

Original article:

Comparison between conservative approach and endoscopic surgery for chronic Rhinosinusitis

Sonawale S.L*, **Jain D.M****, **Saranga Burgute*****, **Vijay Rout******

* Assoc Prof. , Dept. of ENT, BJ Medical College, Pune

** Former Asst. Prof. Dept. of ENT, D.Y. Patil Medical College, Pune.

*****SR** , Dept. of ENT, BJ Medical College, Pune

**** **JR** , Dept. of ENT, BJ Medical College, Pune

Corresponding author **

Abstract

Aim: The aim of this prospective, randomized, controlled trial is to evaluate and comparing the medical and surgical treatment of chronic rhinosinusitis.

Methodology: This prospective study was carried out at a tertiary care hospital. A total of 50 with rhinosinusitis symptoms for atleast 12 consecutive weeks(aged between 18-75 years) were included in study. Patients were randomly distributed into groups receiving medical and surgical treatment. Patients in each group were categorized in 2 categories A and B based on Lund Mackay radiologic staging system(LMS). Results were compared using Visual analogue scale(VAS).

Results: In group A both medical and surgical treatment are equally effective. In group B, medical treatment was much less effective than surgical treatment. Patients with higher Absolute eosinophilic count had poor response to therapy, as assessed on visual analogue scale.

Conclusion: This study provides evidence that the preferred therapy for chronic rhinosinusitis varies with extent of involvement of various sinuses. Individuals with Lund Mackay score between 3 to 12 should be initially targeted with medical treatment including oral amoxicillin-clavulanate and antihistaminic with decongestant nasal drops for 7 days; followed by steroid nasal spray and alkaline nasal douching for 3 months. Cases refractory to medical treatment should be considered for surgery. Individuals with score between 13 to 24 should be considered for functional endoscopic sinus surgery(FESS) followed by medical therapy for 3 months.

Keywords: Chronic rhinosinusitis, Lund Mackay score, FESS.

INTRODUCTION

Chronic rhinosinusitis (CRS) affects 1 in 8 people in India; about 5-15% of urban population. The prevalence of sinusitis has been reported to exceed that of any other chronic condition and is apparently on the increase. It contributes to a significant amount of health care expenditure. Patients with chronic rhinosinusitis also suffer from poor quality of life and the disease is often associated with other co- morbid conditions such as asthma, eczema, otitis media.

It is surprising that the definition, pathophysiology, microbiology and consequently the treatment of CRS have remained a source of debate. As a consequence, many medical and surgical therapies have been used to treat CRS. Medical therapy includes antimicrobials, corticosteroids, decongestants, antihistamines, mast cell stabilizers, nasal

douching, immunotherapy and reduction of environmental factors. The documentation of medical treatment of CRS is deficient in literature , apart from few randomized, controlled trials investigating the role of corticosteroid in CRS with nasal polyposis.(1-3)

On the other hand , endoscopic sinus surgery has yielded excellent subjective (4-6) and objective outcomes(7-9), with a very low complication rate. The high success rate, the low incidence of complications and technological advances in optical instrumentation and imaging techniques in presence of poor documentation of medical therapy has made endoscopic sinus surgery the primary therapy for CRS. To address this deficiency, the present study has been designed to evaluate and compare surgical and medical treatment of CRS.

MATERIAL AND METHODS

This prospective study conducted between January 2009 to June 2010 included 50 patients with atleast two of the following symptoms for atleast 12 consecutive weeks(nasal obstruction, nasal discharge, facial pain, headache, olfactory disturbance, recurrent sneezing). Patients with systemic diseases affecting nose, tumour, structural abnormalities were excluded. The individuals included in the study were recruited from the ENT Dept. of a tertiary care centre.

The study was approved institutional research ethics committee and granted permit. Written informed consent was taken from each patient before including them in our study.

Patients were asked about their nasal symptoms before and at each post treatment visit. Symptoms were scored on Visual analogue scale between 0 to 10.

