

## Original Article

### Analysis of Outcome of FESS performed in Patients- A Clinical Study

Prasun Kumar Chattopadhyay,

Department of ENT, Government Medical College, Amritsar, Punjab, India

#### ABSTRACT:

**Background:** Functional endoscopic sinus surgery (FESS) is a new and exciting treatment for chronic sinus disease. The present study was conducted to assess the outcomes of FESS in patients. **Materials & Methods:** The present study was based on 68 patients (32 males and 36 females) who underwent treatment by the FESS in the ENT Department of the Government Medical College, Amritsar, Punjab. Endoscopic septoplasty was performed in a traditional way. After septoplasty, nasal endoscopy was performed to visualize nasal cavity and lateral nasal wall. In all subjects, facial pain, pressure, headache, nasal blockage, congestion and nasal discharge was assessed. **Results:** Out of 68 patients, males were 32 and females were 36. There was significant reduction in clinical features such as facial pain, pressure, headache, nasal blockage, congestion and nasal discharge ( $P < 0.05$ ). **Conclusion:** FESS proved to be useful in relieving symptoms such as facial pain, pressure, headache, nasal blockage, congestion and nasal discharge.

**Key words:** Headache, Functional endoscopic sinus surgery, Nasal blockage

Received: 05 December 2018

Revised: 20 January 2019

Accepted: 22 January 2019

**Corresponding author:** Dr. Prasun Kumar Chattopadhyay, Department of ENT, Government Medical College, Amritsar, Punjab, India

**This article may be cited as:** Chattopadhyay PK. Analysis of Outcome of FESS performed in patients- A Clinical Study. J Adv Med Dent Scie Res 2019;7(2):78-80.

#### INTRODUCTION

The term sinusitis refers to a group of disorders characterized by inflammation of the mucosa of paranasal sinuses (PNS). The inflammation nearly always involves the nose, therefore, the term rhinosinusitis (CRS) is used. Chronic rhinosinusitis is defined as two major symptoms/signs (facial pain/pressure, facial congestion/fullness, nasal blockage, nasal discharge, hyposmia/anosmia, purulence on nasal examination) or one major and two minor symptoms/signs (headache, fever, halitosis, fatigue, dental pain, cough, ear pain/pressure/fullness) for more than 12 weeks duration.<sup>1</sup> Functional endoscopic sinus surgery (FESS) is a new and exciting treatment for chronic sinus disease. The endoscopic approach to FESS is a less invasive method than open sinus surgery, which allows patients to be more comfortable during and after the procedure. Because of its less-invasive nature, FESS is a common option for children with CRS or other sinonasal complications.<sup>2</sup> Functional endoscopic sinus surgery (FESS) is a surgical treatment of sinusitis and nasal polyps, including bacterial, fungal,

recurrent acute, and chronic sinus problems. FESS uses nasal endoscopes to restore drainage of the paranasal sinuses and ventilation of the nasal cavity. Today, FESS is the gold standard of surgical therapy of chronic rhinosinusitis. The extent of appropriate surgery, however, is still variable in actual concepts of FESS – the respective differences are not highlighted by specific evidence.<sup>3</sup> The present study was conducted to assess the outcomes of FESS in patients.

#### MATERIALS & METHODS

The present study was conducted in the department of ENT of Govt. Medical College, Amritsar, Punjab, India. It comprised of 68 patients who underwent FESS in the department. All were informed regarding the study and written consent was obtained. Ethical clearance was obtained prior to the study. General information such as name, age, gender etc. was recorded. All were subjected to CT scan. After PAC clearance for procedure under LA (pterygopalatine block)/GA, operative procedure was explained to the

patients. Nasal mucosa is decongested with topical adrenaline diluted in 4% lignocaine solution. In LA cases, transoral pterygopalatine block was given apart from topical anaesthesia and decongestion. Endoscopic septoplasty was performed in a traditional way. After septoplasty, nasal endoscopy was performed to visualize

nasal cavity and lateral nasal wall. In all subjects, facial pain, pressure, headache, nasal blockage, congestion and nasal discharge was assessed. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

