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Original Article

Quality of Life after Functional Endoscopic Sinus Surgery in Patients with Chronic Rhinosinusitis at Tertiary Care Hospital

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ABSTRACT

Background: *Chronic rhinosinusitis (CRS) is a pathogenic disease of infection commonly affected the ear, nose and throat. Chronic Rhinosinusitis (CRS) has a serious negatively impact over quality of life of patients. Quality of life, nature of job and environmental conditions are the primary reasons of spread of rhinosinusitis. Most of the symptoms of CRS are not life threatening but generally these leads to poor quality of life by affecting the efficiency of individuals.*

Methods: *This prospective study was conducted in the department of ENT in tertiary care hospital among the 50 patients with clinical presentation, endoscopy examination and CT-scan changes of chronic rhinosinusitis (CRS) without a polyp. The history of the patients were taken and then the different ENT examinations were done like endoscopic examination of the nose and CT-scan imaging. All the surgeries like uncinectomy, middle meatal antrostomy, anterior and posterior ethmoidectomy, or opening of the sphenoid sinus were performed under general anesthesia with orotracheal intubation and hypotensive technique. All the patients were regularly given the postoperative antibiotic and nasal steroid treatments and reviewed regularly. Sinonasal Assessment Questionnaire - 11 (SNAQ-11) were used for the collection of data because this questionnaire contains 11 questions covering most of the symptoms of sinonasal diseases.* ***Results:*** *'Total 50 patients were included in this study among them 32 (64%) were male and 18 (36%) were females. All the patients was between 18-60 years among them 16 (32%) were the age group 25-35 years, followed by age group 35-45 years 14 (28%). The most common preoperative complaint of the patients was nasal obstruction (100%) patients, followed by nasal congestion (96%), facial pain (94%), running nose (90%), anterior nasal discharge (76%), and least complaint was sneezing (28%) and earache (28%).*

Conclusion*: The study concludes, this study shows the significant outcome of improvement in the quality of life of patients in all the three subgroups of chronic rhinosinusitis which can be assessed by using SNOT-11 questionnaire. The Functional endoscopic sinus surgery performed in patients with chronic rhinosinusitis has statistically significant with the association of improvement in the QoL after twenty 24 month follow up. There is paucity of data so more studies are required to the scientific evidence gathered on the effectiveness of surgery offered to our population, as seen in studies performed in other countries.*

Keywords: *Chronic Rhinosinusitis (CRS), Quality of Life, Functional Endoscopic Sinus Surgery (FESS), SNOT-11.*

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INTRODUCTION

Chronic rhinosinusitis (CRS) is a pathogenic disease of infection commonly affected the ear, nose and throat. Chronic Rhinosinusitis (CRS) has a serious negatively impact over quality of life of patients.[1] Quality of life, nature of job and environmental conditions are the primary reasons of spread of rhinosinusitis.[2] The quality-of-life health impact and cost of treatment of patients with CRS are notable and potentially staggering.[3] In addition to quality-of-life impact, medical resource consumption for the treatment of CRS is significant.

It is one of the top reasons for prescribing antibiotics and for reduced worker productivity.[4-7] Chronic RS (CRS) cases can be divided into those in which nasal polyps are present and

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those in which they are not present. Patients are differentiated based on clinical examination, histopathologic findings, interleukin profile, and prognosis.[8-9]

The cornerstone of accurate diagnosis and treatment of chronic rhinosinusitis (CRS) is a thorough history, complete physical examination including nasal endoscopy and computed tomographic (CT) analysis.[10] Functional surgical treatment by endoscopic sinus surgery (ESS) is presently the most preferred treatment for CRS and is based on the hypothesis that diseased sinonasal mucosa can get reverted if ventilation and drainage are improved, thus restoring mucociliary clearance.[11-13]

Most of the symptoms of CRS are not life threatening but generally these leads to poor quality of life by affecting the efficiency of individuals.[14-15] It is of great importance for the ENT surgeons to be able to demonstrate and evaluate the clinical effectiveness of functional endoscopic sinus surgery (FESS). For that purpose, a lot of "outcome measures" are used: Visual Analogue Score (VAS), Sino Nasal outcome Test (SNOT-20), Sino Nasal Assessment Questionnaire (SNAQ-11), Quebec French-Rhinosinusitis Outcome Measure (QF-ROM) and many others developed in different ENT departments.[16-18]

