

Original Research Article

Demographic details of the subjects frequently suffering from inflammatory sinonasal disease - A hospital based survey

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Abstract

Background: Chronic rhino sinusitis is a widely prevalent and significant health problem but still its etiology is not clearly understood. It is a heterogeneous condition with persistent inflammation of the mucosa of the sinuses. The present study was aimed at evaluating the characteristics of the subjects most frequently affected by inflammatory sinonasal disease.

Materials and methods: The present comparative study was conducted in department of ENT JSS Medical College and Hospital, Mysore from November 2012 to June 2014. A routine hemogram (HB, TC, DC, BT, CT and Platelet count) and urine examination (albumin, sugar, and microscopy) were done for the patients. All the patients in active stage of the disease were treated with course of suitable antibiotic, systemic antihistamines and local decongestants. All the data obtained was arranged in a tabulated form and analysed using SPSS software. Data was expressed as percentage of total data.

Results: There were 15 subjects (30%) that were aged between 18-25 years of age. Majority of subjects were in this age group. There were 18% (n=9) subjects between 26-30 years of age. There were 58% (n=29) males in this study, making the majority. There were 21 (42%) females in the study.

Conclusion: From the above study it can be concluded that the majority of subjects that were affected were males and of the age range between 18- 25 years of age.

Key words

Comparative, Decongestants, Sinusitis.

Introduction

During the development, the paranasal sinuses originate as invaginations of the nasal mucosa into the lateral nasal wall, frontal, ethmoid, maxilla and sphenoid bones. Infection of these sinuses is one of the commonest causes of patients visit to the otolaryngologists. As per the National Health Interview Survey conducted in the year 1996, chronic sinusitis was the second most prevalent chronic health condition that affected 12.5% of the population of US or nearly affecting 31 million subjects each year [1, 2]. As per the same survey conducted in the year 2008, rhino sinusitis affected nearly 1 in 7 adults [3]. Chronic rhino sinusitis is a widely prevalent and significant health problem but still its etiology is not clearly understood. It is a heterogeneous condition with persistent inflammation of the mucosa of the sinuses [4]. The pathophysiology behind it is epithelial disruption leading to inflammation and hence mucostasis and colonization of microbes. Infection leads to propagation of the inflammatory process and exacerbation of the inflammatory process. Various researches have been carried to determine the factors leading to persistent inflammation of the mucosa [5], emphasizing the association between the environment and the body's immune mechanism [6]. The management and diagnostic modalities of sinonasal pathologies have undergone a drastic change in the past two decades. These dramatic changes initiated by the pioneering studies of Messerklinger, in which he demonstrated that each sinus has a predetermined mucociliary clearance pattern draining towards its natural ostium irrespective of additional openings that may have been created into the sinuses [7]. This philosophy of opening the natural ostium of the diseased sinus was popularized by Stammberger [8] and Kennedy [9]. As with the development of FESS, there has been major advances made in computed tomography (CT) scan technology too. Before CT scanning was available the extent of sinus disease and anatomy of nose and sinuses were assessed on plain X-ray films. Plain X-ray films are no longer used in this role, as they do

not provide sufficient anatomical detail or accurate information on the extent of nasal and sinus pathology [10]. The present study was aimed at evaluating the characteristics of the subjects most frequently affected by inflammatory sinonasal disease.

Materials and methods

The present comparative study was conducted in department of ENT JSS Medical College and Hospital, Mysore from November 2012 to June 2014. Data was collected from the patients reporting to ENT Department with clinical diagnosis of inflammatory sinonasal diseases more than three months duration who are not responding to medical line of treatment and are willing for surgery (FESS). A total of 50 patients aged between 18-60 years with clinically proven inflammatory sinonasal disease were included in the study. Ethical committee clearance was obtained from the institutional ethical board and all the subjects were informed about the study and a written consent was obtained from all the subjects in their vernacular language. The cases selected for the study were subjected to detailed history taking and examination. A routine hemogram (HB, TC, DC, BT, CT and Platelet count) and urine examination (albumin, sugar, and microscopy) were done for the patients. All the patients in active stage of the disease were treated with course of suitable antibiotic, systemic antihistamines and local decongestants. They were also treated for medical conditions like diabetes mellitus, hypertension and nasal allergy. No patient received steroid therapy or immunotherapy. All the data obtained was arranged in a tabulated form and analysed using SPSS software. Data was expressed as percentage of total data.