**RESULTS**

**Table I Distribution of patients**

Total- 68		
Gender	Males	Females
No. of patients	32	36

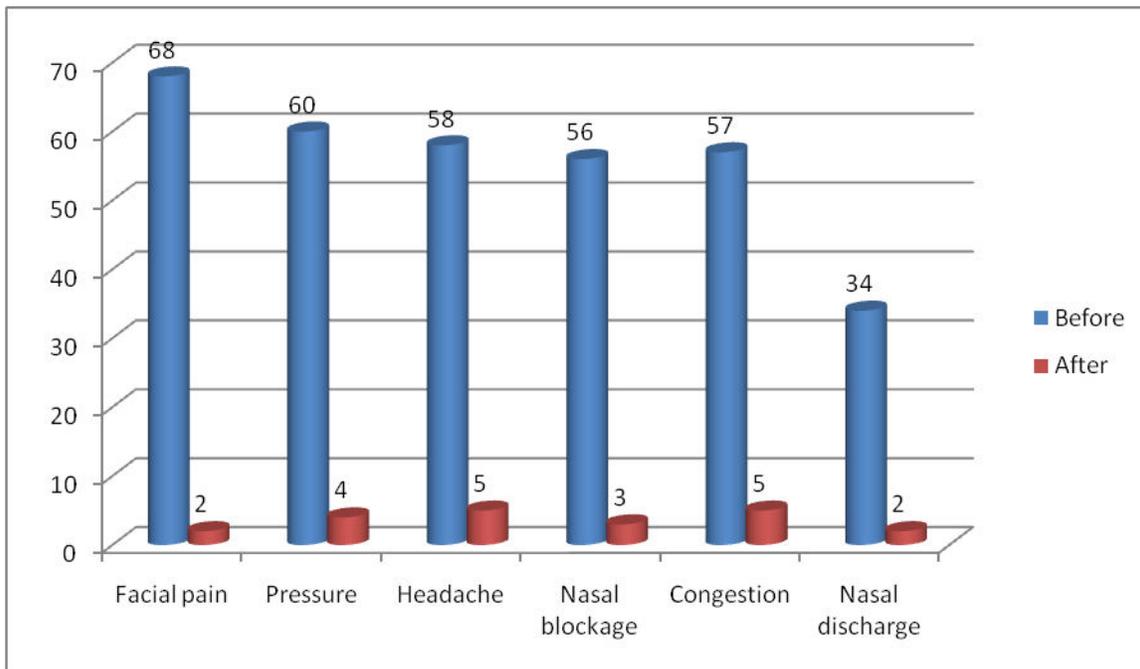
Table I shows that out of 68 patients, males were 32 and females were 36.

**Table II Clinical features before and after FESS**

Clinical features	Before	After	P value
Facial pain	68	2	0.01
Pressure	60	4	0.02
Headache	58	5	0.05
Nasal blockage	56	3	0.01
Congestion	57	5	0.04
Nasal discharge	34	2	0.01

Table II, graph I shows that there was significant reduction in clinical features such as facial pain, pressure, headache, nasal blockage, congestion and nasal discharge (P< 0.05).

**Graph I Clinical features before and after FESS**



## DISCUSSION

The concept of functional endoscopic sinus surgery is based on the publications according to which disturbed mucociliary clearance and narrow areas of the ostiomeatal unit are described as origin of recurrent and chronic rhinosinusitis.<sup>4</sup> The conventional FESS is established since many years aims at treating inflammatory diseases of the maxillary and frontal sinus and the anterior ethmoid by resecting anatomical and/or inflammatory disturbing factors in the ostiomeatal unit and at the same time preserving the marginal mucosa and avoiding an extensive radical intervention.<sup>5</sup> The present study was conducted to assess the outcomes of FESS in patients.

In present study, out of 68 patients, males were 32 and females were 36. Thakur et al<sup>6</sup> conducted a study on sixty patients of DNS with chronic maxillary sinusitis which were divided into two groups alternatively. After pre-operative symptoms score and computerized tomography (CT scan), twenty patients underwent FESS with septoplasty (group A) and other 20 underwent FESS alone (group B) under local anaesthesia and topical 4% lignocaine with 1:1000 adrenaline. It was found that ninety six percent of patients in group A and 87.6% in group B have shown complete improvement in facial pain/pressure. Ninety three percent of patients in group A and 83.3% in group B have shown complete improvement in headache. Ninety percent patients in group A and 63.3% in group B has shown complete improvement in nasal obstruction. Seventy six percent of patients in group A and 63.3% of patients in group B have shown complete improvement in nasal discharge. Eighty six percent and 63.3% of patients in group A and group B respectively were satisfied from the surgery. Ninety three percent of patients in group A and 70% in group B were found to have normal maxillary sinus mucosa on HRCT nose and PNS after 6 weeks following surgical treatment. Hundred percent patients in group A and 96.7% of patients in group B were found to have normal OMC on HRCT nose and PNS 6 weeks after surgery.

