Rhinosinusitis: Clinical Features Seen In Sagamu, Nigeria

O Sogebi, E Oyewole

Citation

O Sogebi, E Oyewole. *Rhinosinusitis: Clinical Features Seen In Sagamu, Nigeria*. The Internet Journal of Otorhinolaryngology. 2006 Volume 6 Number 2.

Abstract

A retrospective evaluation of the clinical features of rhinosinusitis seen in Olabisi Onabanjo University Teaching Hospital, Sagamu Nigeria over a five-year period between January 2002 and December 2006.
131 cases of rhinosinusitis were analysed with M: F=1:1.05. The mean age was 36.7years. The three major presenting symptoms were mucoid nasal discharge 90(68.7%), nasal obstruction/congestion 80 (61.1%) and excessive sneezing 61(46.6%). 75.6% of the patients presented after three months of onset of symptoms. Oedematous nasal mucosa 94 (71.8%), engorged nasal turbinates 93(71.0%), mucopurulent anterior rhinorrhoea 37(28.2%) and polypoidal nasal growth 21(16.0%) were the common nasal examination findings. 69.5% of the patients had abnormalities on plain X-rays, most of which were in the maxillary sinuses. 27.5% of the patients had other associated nasal diseases or complications while the two common individual nasal diseases diagnosed were allergic rhinosinusitis (40.5%) and infective rhinosinusitis (29.8%).
Better health education of our patients and need for early specialist referrals were emphasized.

INTRODUCTION

The paranasal sinuses are a group of cavities that developed as out-pouches of the nasal cavities. The mucosa lining of the paranasal sinuses is continuous with that of the nasal cavities and each sinus, under healthy conditions, is filled with air and communicates with the nasal cavity through an ostium[1]. Rhinosinusitis refers to inflammation of the mucosa lining of the nose and the surrounding Paranasal sinuses and it is a common disease.

Rhinosinusitis can be diagnosed by the clinical features and confirmed by radiological, bacteriological and ancillary investigations. Early diagnosis and appropriate treatment often lead to good outcome with no or minimal morbidity and mortality.

Late presentation and disease progression is associated with complications and worse treatment outcome. This study aims to evaluate the clinical features of rhinosinusitis seen in our centre. This will draw attention of clinicians to these features and aid in early diagnosis of disease and good treatment outcome.

MATERIALS AND METHODS

A retrospective study of the cases with clinical features of rhinosinusitis referred to and managed in the Ear, Nose and Throat department of the Olabisi Onabanjo University Teaching Hospital, Sagamu Nigeria between January 2002 and December 2006. Case notes of the patients were retrieved and data extracted included, the age, sex, presenting complaints and duration of symptoms at presentation, and examination findings. Reports of the plain X rays of the paranasal sinuses comprising the occipitofrontal OF(Caldwell), occipitomental OM (Water's) lateral/postnasal views were analysed. The final diagnosis, the presence of complications or other associated nasal diseases, confirmed with histology reports in the patients that had surgery were also analysed. Excluded from the study were those whose case notes could not be found and those with incomplete data. The data collected were analysed using simple descriptive method and the results presented in tabular forms.

RESULTS

There were 131 cases of rhinosinusitis that met the inclusion criteria and had their data analysed. There were 63 males and 68 females (M:F)=1:1.05,and the age ranged from 1-82 years (mean =36.7).The three major presenting symptoms were mucoid nasal discharge 90(68.7%), nasal obstruction/congestion 80 (61.1%) and excessive sneezing 61(46.6%),while the other symptoms are shown in table 1.

