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Research Article

A COMPARATIVE STUDY BETWEEN MEDICAL AND SURGICAL TREATMENT OF CHRONIC RHINO SINUSITIS

Maheswara Reddy N[1], Arun Subhash Reddy P[2]*

[1]Assistant Professor of ENT, Sri Lakshmi Narayana Institute of Medical Sciences, Pondichery, India
[2]Assistant Professor of Ophthalmology, Sri Lakshmi Narayana Institute of Medical Sciences, Pondichery, India.

ABSTRACT

The clinical therapy of chronic rhinosinusitis with polyps (CRSwP) comes with difficulties. To inform treatment decisions based on evidence, this retrospective study compares medical management results to those of a combination of surgical and medical management for CRSwP. In setting of severe scarcity of Indian literature on impact of disease and whether there should be any variation in treatment in view of tropical climate, with this study. Our aim is Comparison of symptomatic relief after surgical and medical treatment of chronic rhino sinusitis and Comparison of recurrence rate after surgical and medical treatment. Maximal medical therapy found superior to functional endoscopic sinus surgery in CRS. More symptomatic improvement achieved by maximal medical therapy than surgery in CRS. CRS should be initially targeted with maximal medical therapy and surgery should be considered only if maximal medical therapy fails. Pre-operative and post-operative maximal medical therapy decrease recurrence rate after sinus surgery and improve outcomes of sinus surgery. Though immunotherapy was not included in this study it may give better result in CRS especially in those cases associated with allergic component.

Keywords :-Chronic Rhinosinusitis , medical management, surgical management, treatment outcomes.

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INTRODUCTION

Chronic rhinosinusitis (CRS) in children is defined as more than 3 months of two or more symptoms of purulent rhinorrhea, nasal obstruction, facial pressure/ pain, or cough, and either endoscopic signs of mucosal edema, purulent drainage, or nasal polyposis, and/or CT scan changes showing mucosal changes within the ostiomeatal complex and/or sinuses in a pediatric patient aged 18 years or younger Chronic Rhinosinusitis with nasal polyps is one of the subsets of Chronic Rhinosinusitis spectrum disorders and one of the most frequently occurring chronic disorders worldwide.[1]CRS is defined as a diagnosis made on clinical grounds based on the presence of characteristic symptoms combined with objective evidence of mucosal inflammation. It is phenotypically divided into those cases with polyps (CRSwNP) and those without (CRSsNP) based on endoscopic findings.[2] There is severe dearth of literature depicting prevalence of CRS in India, although few studies suggest it to affect 11% of worldwide population. [1,3] Medical treatment, surgical intervention, or a hybrid are often used to treat CRSwP. Medical therapy, including corticosteroids, saline irrigation, and antibiotics in cases of infection, is recommended as the first step according to current standards [4].

In severe cases of polypoid disease or when medication treatment has failed to alleviate symptoms, surgery, such as Endoscopic Sinus Surgery (ESS), is often suggested. However, there is still debate over the best way to treat CRSwP, especially in milder cases

Corresponding Author: **Arun Subhash Reddy P** Email: drpebyreddy@gmail.com

where medication alone is adequate.

Most cases of CRSwP are treated medically with intranasal corticosteroids, saline irrigation, and antibiotics. The removal of polyps, the correction of structural issues, and the improvement of sinus outflow, however, often need the use of ESS as part of surgical therapy. When choosing amongst these approaches, a number of factors, such as the intensity of symptoms, the severity of the ailment, patient preference, and practitioner experience, should be taken into account [5].

There is level I evidence present that strongly recommends use of Intranasal Corticosteroid sprays (INCS) in cases of CRSwNP. Although, there is also plenty of evidence suggesting that both subjective and objective improvement was significant in cases of CRSwNP who underwent Endoscopic Sinus Surgery first and then continued with INCS as compared to cases who did not undergo surgery. [2,6-9] However, high quality level I evidence in this regard is still lacking and ambiguity persists. Which affect the mucosa of nose and Para nasal sinuses (PNS). The prevalence and incidence of the condition is showing an increasing trend worldwide [1-5].

Our study aim is Comparison of symptomatic relief after surgical and medical treatment of chronic rhino sinusitis And Comparison of recurrence rate after surgical and medical treatment.