The so-called minimally invasive sinus surgery (MIST, minimally invasive sinus technique) is understood as the further development of FESS. Promoters of MIST consider it sufficient to enlarge the narrow clefts of ethmoid even in cases of more extended disease. An essential part of the MIST concept is the use of the shaver that should increase the surgical precision.<sup>7</sup> The single steps encompass: uncinectomy with exposure of the natural maxillary ostium, removal of the postero-medial wall of the agger nasi cells, if needed also mini-trepanation of the frontal sinus with rinsing, opening of the bulla ethmoidalis, repositioning of the middle turbinate, if needed opening of the posterior ethmoid, if needed removal of polyps before the sphenoid ostium, if needed dilatation of the access of the sphenoid sinus.

This concept seems to be inconsistent in so far, as optionally a significant extension of the surgical measures is offered, the shaver as integral part has not proven to lead to superior results.<sup>8</sup>

We found that there was significant reduction in clinical features such as facial pain, pressure, headache, nasal blockage, congestion and nasal discharge ( $P < 0.05$ ). Cornet et al<sup>9</sup> included 30 patients suffering with nasal polyps, which failed medical treatment and were proceeding to surgery. Intensity of blockage/congestion of nose, sense of smell, postnasal discharge (PND) and facial pain/pressure was "Problem is bad as it can be" in 23(76.6%), 27(90%), 13(43.3%) and 11(36.6%) of patients, respectively. At one month after surgery, Intensity of blockage/congestion of nose, sense of smell, PND and facial pain/pressure was "No Problem" in 30(100%), 23(76.6%), 26(86.6%) and 26(86.6%) of patients, respectively. At six month after surgery, Intensity of blockage/congestion of nose, sense of smell, PND and facial pain/pressure was "No Problem" in 26(86.6%), 21(70%), 22(73.3%) and 28(93.3%) of patients, respectively. Intensity of clinical signs was significantly decreased at one and six month late of surgery.

## CONCLUSION

FESS has been found to be useful in relieving symptoms such as facial pain, pressure, headache, nasal blockage, congestion and nasal discharge.

## REFERENCES

1. Uygur K, Tuz M, Dogru H. The correlation between septal deviation and concha bullosa. *Otolaryngol Head Neck Surg.* 2003;129:33-6.
2. Ginzler A, Ilium P. Nasal mucociliary clearance in patients with septal deviation. *Rhinol.* 1980;18:177-81.
3. Suzuki H, Yamaguchi T, Furukawa M. Rhinologic computed tomographic evaluation in patients with cleft lip and palate. *Arch Otolaryngol Head Neck Surg.* 1999;125:1000-4.
4. Lund VJ, Jones JR. Surgical management of rhinosinusitis. In: *Scott-Brown's Otorhinolaryngology, Head and Neck Surgery.* 7th ed. Great Britain: Hodder Arnold; 2008:1478-1499.
5. Kennedy DW. Functional endoscopic sinus surgery: technique. *Arch Otolaryngol Head Neck Surg.* 1985;111:643-9.
6. Thakur K, Gupta VD, Surya M, Ahluwalia A. Comparative evaluation of FESS and septoplasty with FESS in cases of DNS with chronic maxillary sinusitis. *Int J Res Med Sci* 2017;5:3523-9.
7. Khalil HS, Nunez DA. Functional endoscopic sinus surgery for chronic rhinosinusitis. *Cochrane Database Syst Rev.* 2006; (3):004458.
8. Catalone PJ, Starouch M. The minimally invasive sinus technique: Theory and practice. *Otolaryngol Clin N Am.* 2000;37:401-9.
9. Cornet ME, Georgalas C, Reinartz SM, Fokkens WJ. Long-term results of functional endoscopic sinus surgery with chronic rhinosinusitis with nasal polyps. *Rhinology.* 2013;51(4):328-34.