The most important parameter to determine the success of treatment of CRS is improvement in the quality of life of the patient which is crucial in the reassessment of RS treatment outcomes.[19] Quality of life is different from one's health status. Quality of life is not only referring to the improvement in health but also an emotional and behavioral smoothness in the patient. It is the unique personal experience that reflects not only one's health status, but also other factors and circumstances pertaining to the patient's life that only he/she can describe.[20] Functional endoscopic sinus surgery (FESS) is the treatment of choice for CRS patients not responding to drug therapy.[8]

METHODS

This prospective study was conducted in the department of ENT, TMMCRC, Moradabad (India) among the 50 patients with clinical presentation, endoscopy examination and CT-scan changes of chronic rhinosinusitis (CRS) without a polyp. The inclusion criteria included age 18-60 years and patient with CRS without polyp with the failure of medical treatment to resolve the condition for more than 12 weeks. The exclusion criteria were previous endoscopic sinus surgery, sinonasal tumors, congenital anomalies, immune deficiency, nasal polyposis and patients who refused to be enrolled in the study. The history of the patients were taken and then the different ENT examinations were done like endoscopic examination of the nose and CT-scan imaging. All the surgeries like uncinectomy, middle meatal antrostomy, anterior and posterior ethmoidectomy, or opening of the sphenoid sinus were performed under general anesthesia with orotracheal intubation and hypotensive technique. All the patients were regularly given the postoperative antibiotic and nasal steroid treatments and reviewed regularly.

Sinonasal Assessment Questionnaire - 11 (SNAQ-11) were used for the collection of data because this questionnaire contains 11 questions covering most of the symptoms of sinonasal diseases. The score of this questionnaire was based on the severity of symptoms which drag from (0-5), with 0 = no problem, 1 = very mild problem, 2 = mild to slight problem, 3 = moderate problem, 4 = severe problem, and 5 = problem as bad as it can be.

RESULTS

Total 50 patients were included in this study among them 32 (64%) were male and 18 (36%) were females. All the patients were between 18-60 years among them 16 (32%) were the age group 25-35 years, followed by age group 35-45 years 14 (28%). The most common preoperative complaint of the patients was nasal obstruction (100%) patients, followed by nasal congestion (96%), facial pain (94%), running nose (90%), anterior nasal discharge (76%), and least complaint was sneezing (28%) and earache (28%).

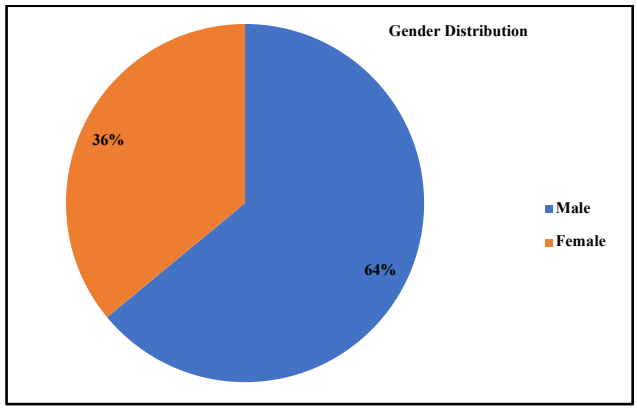

Figure 1: Gender Distribution of patients

Table 1: Gender and SNAQ-11 score

Gender	N=50	Pre-op. mean SNAQ score	Post-op. mean SNAQ score	Mean Difference	P value*
Male	32	39.314	13.087	26.23	0.319
Female	18	36.495	11.975	24.52	