MATERIAL AND METHODS

The prospective randomized study was conducted at the department of Otorhinolaryngology, Sri Lakshmi Narayana Institute of Medical Sciences, Pondichery. Total 100 patients were enrolled. Out of which 50 patients treated with medical treatment were compared with 50 patients who were treated with the surgical treatment. In the comparison groups the selection of the patients was done on the following basis:

Detailed history will be taken followed by complete ENT examination, after clinical diagnosis of CRS, patients were investigated by doing CT scan of NOSE AND PNS / X-ray PNS & Diagnostic Nasal Endoscopy, in first group 50 patients given maximal medical therapy up to 4-6 weeks which include oral antibiotics, oral antihistamines + decongestant, oral steroids, topical intranasal steroid spray and nasal saline douching/spray. After that topical steroid spray, oral antibiotics and nasal saline douching/spray will be continued up to 3 months. Oral anti-leukotriene and avoidance of allergens are advised in patients with history of allergy. In second group 50 patients was surgically treated by FESS with or without septoplasty after giving 15 days of oral antibiotics, oral steroids, intranasal steroids spray, oral antihistamines and decongestant .Similar treatment was given post operatively up to 15 days, After that all the cases were followed at 1 month and at 3 month, Outcome will be measured in terms of the number of cases being improved in symptoms and number of cases having a recurrence of disease/symptoms following the procedure, Subjective assessment was done as per The Lund and Mackay staging system: symptom score (Visual analogue method).

0 symptoms not present,0-10 degree of symptom severity,10 indicating greatest severity

Inclusion Criteria:

12 weeks or greater of persistent symptoms and signs, Meet 2 of 5 major criteria, Headache, Facial pain/pressure, Nasal congestion/ obstruction, Nasal discharge, Anosmia/Hyposmia, Persistent changes in CT SCAN/X-RAY for weeks after initial 15 days medical therapy.

Exclusion Criteria:

Pregnant or lactation. Significant psychological problem, Inability to comply with study protocol. Children under 16 years of age, Use of systemic corticosteroids, Systemic diseases preventing participation in the study, Medical or surgical treatment influencing the study.

Results:

We conducted a randomized prospective study at the department of ENT – Head & Neck surgery at Sri Lakshmi Narayana Institute of Medical Sciences, Pondichery. Total 100 patients were enrolled.

Table1: Total 100 patients were enrolled. The data analysis is shown below.

GROUP	TREATMENT	NOOF CASES
GROUPA	MAXIMALMEDICALTHERAPY	50
GROUPB	SURGICAL(FESS+/-SEPTOPLASTY)	50

Table2: Age distribution

Age (Year)	No of cases
16-20	25
21-30	31
31-40	17

41-50	12
51-60	7
>60	8
TOTAL	100

Table3: GENDERDISTRIBUTION

Gender	No of cases in surgical treatment	No of cases in medical treatment	Total
Male	26	19	45
Female	24	31	55

Table4: SYMPTOMATOLOGY

Complains	No of cases
Nasal blockage	100
Nasal discharge	96
Facial pain	44
Facial congestion	21
Hyposmia/anosmia	38
Headache	54
Sneezing	40
Itching	24

Table5: Comparison of reccurance/ Relapsrate between medical and surgical treatment

Treatment	Total cases	No of recurrence	Percentage
Surgical	50	8	16 %
Medical	50	5	10%

Table 6: Representation 0f Recurrence rate rate of symptom improvement

Treatment	Total cases	No of cases	Percentage%
Surgical	50	43	86
Medical	50	47	94

DISCUSSION

Children with asthma, exposure to tobacco smoke, or children over the age of 12 years benefited least from adenoidectomy alone, and endoscopic sinus surgery (ESS) is another option for such a patient. Many options are available for treatment, but it is not known as to which modality can act better than the other. The effect of adenoidectomy is controversial because randomized studies have failed to prove that adenoidectomy alone is sufficient in curing CRS. There is still disagreement about the type of surgical intervention that is appropriate. Adenoidectomy and functional endoscopic sinus surgery have both been recommended as surgical options. Some authors suggest that sinus washes through a middle meatal antrostomy should be considered at the time of adenoidectomy. However, which children will benefit from this intervention is not known. In the current study, adenoidectomy can afford improvement to children with refractory CRS, but more efficacies can be gained when combined with ESS than MM maxillary washout. The improvement of children after adenoidectomy is expected, as the adenoids act as a barrier causing mechanical obstruction and a nidus for chronic sinus infection.

