



ORIGINAL RESEARCH PAPER

ENT

EFFECTIVENESS OF FUNCTIONAL ENDOSCOPIC SINUS SURGERY IN TREATMENT OF ADULT CHRONIC RHINOSINUSITIS REFRACTORY TO MEDICAL MANAGEMENT

KEYWORDS: Functionl Endoscopic Sinus Surgery ,Adult Chronic Rhinosinusitis.

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ABSTRACT

This prospective study was conducted on 50 patients chronic rhinosinusitis patients attending the outpatient department of ENT in MGM Hospital, Kamothe, Navi Mumbai 21 to 30 years (46%) was the most common age group amongst population followed by 31 to 40 years (22%) and 41 to 50 years (16%).The mean age of the study population was 35.04 ± 14.06 years .Female (54 %) were predominantly higher than male (46%) amongst population.Asthma (18%) and diabetes (18%) was the most common illness amongst study population.Nasal obstruction (86%) , Anosmia (76%) , Facial pain/pressure (72%) and PND (70%) was the most common preoperative respiratory symptoms amongst study population.On PCCT and PNS findings (Right) complete involvement was present most commonly in Anterior ethmoid (40%) , posterior ethmoid (34%) and frontal (22 %) while partial involvement was present most commonly in Anterior ethmoid (34%) , posterior ethmoid (28%) and frontal (22 %) amongst study population .On PCCT and PNS findings (Left) complete involvement was present most commonly in Anterior ethmoid (42%) , posterior ethmoid (32%) frontal (16%) and maxillary (16%) Uncinectomy (94%) was the most common type of FESS followed by anterior ethmoidectomy (78 %) .Complications like synechia was present in 6 % of study population Post operative improvement in respiratory symtoms like Nasal obstruction , Anosmia , Nasal discharge, Facial pain/pressure. Headache, PND, halitosis, and dental pain was 86.05% , 86.84 % , 84% , 94.44% , 87.5%,100% , 100%,100% respectively. 94 % of study population were satisfied with FESS surgery.

Introduction

Chronic Rhinosinusitis is a quite common disease of nose and paranasal sinuses seen globally. Its one of the most common health care problems for which an individual seeks medical care resulting in high direct medical cost. Estimates suggest that chronic rhinosinusitis is more widespread than arthritis and hypertension, diabetes mellitus and cardiovascular diseases. After diagnosis and failure of conservative therapy, Functional Endoscopic sinus surgery is the preferred treatment of chronic rhinosinusitis. In present days functional endoscopic sinus surgery is the procedure of choice for patients who fail to respond to medical treatment.

Therefore we attempted this study to determine the effectiveness of functional endoscopic sinus surgery for individual symptoms in refractory chronic rhinosinusitis.

Aims & Objectives

To determine the effectiveness of functional endoscopic sinus surgery for individual symptoms and to confirm functional endoscopic sinus surgery as the standard modality of treatment in refractory chronic rhinosinusitis.

Material and Methods

This is prospective study on patients attending the outpatient department of ENT in MGM Hospital, Kamothe, Navi Mumbai. Carried over a period of 2 years between 2015-2016 .Patients included in the study were those who had satisfaction of established clinical criteria for the diagnosis of chronic rhinosinusitis, Age between 18 to 60 years, Confirmatory radiographic evidence of chronic rhinosinusitis estimated using CT scan, Medical refractoriness of chronic rhinosinusitis demonstrated by persistent symptoms. Patients excluded from the study were the Patients undergoing endoscopic sinus surgery for inverted papilloma or other sinonasal tumors. Revision and recurrent cases. A prestructured proforma was used to record the relative information like patient data, clinical findings, Respiratory Symptom Index, which catalogues major and minor symptoms of chronic rhinosinusitis on a 6 point likert scale (0 – symptom absent and 5 – very severe). Each patient underwent endoscopic sinus surgery with a standard technique. The extent of surgery is determined according to the preoperative CT scan and the nasal endoscopy. After the surgery postoperative management with

medical therapy is determined. In all instances patient is maintained on antibiotics, antihistaminics for 1 week.

At a minimum of 3 weeks after the surgery, patients will be subjected to postoperative RSI. Symptom domain scores are computed for preoperative and postoperative inventories.

