surgical	
First visit 0	20	27	47
1	10	3	13
Total	30	30	60

p=0.03

Anterior rhinoscopy revealed small sized polyps (grade 1-Mild polyposis) in 23 patients (38 %), and medium sized polyps (grade 2-Moderate polyposis) in 37 patients (62%). On pre-treatment visit, nasal obstruction was present in 100% patients. Absence of sense of smell was seen in 83% of patients, postnasal drip was present in 81% of patients and snoring was present in 33% of patients.

Table 2. Polyp grade at post treatment visit 2.

Polyp grade	Treatment given		Total
	Medical	Surgical	
Second visit 0	19	27	46
1	11	3	14
Total	30	30	60

P=0.01

In group A, on first visit at 4th post treatment week, 20 patients (66%) showed no polyps (grade 0) however, 10 (34%) showed small polyps (grade 1),

(Table 1). On second visit at 8th post treatment week in group A, 19 patients (63%) showed no polyp (grade 0) however, 11 (37%) showed small sized polyps (grade 1), (Table 2). On third visit at 12th post treatment visit in group A, 20 patients (66%) showed no polyps (grade 0) however, 10 (34%) showed small sized polyps (grade 1), (Table 3).

Table 3. Polyp grade at post treatment visit 3.

Polyp Grade	Treatment given		Total
	Medical	Surgical	
Third visit 0	20	27	47
1	10	3	13
Total	30	30	60

P=0.02

In group B, on first visit at 4th post treatment week, 27 patients (90%) showed no polyps (grade 0), however, 3 (10%) showed small polyps (grade 1), (Table 1). The same results persisted during the second and third visits (Table 2 & 3).

Relief from nasal obstruction was seen in 80% patients in group B and 23% patients in group A. Post nasal drip showed improvement in 67% patients in group B and 47% patients in group A. Sense of smell improved better with medical treatment (61%) as compared to surgical treatment (47%). Same was the case with snoring which improved in 30% patients treated surgically as compared to 10% patients treated medically.

DISCUSSION

Ethmoidal nasal polyps can seriously affect the quality of life due to symptoms like reduced sense of smell, nasal obstruction, increased secretions, headaches and feeling of pressure over their sinuses. Guidelines on the management of nasal polyposis recommend that surgery to remove nasal polyps should be undertaken only in patients with very large polyps or in those who have failed to respond to corticosteroid therapy.⁶ But the treatment of nasal polyposis still remains controversial, as surgical or medical or both have been recommended and there is no exact borderline to show any absolute indication of one or other type of treatment option. A significant improvement with oral prednisone was found in nasal symptoms (obstruction,

secretion, sneezing, and sense of smell).⁷ In various studies, intranasal steroids have been used also along with oral steroids to see the response in ethmoidal nasal polyposis. Certain symptoms of nasal polyposis like loss of sense of smell improves better with medical treatment as compared to surgical treatment but other symptoms still persist to some extent. Mygind and Lund found a better response to sense of smell with intranasal and systemic steroids as compared to surgical treatment however they noticed that nasal obstruction persisted in many cases even after the course of medical treatment.⁸ However, there are opponents of conservative treatment. A study showed 82% recurrence after medical treatment in contrast to 38% with surgical treatment.⁹ Similarly, intranasal ethmoidectomies was superior as compared to medical treatment with success rate up to 88%.¹⁰

In our study, on third visit at 12th post treatment visit in group A, 66% patients showed no polyps (grade 0) however, 34% patients showed small sized polyps (grade 1). In contrast to that, in group B, on first visit at 4th post treatment week 90% patients showed no polyps (grade 0) however, 10% patients showed small polyps (grade 1) and this was not followed by any recurrence in next two visits. On applying tests of significance, patients in group B tended to have better results regarding polyp reduction.

Nasal obstruction was better controlled in group B with relief seen in 80% patients in contrast to 23% patients in group A. Post nasal drip showed improvement in 67% patients in group B and 47% patients in group A. However, there was better control of sense of smell in group A with improvement seen in 61% patients as compared to 47% patients in group B. Same was the case with snoring which was improved in 30% patients treated surgically as compared to 10% patients treated medically.

CONCLUSION

In conclusion, the comparison of two treatment modalities, it was found that intranasal polypectomy with intranasal ethmoidectomy was better than tab prednisolone with intranasal fluticasone in terms of reduction in the size of polyp, reduction in nasal

obstruction, post nasal drip and snoring. However medical treatment with intranasal and oral steroids provided better response in case of sense of smell.

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