Each patient in both the medical and surgical treatment group was again divided into 2 groups Lund Mackay radiological scoring system(LMS). Group A (LMS between 3 to 12) and group B (LMS between 13 to 24)

Initial medical treatment with tablet amoxycillin clavulanate, tablet ebastine, oxymetazoline nasal drops for 7 days was given to the patients in both the groups.

Patients in medical treatment group were given 3 months course of alkaline nasal douche, intranasal steroid; fluticasone or mometasone spray.

Functional endoscopic sinus surgery(FESS) was performed in all patients in surgical treatment group under general anaesthesia. Extent of procedure was tailored to extent of sinus disease.

Patients were followed at 3 months and at 6 months.

SINUS SYSTEM	LEFT	RIGHT
Maxillary (0/ 1 / 2)		
Anterior ethmoids (0/ 1/ 2)		
Posterior ethmoids (0/ 1/ 2)		
Sphenoid (0/ 1/ 2)		
Frontal (0/ 1/ 2)		
Osteimeatal complex (0/ 2)		
Total points		

(0, no abnormalities; 1, partial opacification; 2, total opacification)

Table 1 : Lund Mackay radiological scoring system(LMS).

RESULTS

- Improvement in nasal blockage was significant in both the groups(group A and B) for medical and surgical treatment categories.
- Improvement in nasal discharge was statistically significant in both the groups (group A and B) for medical and surgical treatment categories.
- Improvement in headache was statistically significant in both the groups (group A and B) for medical and surgical treatment categories.
- In group A medical and surgical treatment was equally effective while in group B patients, medical treatment was less effective than surgical treatment.

		NASAL BLOCKAGE	NASAL DISCHARGE	HEADACHE
GROUP A	PRE TREATMENT	3.46	4.23	2.92
	POST TREATMENT	0.92	0.77	0.46
GROUP B	PRE TREATMENT	7.67	3.26	5.0
	POST TREATMENT	5.08	2.613	2.75

Table 2: Medical treatment group.

		NASAL BLOCKAGE	NASAL DISCHARGE	HEADACHE
GROUP A	PRE OP	4.17	2.261	1.5
	POST OP	0.17	0.674	0.08
GROUP B	PRE OP	7.62	4.501	3.3
	POST OP	1.46	2.959	0.77