Chronic Rhinosinusitis has always been an enigma for Otorhinolaryngologists since the entity was explained way back in late 90s. [10-12] After more than two decades since the disease is known, we are still theorizing about its etiopathogenesis, definitive treatment and follow up. Among many metanalyses in the plethora of literature, European Position Paper on Rhinosinusitis and Nasal Polyps (EPOS) remains the one the pioneer publication which has tried to readdress the issue and tried to offer some clarifications on diagnosis, [1, 2] but still, lacunas in treatment protocols and follow up schedule are overwhelming. Moreover, there is a serious lack of Indian perspective over such collation of multicentric trials and metanalyses in setting of having tropical climate and thus abundance of allergic etiopathology of Chronic Rhinosinusitis further widening the grey areas.

In the present study maximum study population were in age group 21-30 years constituted 31% of

population, followed by age group 16-20 years constituted 25% of population. In Ishwar Singh et al study , 40% of CRS patients were in 18-25 age group,26.66% in 26-35 group, 6.66% in 36-45 group, 23.33% in 46-55 group and 3.33% in 55-65 age group. Two-third of patients were found in below 35 age group.[13]

In the present study out of the 100 patients 55 were females (55%) and 45 were males (45%). In present study male: female ratio was 1:1.22. According to Ishwar Singh et al., male: female ratio was 1:1.14.[13].In the present study nasal obstruction was the most common symptom that affected100% of patients followed by nasal discharge 96%, headache 54%,facial pain 44%, sneezing 40%, Hyposmia/anosmia 38%, itching 40% and facial congestion. In Ishwar Singh et al study headache was most common complain, found in 80% of patients followed by nasal blockage 76.66%, hyposmia/ anosmia 46.66%, nasal discharge 43.33%, facial pain 40%, sneezing 40%.[13]

When compared to the medical management group, the combined management group experienced considerably greater rates of alleviation of symptoms, lower recurrence rates of nasal polyps, and a longer period of symptom relief This data suggests that a combination of surgical and pharmacological interventions would yield superior results for people with CRSwP. These findings have important implications for clinical decision making because they imply that surgical surgery may assist certain patients with CRSwP. To validate the findings and help guide decisions regarding treatment in clinical practice, more study is required. This holds truest for future research and cost-benefit analyses.

In the present study recurrence/relaps rate more in surgical method (16%) compare to medical treatment (10%). In the present study improvement of symptoms more in medical treat
ment(94%) than surgical treatment (86%). Subramanian et al found that 69% of patients were achieved symptomatic improvement by maximal medical therapy.[14] Devyani Lal et al concluded that maximal medical therapy successful in 51%, failed in 31% and surgery was avoided in 69% patients. [15] According to Ishwar Sing et al 83.3% of patients were achieved symptomatic improvement after sinus surgery.[10]

CRSwP treatment recommendations should ultimately be based on the patient's views and the level of severity of their condition. In line with prior studies, we found that surgical intervention significantly improved symptom improvement rates, reduced recurrence of nasal polyps, and provided long-term relief for patients with severe CRSwP. Patients,symptoms, and co-occurring conditions must all be considered while developing a treatment plan.

Mainstay treatment of both variants of Chronic Rhinosinusitis remains intranasal corticosteroid sprays (INCS). In cases of Chronic Rhinosinusitis with Nasal Polyps (CRSwNP), treatment with INCS alone is insufficient and role of combined medical and surgical management, though debated, starts. Conservative surgery in carefully selected cases of CRSwNP provides significant improvement in quality of life of patients.However, perioperative management with INCS holds more importance as long term post-surgical results depends on it.

CONCLUSION

Maximal medical therapy found superior to functional endoscopic sinus surgery in CRS. More symptomatic improvement achieved by maximal medical therapy than surgery in CRS. CRS should be initially targeted with maximal medical therapy and surgery should be considered only if maximal medical therapy fails. Pre-operative and post-operative maximal medical therapy decrease recurrence rate after sinus surgery and improve outcomes of sinus surgery. Though immunotherapy was not included in this study it may give better result in CRS especially in those cases associated with allergic component.

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