Results

The study included 50 subjects. The mean age of the subjects was 36.42 ± 9.56 years.

Table - 1, Graph - 1 shows the age distribution of the subjects. There were 15 subjects (30%) that were aged between 18-25 years of age.

majority of subjects were in this age group. There were 18% (n=9) subjects between 26- 30 years of age. There were 14% (n=7) subjects between 36-40 years and 51-60 years of age respectively. Least number of the subjects was between 31-35 years, 41-45 years and 46-50 years of age. There were 4 subjects in this group.

Table - 1: Age distribution of the subject.

Age (years)	No. of patients	%
18-25	15	30%
26-30	09	18
31-35	04	08
36-40	07	14
41-45	04	08
46-50	04	08
51-60	07	14
TOTAL	50	100

Graph - 1: Age distribution of the subjects.

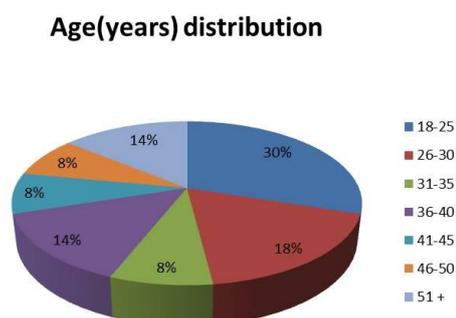


Table - 2: Gender distribution of the study subjects.

Sex	No of patients	%
Male	29	58
Female	21	42
Total	50	100

Graph - 2: Gender distribution of the study subjects.

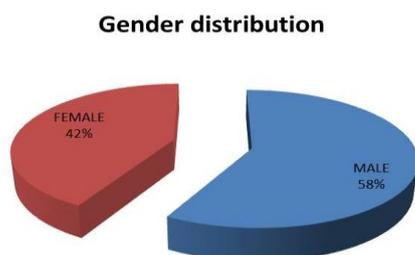


Table - 2, Graph - 2 shows the gender distribution of the subjects. There were 58% (n=29) males in this study, making the majority. There were 21 (42%) females in the study.

Discussion

Chronic sinusitis is defined as inflammatory condition of the mucosa of nose and paranasal sinuses because of varied reasons and is characterised by nasal congestion, facial pain, anosmia and is determined by imaging studies [11]. Because of its high prevalence it leads to significant healthcare expenditure, loss of work and school days etc. It has also been noted that 20% of the subjects with sinus disease have nasal polyps [12]. Certain anatomical variations that predispose to chronic sinusitis include deviated nasal septum, abnormal curvature of middle turbinate, haller cells and agger nasi cells. But there have not been much studies to show that these factors play a significant role in sinusitis [13-16]. Emphasis has also been laid on the genetic factors associated with its causation. In a study conducted by Wang et al 40 the prevalence of chronic sinusitis amongst subjects having cystic fibrosis was 36% which was quite higher compared to normal subjects having 12.5% prevalence. In the present study there were 15 subjects (30%) that were aged between 18-25 years of age. majority of subjects were in this age group. There were 18% (n=9) subjects between 26- 30 years of age. There were 14% (n=7) subjects between 36-40 years and 51-60 years of age respectively. Least number of the subjects was between 31-35 years, 41-45 years and 46-50 years of age. There were 4 subjects in this group. In study conducted by Sheetal, et al. (2011) with 45 patients the majority of patients are in the age group of 20 to 40 years [17]. By above study we understand early age group is predominant because they are more exposed to the environment, recurrent upper respiratory tract infections, irregular check-up and treatment. In the present study of 50 patients according 58% (29) cases are male while 42% (21) cases are females. In the study conducted by Sheetal D, et al. (2011) the majority of the patients are male

62% and 38% are female [17]. The study conducted by Rafael Jose Geminiani et al showed the maximum number of patients are male (51.5%) 18 and female (48.5%) 17. The study of Zojaji, et al. there are 35 male (69%) and 16 female (31%) [18]. All of the studies including the present study had a male predominance than female.

Conclusion

Chronic sinusitis was the common malady. From the above study it can be concluded that the majority of subjects that were affected were males and of the age range between 18- 25 years of age. This is of significant health concern leading to widespread healthcare expenditure. Timely and appropriate diagnosis and treatment should be provided to every patient so that it doesn't affect the economy of the nation.

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