



THE EFFECT OF FUNCTIONAL ENDOSCOPIC SINUS SURGERY ON THE SYMPTOM PROFILE IN PATIENTS WITH CHRONIC RHINOSINUSITIS

Otolaryngology

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ABSTRACT

Background & Objective: Chronic Rhino Sinusitis is one of the most common otorhinolaryngologic diseases encountered in routine ENT practice. Chronic rhinosinusitis significantly impacts the quality of life by interfering with the general health, vitality and social functioning and cause decrease in productivity at school or work place.

The objective of the study is to compare effect of functional endoscopic sinus surgery on the symptom profile in patients with chronic rhinosinusitis and also to confirm that FESS is the modality of treatment in patients with refractory chronic rhinosinusitis.

Study Design: Prospective Clinical study.

Methodology: A prospective study was done in 100 patients who had been diagnosed as cases of CRS based on TFR Criteria. The patients underwent FESS. The symptom profile of the patients were assessed preoperatively and post operatively at regular intervals for a period of 6 months and compared.

Results: In this study, the total numbers of patients were 100. The mean age of patients in our study was 36.8 years (Range 10 to 70 years) with a male to female ratio of 2:1 (male 66 & female 34). The most common symptom in our study was Nasal Obstruction (89%), followed by Hyposmia/Anosmia (68%), Headache (66%), Facial Pain and Pressure (42%), Nasal Discharge/ PND (32%) and Fatigue (18%) respectively. After a follow up period of 6 months Nasal Obstruction responded best to FESS (91%), followed by PND (87.5%), Headache (84.8%) and Facial Pain (83.3%) respectively.

Conclusion: On analysis of the symptom profile of patients with CRS, Nasal Obstruction, Hyposmia and Headache were the most common symptoms. The quality of life in majority of symptomatic patients with CRS significantly improved with FESS.

KEYWORDS

Chronic RhinoSinusitis, TFR Criteria, FESS, Nasal Obstruction.

INTRODUCTION

Chronic rhinosinusitis (CRS) is one of the most common otorhinolaryngologic diseases encountered in routine ENT practice. It significantly impacts the quality of life by interfering with the general health, vitality and social functioning and cause decrease in productivity in the work force, which is comparable with that observed in patients with coronary heart disease and chronic lung disease. It is one of the most common conditions for which antibiotics are prescribed. Most cases of CRS respond to medical treatment but if no improvement in symptoms is achieved, FESS advocates systematic approach to the surgical treatment of the disease of the Nose and Sinuses. [1]

The term Rhinosinusitis refers to a group of disorders characterized by inflammation of the ciliated respiratory mucosa of Nose and Para Nasal Sinuses as they are contiguous with each other and it is rare for one to be affected in isolation [2]. The Rhinosinusitis Task Force of the American Academy of Otolaryngology- Head and Neck Surgery has classified Rhinosinusitis based on timeframes and on clinical presentation into Acute Rhinosinusitis (ARS), Recurrent Acute Sinusitis (RARS), Subacute Rhinosinusitis (SRS), CRS and Acute Exacerbation of Chronic Rhinosinusitis (AECRS). [2]

CRS occurs when the duration of symptoms is more than 12 weeks. It presents with symptoms such as Facial Pain/Pressure, Facial Congestion/Fullness, Nasal Obstruction/Blockage, Nasal discharge, Hyposmia/Anosmia, Fever, Headache, Halitosis, Fatigue, Dental Pain, Cough, Earache/Fullness, Pus on Nasal examination. These symptoms have been divided into major and minor symptoms. Two major or one major with two minor symptoms when present is clinically diagnostic of CRS [2]. Chronic Rhinosinusitis remains a common cause of morbidity, social embarrassment and impaired performance at school or workplace. The disease is extremely common and prevalence depends on age, gender and geographical location of population studies. CRS in addition to physical discomfort also causes a substantial economic burden to patient in terms of missed workdays due to physician or hospital visits [3].

Sino nasal endoscopy has been established as an important component

in our diagnostic and therapeutic armamentarium in management of CRS [4]. Functional Endoscopic Sinus Surgery (FESS) is a minimally invasive surgical procedure used with success in the treatment of Chronic or Recurrent Rhinosinusitis and Nasal Polyposis. The present study is an attempt to assess the effect of FESS on the symptom profile of patients with CRS before and after surgery.