Results

Table no 1- Age distribution amongst study population

Age group	Frequency	Percent
Valid 11 to 20 years	3	6.0
21 to 30 years	23	46.0
31 to 40 years	11	22.0
41 to 50 years	8	16.0
51 to 60 years	5	10.0
Total	50	100.0

In this study it was observed that 21 to 30 years (46%) was the most common age group amongst population followed by 31 to 40 years (22%) and 41 to 50 years (16%).The mean age of the study population was 35.04 ± 14.06 years

Table no 2-Sex distribution amongst study population

Sex	Frequency	Percent
Valid Female	27	54.0
Male	23	46.0
Total	50	100.0

Females (54 %) were predominantly higher than male (46%) amongst population

Table no 3- History of relevant illness amongst study population

history of relevant illness	Frequency	Percent
Valid absent	30	60.0

Asthma	9	18.0
Diabetes Mellitus	9	18.0
Hypertension	2	4.0
Total	50	100.0

Asthma (18%) and diabetes (18%) were the most common illness.

Table no 4- Respiratory symptoms (preop) amongst study population

Respiratory symptoms (preop)	Present		Absent	
	Frequency	Percent	Frequency	Percent
Nasal obstruction	43	86	7	14
Anosmia	38	76	12	24
Nasal discharge	25	50	25	50
Facial pain/pressure	36	72	14	28
Headache	8	16	42	84
PND	35	70	15	30
Halitosis	3	6	47	94
Dental pain	3	6	47	94

Nasal obstruction (86%), Anosmia (76%), Facial pain/pressure (72%) and PND (70%) was the most common preoperative respiratory symptoms.

Table no 5- PCCT and PNS findings (Right) amongst study population

PCCT and PNS findings	Right		
	Complete	Partial	Normal
Anterior ethmoid	20 (40%)	19 (38%)	11 (22%)
posterior ethmoid	17 (34%)	14 (28%)	19 (38%)
Maxillary	10 (20%)	16 (32%)	24 (48%)
Frontal	11 (22%)	11 (22%)	28 (56%)
Sphenoid	6 (12%)	6 (12%)	38 (76%)

On PCCT and PNS findings (Right) complete involvement was present most commonly in Anterior ethmoid (40%), posterior ethmoid (34%) and frontal (22%) while partial involvement was present most commonly in Anterior ethmoid (34%), posterior ethmoid (28%) and frontal (22%) sinuses.

Table no 6-PCCT and PNS findings (Left) amongst study population

PCCT and PNS findings	left		
	Complete	Partial	Normal
Anterior ethmoid	21 (42%)	21 (42%)	8 (16%)
posterior ethmoid	16 (32%)	15 (30%)	19 (38%)
Maxillary	8 (16%)	14 (28%)	28 (56%)
Frontal	8 (16%)	10 (20%)	32 (64%)
Sphenoid	5 (10%)	5 (10%)	40 (80%)

In this study on PCCT and PNS findings (Left) complete involvement was present most commonly in Anterior ethmoid (42%), posterior ethmoid (32%) frontal (16%) and maxillary (16%) while partial involvement was present most commonly in Anterior ethmoid (42%), posterior ethmoid (30%) and frontal (28%) amongst study population

Type of FESS amongst study population

In this study it was observed that uncinectomy (94%) was the most common type of FESS followed by anterior ethmoidectomy (78%) and posterior ethmoidectomy (62%) amongst study population.

Complications amongst study population
In this study it was observed that complications like synechia was present in 6% of study population.

Respiratory symptoms (postop) amongst study population

There was decrease in respiratory symptoms (postoperatively) like Nasal obstruction (12%), Anosmia (10%), Facial pain/pressure (8%) and PND (0%) amongst study population

Final Outcome amongst study population

Final Outcome		Frequency	Percent
Valid	No change	3	6.0
	Satisfied	47	94.0
	Total	50	100.0

In this study it was observed that Final Outcome was satisfied in 94% of study population

Discussion

Chronic Rhinosinusitis (CRS) is a group of disorders characterized by inflammation of the mucosa of the nose and paranasal sinuses of atleast 12 consecutive weeks duration, thus becoming one of the most common disorders of the upper airways. Patients of CRS typically present with various symptoms including nasal obstruction, post nasal drip, headache, rhinorrhea and olfactory disturbance with a considerable impact on the quality of life.