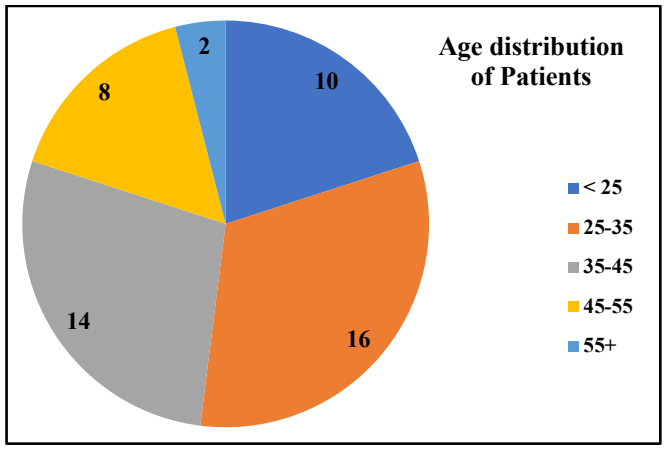

Figure 2: The figure shows the age distribution of patients.

Table 2: Age groups and SNAQ-11 score

Age	N=50	Pre-op. mean SNAQ score	Post-op. mean SNAQ score	Mean Difference	P value*
< 25	10	44.33	17.10	27.23	
25-35	16	39.71	12.68	27.03	
35-45	14	38.34	12.51	25.83	0.793
45-55	8	30.39	6.18	24.21	
55+	2	30.54	6.63	23.91	

Table 3: Prevalence of symptoms before & after surgery (FESS)

Symptoms	Pre-operative prevalence %	Postoperative prevalence %	P value*
Nasal obstruction	100	60	NA
Nasal congestion	96	58	<0.001
Running nose	90	58	<0.001
Facial pain	94	48	<0.001
Post nasal discharge	76	44	0.004
Reduced smell	88	56	0.004
Cough	42	26	0.50
Sneezing	28	18	0.50
Headache	78	52	0.008
Sleep disturbance / fatigue	74	50	0.008
Earache/Ear fullness	28	18	0.50

DISCUSSION

This prospective study was conducted in the department of ENT in tertiary care hospital among the 50 patients with clinical presentation, endoscopy examination and CT-scan changes of chronic rhinosinusitis (CRS) without a polyp.

The follow up duration of the present study was 24 months but in some similar studies follow up duration was conducted in various other places in Delhi (India, 2006) USA -(2010), China (2008) and Karnataka (India, 2002) were; 9, 36, 12, 24 and 31 months, respectively.[21-25] Total 50 patients were included in this study among them 32 (64%) were male and 18 (36%) were females. All the patients was between 18-60 years among them 16 (32%) were the age group 25-35 years, followed by age group 35-45 years 14 (28%).

The quality of life is correlated to the changes in endoscopic examination of CRS patients but the improvement of prognosis of postoperative nasal/sinus may explain for only a small portion of the QoL improvement seen after FESS.[24] The validated disease-specific QoL questionnaire for CRS patients - SNOT-20 - has been the most widely used of its kind in the world and has now been validated in the Portuguese language.[26]

The similar age distribution were studied in the USA in 2010 who found (30%) of patients belong to age group 21-30, and (27%) belongs to age group 31-40.[23] This may be due to young patients who are more concerned and interested in their health and therefore in their Quality of life. The most common preoperative complaint of the patients was nasal obstruction (100%) patients, followed by nasal congestion (96%), facial pain (94%), running nose (90%), anterior nasal discharge (76%), and least complaint was sneezing (28%) and earache (28%). The similar study done in Brazil which concluded more prevalent symptoms were the nasal obstruction (94%), postnasal discharge (86%), and reduced smell (63%). In other similar study, the study concluded with the nasal obstruction (92%), postnasal discharge (87%), and reduced smell (66%).[25] The study conducted in India at 2010, which concluded the most prevalent and general symptoms were postnasal discharge (95%), headache (91%), nasal discharge (90%), and nasal obstruction (86%).[22] Our finding is similar to the the study done by Bezzera TFP. et al. (2012).[26]

CONCLUSION

The study concludes, this study shows the significant outcome of improvement in the quality of life of patients in all the three subgroups of chronic rhinosinusitis which can be assessed by using SNOT-11 questionnaire. The Functional endoscopic sinus surgery performed in patients with chronic rhinosinusitis has statistically significant with the association of improvement in the QoL after twenty 24 month follow up. There is paucity of data so more studies are required to the scientific evidence gathered on the effectiveness of surgery offered to our population, as seen in studies performed in other countries.

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