AIMS AND OBJECTIVES

1. To assess various symptoms of CRS before FESS.
2. To compare various symptoms of CRS before and after FESS.
3. To confirm the efficacy of FESS as treatment modality in patients with refractory CRS.

METHODOLOGY

This prospective study was undertaken at a tertiary care hospital and conducted on 100 patients.

A. INCLUSION CRITERIA:

- 1) All cases of CRS with symptoms for at least 12 weeks including allergic and infective factors.
- 2) Patients refractory to medical treatment for a minimum of 6 weeks.
- 3) Patients above 12 years of age.

B. EXCLUSION CRITERIA:

- 1) Patients below 12 years of age.
- 2) Gross DNS.
- 3) Previous nasal surgeries.
- 4) Complications of Chronic Sinusitis.
- 5) Growth in the nasal cavity, benign or malignant, except nasal polyps.

A detailed history was taken with regards to the symptoms of CRS as given by Task force on Rhinosinusitis 1996. DNE was performed in all the patients pre operatively and post operatively at regular intervals upon follow up. Non Contrast Computerised Tomography Paranasal sinuses was done in all the patients undergoing FESS. After pre anaesthetic evaluation, the surgery was done either under local or

general anaesthesia depending on : 1) Extent of the disease. 2) General condition of the patient 3) Patient's choice for the type of anaesthesia. The patients were discharged on third post-operative day and reviewed after one week. During the postoperative follow-up, the symptoms were assessed using the following grades: much better (+2), better (+1), no change (0), worse (-1) and much worse (-2). Naso Endoscopic Suction Toiletting was performed during which the healing of the cavities and patency of the ostia were monitored. Recurrence of the disease, presence of crusts, synechiae and mucopus were also observed. Grading of symptoms were done at the end of 2nd week, 4th week, 2nd month, 3rd month and at the end of 6 months. The symptomatic profile of the patient before and after FESS was analysed, tabulated and compared.

RESULTS:

100 patients were examined in the study using the above methodology. 66% of the patients in this study were males, and 34% females.

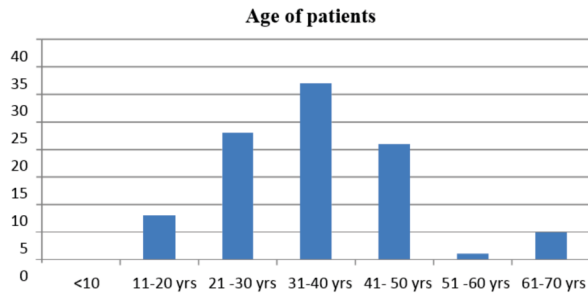


Figure No 1: Age group of the patients in the study.

The largest group of patients belonged to 31-40 years (32%). The mean age of patients was 36.8 years.[Figure 1]

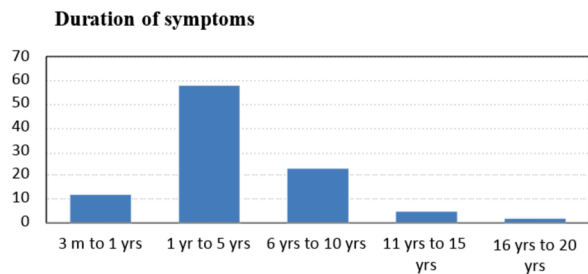


Figure No 2: Duration of symptoms.

The average duration of symptoms was 4 years and 4 months, the range being 8 months to 20 years [Figure 2]. 28 of these cases were with bilateral disease and 2 patients had unilateral disease, one on the left side and the other on the right side.

Table No1: pre-operative Symptom Profile- Major Criteria /symptoms

Major Criteria	Mild	Moderate	Severe	Percentage
Facial sure/pain	19	15	8	42
Nasal Obstruction	23	38	28	89
Post nasal drip	12	16	6	32
Anosmia	32	26	10	68
Purulentnasal discharge	5	3	0	8
Fever (acute)	0	0	0	0