Figure 1

Table 1: Symptons at presentation

Symptom	Number of patients (%)
Excessive sneezing	61 (46.6)
Rhinorrhoea	90 (68.7)
Facial pain	10 (7.6)
Nasal congestion/obstruction	80 (61.1)
Hawking	9 (6.9)
Headache	33 (25.2)
Itching (nose, throat)	23 (17.6)
Mass in the nose	6 (4.6)
Epistaxis	11 (8.4)
Halithosis	4 (3.1)

The majority (75.6%) of the patients presented after three months of onset of symptoms, the average duration was 2.3 years: range 1week- 15 years. Oedematous nasal mucosa 94 (71.8%), engorged nasal turbinates 93(71.0%), mucopurulent anterior rhinorrhoea 37(28.2%) and polypoidal nasal growth 21(16.0%) were the common nasal examination findings as shown in table 2. The radiological films were normal in 30.5% of the X rays while the remaining 69.5% had different kinds of abnormalities (haziness,air-fluid levels, mucosal thickening, etc). Most of the X ray abnormalities were found in the maxillary sinuses. About a quarter, 36 (27.5%) of the patients had other associated nasal diseases/complications. Nasal polyp and nasal papilloma were the two common complications seen 30(22.9%) and 4 (3.1%) respectively as shown in table 3. The final diagnoses were allergic rhinosinusitis (40.5%) and infective rhinosinusitis (29.8%) according to table 3.

Figure 2

Table 2: Findings at examination

Sign	Number of patients (%)
Oedematous mucosa	94 (71.8)
Engorged turbinate	93(71.0)
Septal abnormalities	9 (6.9)
Mucopurulent anterior rhinorrhoea	37(28.2)
Pale nasal mucosa	34(26.0)
Associated findings:	
Polypoidal nasal growth	21 (16.0)
Supraorbital sinus discharge	1 (0.8)

Figure 3

Table 3: Final diagnosis of the patients

Diagnosis	Number of patients (%)
Allergic rhinosinusitis	53 (40.5)
Infective rhinosinusitis	39 (29.8)
Vasomotor rhinosinusitis	2 (1.5)
Association/complication	
Nasal polyps	30 (22.9)
Nasal papilloma	4 (3.1)
Adenoid enlargement	1 (0.8)
Frontal mucocoele	1 (0.8)
Facial pain and headache	1 (0.8

DISCUSSION

Rhinosinusitis is a common disease seen in Otorhinolaryngology practice and there is no sex predeliction. It is often a disease of multifactorial aetiology with considerable overlap of clinical manifestations. [2] Predisposing factors can help the transition from simple rhinitis that is very frequent in the paediatric patient, to a more severe acute bacterial infection of the nasal and Paranasal cavities[3]. The average age of 36.7years seen in this study suggests that rhinosinusitis is common in the paediatric age and the young adults as 61.1% of the patients were less than 40 years of age. It is noted that in children, rhinosinusitis is a common, generally uncomplicated and self-limiting disease.[4]

The major symptoms of nasal discharge, nasal obstruction and congestion and excessive sneezing seen in this study were in agreement with previous studies[3,5,6]. Patients tend to take the symptoms casual until when they become persistent or manifest with other ominous complications leading to the late presentation in the hospital. Averagely our patients presented 2.3 years after onset of symptoms.

The nasal turbinates, which are erectile tissues in the lateral walls of the nasal cavities often, respond to inflammatory changes and can become permanently engorged after repeated assaults. Engorged nasal turbinates, oedematous nasal mucosa and mucopurulent anterior rhinorrhoea were the major signs found in this study, and it is similar to the findings in Port Harcourt, Nigeria[5]. Most of the clinical features of nasal obstruction, anterior and posterior nasal discharge, sneezing and facial congestion are common and make the diagnosis of chronic rhinosinusitis based on symptom criteria alone to be difficult.[6,7] There is a need to distinguish between different forms of disease and its extent by radiological investigation. Chronic diseases of the nose and the sinuses occur more often in adults and mostly involve the maxillary sinuses from where it can spread to involve other sinuses (multisinusitis). The spread is usually to the ethmoids, and the frontal sinuses in that order, but rarely spread to the sphenoid sinus. The radiological evaluation of our patients revealed abnormalities in 69.5% of the X rays and mainly in the maxillary sinuses. Ogunleye et al found radiological changes mainly in the maxillary sinuses[8].

