

# Nasal Polyposis—Surgical Treatment: How Successful?

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## Abstract

Endoscopic sinus surgery is recommended when the medical treatment fails. To ensure a successful surgical outcome, one needs to have a good radiological back up in form of axial, coronal and sagittal reconstruction, hypotensive anesthesia and powered instruments.

**Keywords:** Nasal polyposis, FESS, Endoscopic sinus surgery, Powered instruments.

## INTRODUCTION

A polyp is a swelling of the lining of the nose, which is usually due to inflammation of the lining of the nose. Nasal polyps contain inflammatory fluid and, while they can be associated with allergy and infection, the exact reason why some people get them and not others is not known. The medical treatment, mainly topical intranasal and oral corticosteroids, constitutes its first line of therapy.<sup>1</sup> Long-term treatment with corticosteroid nasal spray reduces inflammation and nasal polyp size, and improves nasal symptoms such as nasal blockage, rhinorrhea, and the loss of smell. Corticosteroid intranasal drops may be used when intranasal spray fails to demonstrate efficacy. Short courses of oral steroids are recommended in severe chronic rhinosinusitis with nasal polyps or when a rapid symptomatic improvement is needed. Endoscopic sinus surgery is only recommended when the medical treatment fails. Intranasal corticosteroids should be continued postoperatively. The basic principle is that most sinus and nasal mucosal disease will resolve once aeration and drainage are re-established.<sup>2</sup> Removing the source of the blockage allows the sinuses to heal and return to their normal functions. The use of the microdebrider demonstrated faster healing with less crusting than standard techniques, as well as decreased bleeding, synechia formation, lateralization of the middle turbinate, and ostial reocclusion. The microdebrider offers excellent surgical results with fewer complications and faster healing than traditional techniques in functional endoscopic sinus surgery.

## OBJECTIVE

Retrospective study of 50 patients treated surgically for nasal polyposis by the author.

## MATERIALS AND METHODS

A series of last fifty cases were selected having sinusitis with nasal polyposis who were operated by the author with complaints of blocked nose, runny nose, sneezing, anosmia, headache, irritation in throat (Table 1). The diagnosis was based on history, clinical presentation, clinical examination, nasal endoscopy, non-contrast CT scans (Fig. 1). All the patients were put under medical treatment for 10 to 14 days before doing nasal endoscopy again (Fig. 2) and then were taken up for surgery (Functional endoscopic sinus surgery) with microdebrider. Computed tomography (CT) scans were graded as per Lund-MacKay and patient symptom scores were recorded using the Sinonasal Outcome Test 20 (SNOT-20) instrument. Individual rhinosinusitis symptoms were evaluated on a visual analog scale (0-10) before and after surgery. The surgical technique had five important steps, including exposing the choana, enlarging the maxillary sinus ostium, opening the sphenoid sinus and posterior ethmoid sinus anteriorly to posteriorly, resecting the ethmoid sinus posteriorly to anteriorly, and opening the frontal sinus posteriorly to anteriorly. The choana, maxillary sinus ostium, middle turbinate remnant, and the roof and lateral wall of the sphenoid sinus were taken as four stable anatomic reference points. All the peroperative events were recorded and corrective steps taken for any untoward events (Table 2).

## RESULTS

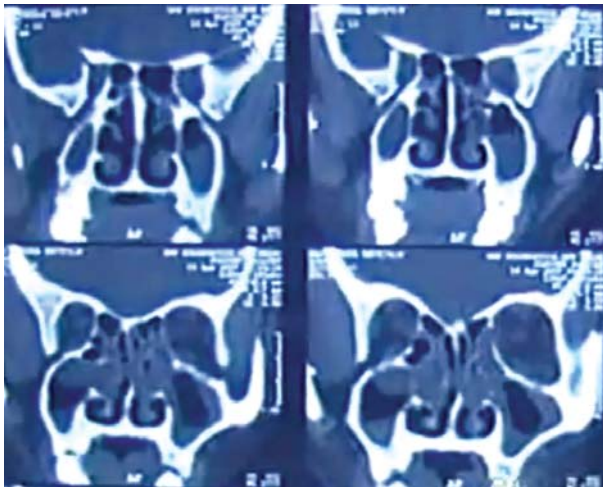
The pre- and postoperative symptoms/ relief were recorded (Table 3). Blocking of nose was relieved in all the 49 patients while allergic symptoms got better in 12 (out of 26) patients. Headache and facial pain was relieved in all 45 patients and sense of smell and taste got better in all 34 patients. Postnasal drip and dry cough persisted in 10 patients (out