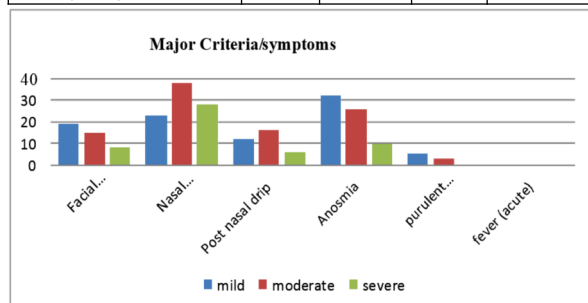


Figure No 3: Major Criteria/ Symptom

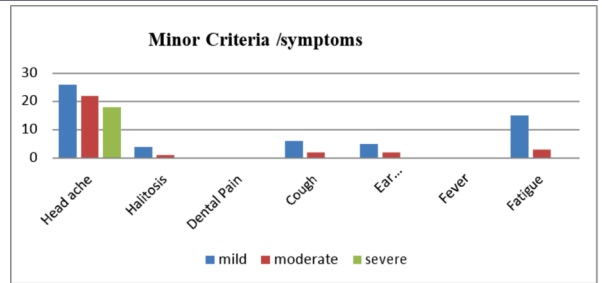


Figure No 4: Minor Criteria/Symptoms

All the above patients underwent extensive medical treatment prior to recommendation to surgery. The commonest symptom was Nasal Obstruction (89%), followed by Anosmia/Hyposmia (71%) and Headache (66%). Other symptoms noted were Facial Pressure (42%), Post Nasal Drip (32%), Fatigue (18%), Cough (8%), Ear Fullness (7%), and Halitosis (5%). [Table 1][Figure3][Figure4]

Table No: 2 Post-operative symptom profile at the end of six month follow up

Major Criteria	Much Better	Better	No Change	Worse	Much Worse	Success Percent
Facial Pressure/pain	33	2	7	0	0	83.34%
Nasal Obstruction	72	9	7	1	0	91.01%
Post nasal drip	19	8	3	2	0	84.37%
Anosmia/Hyposmia	42	14	11	1	0	82.35%
Purulent nasal discharge	6	1	1	0	0	87.5%
Headache	49	7	8	2	0	84.84%
Halitosis	4	1	0	0	0	100%
Chronic Cough	6	2	0	0	0	100%
Ear ache /fullness	4	3	0	0	0	100%

Overall patient satisfaction at the end of six month follow up



Figure No: 5 Post operative symptom profile after 6 months

Post-operatively, 91.01 of patients with Nasal Obstruction showed improvement, 87.5% of patients with Purulent Nasal Discharge, 84.84% with Headache, 84.37% with Post Nasal Drip, 83.34% with Facial Pressure /Pain, 82.35% with Anosmia showed improvement after FESS. All the minor symptoms showed 100% improvement after FESS [Table 2]. After 6 months of follow up post operatively 89.9 % of the patients felt much better, 8.2% of patients had no change and 1.7% patients felt worse after surgery.[Figure5]

DISCUSSION:

CRS is one of the most common otolaryngologic diseases encountered in ENT practice and has a significant impact on quality of life. CRS is a disease with rising prevalence that costs billions of rupees for the society and affects a significant portion of the population, hence the evaluation of disease and verification of the therapy effectiveness are essential [5]. The study done was to assess the effect of FESS on the symptom profile in patients with CRS. The advent of the Endoscope has enabled earlier detection and less traumatic and more precise surgical treatment of disease presenting with nasal polyps. The concept FESS offers individualizes surgery according to the respective patient's disease and routine radical surgical procedures can be avoided with good functional results.

The most common symptom in our study was Nasal Obstruction (89%). 89.9% of our patients in the study were symptom free with very good relief at the end of 6 month follow up and the findings are

consistent with those of other studies done by Nasser A Fageeh [6], Ling FT, Kountakis SE [7].

In our study, there were no major complications recorded. The most common minor complications were post-operative bleeding (19%) which was managed successfully with nasal packing. Synechiae (15%) were the next common complications which were released during post-operative follow up.

CONCLUSION:

The study was undertaken with the objective of assessing the effect of FESS on the symptom profile in patients with Chronic Rhino Sinusitis. The majorities of the patients were in the third decade and were predominantly male. The most common symptom pre operatively was Nasal Obstruction followed by Nasal Discharge, Hyposmia/Anosmia, Headache, Facial pain/pressure respectively. Post FESS, Nasal Obstruction (91%) responded most with the surgery. Majority of the patients (89.9%) reported significant improvement in their symptoms after FESS. This proves that FESS is an excellent form of treatment for CRS.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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