Table 3: Surgical treatment group

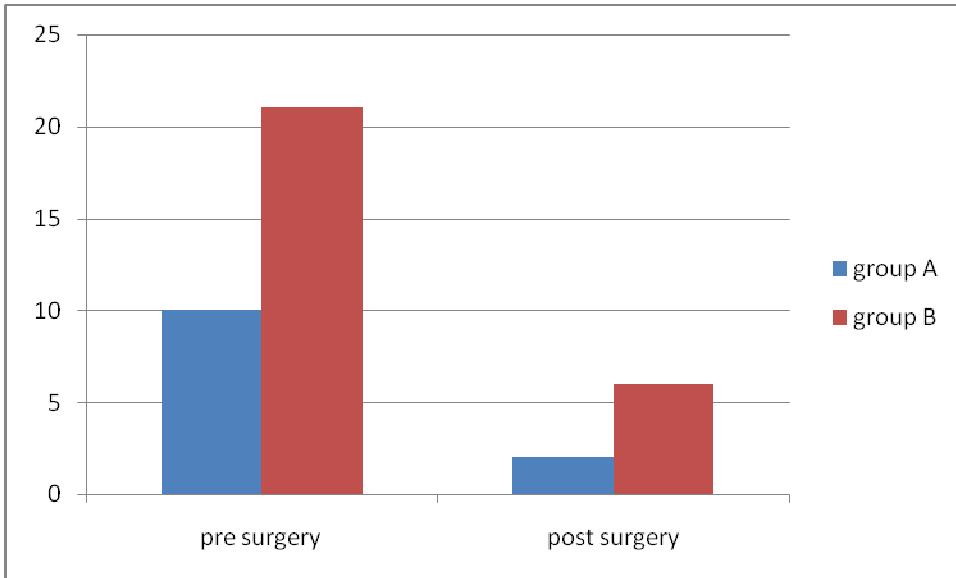


Figure 1: Comparison of Total score

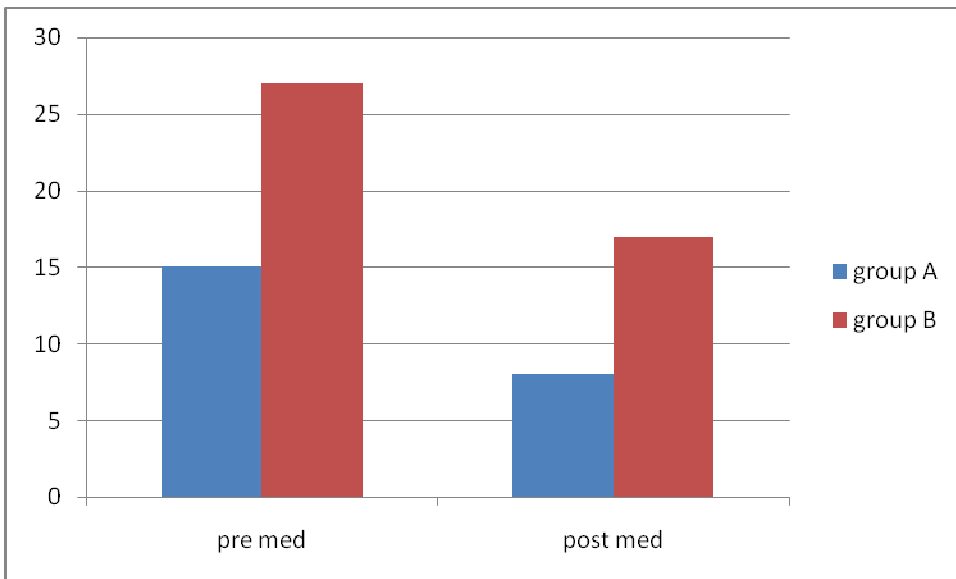


Figure 2 : comparison of Total score

DISCUSSION

Chronic rhinosinusitis (CRS) affects 1 in 8 people in India; about 5-15% of urban population. The prevalence of sinusitis has been reported to exceed that of any other chronic condition and is apparently on the increase.

The high success rate, the low incidence of complications and technological advances in optical instrumentation and imaging techniques in presence of poor documentation of medical therapy has made endoscopic sinus surgery the primary therapy for CRS. To address this deficiency, the present study has been designed to evaluate and compare surgical and medical treatment of CRS.

In present study we have used subjective symptoms to assess the efficacy of medical and surgical treatment in CRS. Patients with higher eosinophilic count had poor response to therapy as assessed on visual analogue scale.

In present study, medical regimen- 3 months course of alkaline nasal douche and topical steroids appears to be effective in group A i.e, patients with LMS score 3-12(mild to moderate CRS).

If therapy is giving >50% relief then it is considered as index of efficacy.

For group A patients both medical and surgical treatment was equally effective.

For group B patients medical treatment is less effective than surgical treatment.

Blomqvist et al (10) studied the additive effect of endoscopic sinus surgery for CRS with polyposis over topical steroids. They claimed additional effect of surgery on nasal obstruction but on sense of smell, although a significant worsening in nasal obstruction was seen at 3 months and 6 months.

In our study, Endoscopic sinus surgery significantly improved the subjective symptoms in both the groups in follow up. Other studies described similar improvement in subjective (4-6) objective (7-9) measurements after FESS.

CONCLUSIONS

- Individuals with LMS score from 3 to 12 should be initially targeted with maximal medical therapy including oral amoxicillin clavulanate and antihistaminic with decongestant drops for 7 days; followed by steroid nasal spray and nasal douche for 3 months. After this ,patient should be assessed and surgery considered in those cases refractory to medical therapy.
- Individuals with LMS score between 13 to 24 should be considered for endoscopic sinus surgery after adequate medical treatment.
- Functional endoscopic sinus surgery is effective in all cases. However, to avoid cost, potential complications, burden of surgery, FESS should be opted in cases with LMS > 12.

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