**Table 1:** Symptoms/complaints

Blocked nose	49
Runny nose and/or sneezing	26
A poor sense of smell and taste	34
Headaches, facial pain	45
Postnasal drip/irritation throat/dry cough	47

**Table 2:** Complications

Bleeding (excessive)	5
Fat prolapse	2
Optic nerve injury	0
Epiphora	0
CSF leak	1

**Fig.1:** CT scan showing bilateral ethmoidal polyps**Fig. 2:** Endoscopic picture of nasal polyp

of 47) for about a month and then they got relieved of it after endoscopic cleaning of sinuses postoperatively.

## DISCUSSION

Proper diagnosis, detailed study of the CT scan, pre-operative preparation, use of powered instruments like microdebrider, peroperative reference to four stable anatomic reference points help in complete clearance of the polyps and disease and in reducing complications.<sup>3</sup> Reporting of complications in endoscopic sinus surgery is

**Table 3:** Comparative symptoms

	Preoperative	Postoperative
Blocked nose	49	Nil
Runny nose and/or sneezing	26	14
A poor sense of smell and taste	34	Nil
Headaches, facial pain	45	Nil
Postnasal drip/ Irritation throat/ Dry cough	47	Nil

widely variable, confounding attempts to establish accurate data regarding complication rates.<sup>4</sup> Few prospective, randomized trials exist comparing the safety of functional endoscopic sinus surgery with other surgical techniques. Major complications occur in 0-1.5% of cases and minor complications occur in 1.1-20.8% of functional endoscopic sinus surgery cases. Powered instrumentation does not appear to affect the incidence of complications, but may increase the severity of complications. Due to the close anatomical relationship between the paranasal sinuses and the orbit, involvement and/or injury of the orbit from processes primarily located in the paranasal sinuses, may occur. The orbit, the extraocular muscles, the optic nerve and the lacrimal drainage system can be damaged during FESS. The risk of injury is correlated to the anatomical variations, the history of previous surgery, the extent and the gravity of the disease and the skill of the surgeon.<sup>5</sup> Anterior skull base can be damaged at the ethmoid roof or during frontal sinus surgery. All these adverse events can be tackled on the table itself.<sup>6,7</sup>

## CONCLUSION

The treatment efficacy can be greatly improved by enough preoperative preparation, fine operation, combined peri-operative conservative therapy and postoperative follow-up.

To ensure a successful surgical outcome, one needs to have a good radiological back up in form of axial, coronal and sagittal reconstruction, hypotensive anesthesia and powered instruments. A routine postoperative endoscopy is mandatory for a good cavity care.

## REFERENCES

1. Farajzadeh Deroee A, Oweinah J, Naraghi M, Hosemann W, Athari B, Völker U, Scharf C. Regression of polypoid nasal mucosa after systemic corticosteroid therapy: A proteomics study. *Am J Rhinol Allergy* Sep-Oct 2009;23(5):480-85. Epub 31 Aug 2009.
2. Dalziel K, Stein K, Round A, Garside R, Royle P. Systematic review of endoscopic sinus surgery for nasal polyps. *Health Technol Assess* 2003;7(17):iii,1-159.
3. Krouse JH, Christmas DA Jr. Powered instrumentation in functional endoscopic sinus surgery. II: A comparative study. *Ear Nose Throat J* Jan 1996;75(1):42-44.
4. Ilieva K, Evens PA, Tassignon MJ, Salu P. Ophthalmic complications after functional endoscopic sinus surgery (FESS). *Bull Soc Belge Ophthalmol* 2008;308:9-13.
5. Zhu L, Zhang H, Hu J, Ying L, Shan Y, Zhu Z, Zhao C. Revision endoscopic sinus surgery and combined therapy for recurrent sinusitis. *Lin Chung Er Bi Yan Hou Tou Jing Wai Ke Za Zhi*. Jun 2009;23(11):488-90.
6. Ye J, Yu H, Draf W, Zheng C, Wang D. Technique and results of the anterior-to-posterior-to-anterior approach in revision endoscopic sinus surgery. *ORL J Otorhinolaryngol Relat Spec* 2009;71(5):257-62. Epub 25 Sep 2009.
7. Masterson L, Tanweer F, Bueser T, Leong P. Extensive endoscopic sinus surgery: Does this reduce the revision rate for nasal polyposis? *Eur Arch Otorhinolaryngol* 18 Mar 2010.