Allegic rhinosinusitis constituted the most prominent single final diagnosis (42.7%) in our patients. Allergy is an immunoglobulin E mediated type 1 hypersensitivity reaction and could be seasonal, perennial or occupational. Some of the identified allergens in our environment include house dust mite, house dust, feathers, dog hair, cat fur, grass pollen and flower pollen.[9] Infective rhinosinusitis is often preceded by viral rhinitis (common cold) or simple rhinitis. There is thus a need to treat these simple diseases properly in order to reduce the incidence of infective rhinosinusitis.

Although rhinosinusitis occurs frequently, its complications have become rare since the introduction of antibiotics. Disease progression associated with prolonged duration can however predispose to complications. Patients' presenting averagely over 2 years after onset of symptoms as seen in this study may present platform for development of complications, among which is nasal polyps. It is however unclear whether chronic rhinosinusitis with nasal polyps and chronic rhinosinusitis without nasal polyps represent different disease entities or just different stages of one single disease.[10] Among the complications, orbital and intracranial spread are particularly worrying, [11] hence the need to treat any patient with such a risk like fronto-ethmoidal mucocoele urgently.

There is a need to educate our patients on the importance of early presentations to hospital despite seemingly innocuous symptoms. The general practitioners are also enjoined to refer patients early to specialists for evaluation especially when patients present with uncommon symptoms or conventional mode of treatment seem to be failing.

ACKNOWLEDGEMENTS

We wish to acknowledge the members of our medical records department who helped us in pulling out the case notes of the patients used in this study.

References

1. Ballenger JJ Clinical anatomy and physiology of the nose and Paranasal sinuses. In Otorhinolaryngology, Head and Neck surgery 15th Edition (BallengerJJ, SnowJr S B, eds) Williams & Wilkins.USA.1996: pp3-18.
2. Weir N, Golding-Wood D G. Infective rhinitis and sinusitis. In Scott-Brown's Rhinology 6th edition (Mackay I S, Bull T R eds) Butterworth-Heinemann, London. 1997: pp4/8/1-49.
3. Camaria G. Rhinosinusitis in childhood Pediatr Med Chir 2005; 27:42-9.
4. Daele J Chronic sinusitis in children Acta Otorhinolaryngol Belg 1997; 51:285-304.
5. da Lilly-Tariah O.B. Pattern of clinical features of simple chronic rhinosinusitis in Port Harcourt Niger J Clin Pract 2006;9:142-6.
6. Bonfils P, Halimi P, Le Bihan C, Nores J M, Avan P, Landais P. Correlation between nasosinusal symptoms and topographic diagnosis in chronic rhinosinusitis Ann Otol Rhinol Laryngol 2005; 114:74-83.
7. Bhattacharyya N Clinical and symptom criteria for the accurate diagnosis of chronic rhinosinusitis Laryngoscope 2006; 116:1-22.
8. Ogunleye AOA,Nwaorgu O G B, Lasisi A O, Ijaduola G T A. Trends of sinusitis in Ibadan, Nigeria. WAJM 1999; 18:298-302.
9. Awotedu A A, Oyejide C O, Ogunlesi O, Onadeko B O. Skin sensitivity patterns to inhalant allergens in Nigerian asthmatic patients. East Afr Med J.1992; 69:631-5.
10. Polzehl D, Moeller P, Riechelmann H Distinct features of chronic rhinosinusitis with and without nasal polyps Allergy 2006; 61:1275-9.
11. Evans Kathryn L. Diagnosis and management of sinusitis. British Medical Journal.1994; 309:1415-1422.

Author Information

Olusola Ayodele Sogebi, MBBS, FWACS, FMCORL
Department of Ear, Nose and Throat, Olabisi Onabanjo University Teaching Hospital

Emmanuel Abayomi Oyewole, MBBS, DA, FMCORL
Department of Surgery, Obafemi Awolowo College of Health sciences, Olabisi Onabanjo University