Medical therapy forms the mainstay of management in CRS, but when this fails to improve symptoms or in the presence of actual or impending complications, surgery is usually considered. Endoscopic sinus surgery (ESS) is now considered standard practice, with open approaches rarely considered in uncomplicated disease.

In the present study, the most common age group amongst was 21 to 30 years (46%) followed by 31 to 40 years (22%) and 41 to 50 years (16%) with the mean age of the study population was 35.04 ± 14.06 years this findings correlate well with the study conducted by N.Bhattacharyya, 2004 in which mean patient age was 41.0 years In the present study it was observed that female (54%) were predominantly higher than male (46%) amongst population with female-male ratio of 1.17:1. Similarly in the study conducted by N. Bhattacharyya1, 2004 female-male ratio was 2:1.

In the present study, the most common respiratory symptoms amongst study population was Nasal obstruction (86%), Anosmia (76%), Facial pain/pressure (72%) and postnasal drip (70%). This findings correlate well with the study conducted by T. Shivakumar et al, 20112 in which the most commonest symptom was, nasal block (86.66%), followed by anosmia (77.14%), facial pressure (73.33%), postnasal drip (70.47%).

It's inferred from the observation that CRS is a bilateral disease affecting the PNS on both sides. Most patients had bilateral symptoms. In the present study, on PCCT and PNS findings (Right & left) complete involvement was present most commonly in Anterior ethmoid (40% & 42%), posterior ethmoid (34% & 32%) and frontal (22% & 16%) while partial involvement was present most commonly in Anterior ethmoid (34% & 42%), posterior ethmoid (28% & 30%) and frontal (22% & 28%) amongst study population. Similarly in the study conducted by T. Shivakumar et al., 20112, complete and partial involvement was observed most commonly in Anterior ethmoid and posterior ethmoid.

In the present study, the most common type of FESS was uncinectomy (94%) was followed by anterior ethmoidectomy (78%) and posterior ethmoidectomy (62%) amongst study population. Similarly in the study conducted by T. Shivakumar et al, 20112 the cost common procedure was uncinectomy (97.14%) followed by anterior ethmoidectomy (90.47%), middle meatal antrostomy (83.80%), posterior ethmoidectomy (73.33%), frontal recess surgery (36.19%) and sphenoidotomy (33.33%)

In the present study it was observed that complications like synechia was present in 6 % of study population. In this study it was observed that there was decrease in respiratory symptoms (postoperatively) like Nasal obstruction (12%), Anosmia (10%) , Facial pain/pressure (8%) and PND (0%) amongst study population. In our study the percentage post operative improvement in respiratory symptoms like Nasal obstruction , Anosmia , Nasal discharge, Facial pain/pressure. Headache, PND, halitosis, and dental pain was 86.05% , 86.84 % , 84% , 94.44% , 87.5%,100% , 100%,100% respectively. This findings correlate well with the study conducted by T. Shivakumar et al, 2011², post operatively 87.01% of the nasal obstruction showed improvement. 87.87% of them with headache had improvement. 86.41% with anosmia, 87.01% with facial pressure/pain, 86.48% with post nasal drip and 85.24% with purulent nasal discharge, showed improvement after surgery. These findings are consistent with those of the other series.

Post operative healing time was on an average 4–7 weeks, few of them required 10 weeks, during which time patient required regular office visits to remove crusts/debris or to look out for recurrences.

In the present study it was observed that 94 % of study population were satisfied with the surgery. This findings correlate well with the study conducted by T. Shivakumar et al, 2011² in which the overall patient satisfaction postoperatively at the end of 6 months was 86.66%.

Conclusions

Chronic rhinosinusitis is a significant health problem resulting in innumerable medical cost and severe impact on health related quality of life. As the diagnosis of chronic rhinosinusitis is predicated on symptom criteria elaborated by task force on rhinosinusitis, determining the success or failure of treatment regimen for chronic rhinosinusitis should naturally be based on evaluation of symptom relief supplemented by quality of life assessment. Such information on symptom improvement would be useful in counselling the patients who have specific bothersome symptoms from chronic rhinosinusitis with respect to likelihood that such symptoms will respond to endoscopic sinus surgery. Endoscopic sinus surgery is clinically effective for the treatment of medically refractory rhinosinusitis. Major CRS symptoms can be expected to improve significantly after ESS. Similarly, ESS provides substantial improvement in the nasal, facial, and total symptoms due to CRS.

References

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