



CLINICAL PROFILE AND MANAGEMENT OF CHRONIC RHINOSINUSITIS AMONG ADULTS IN NORTH-WESTERN NIGERIA.

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ABSTRACT

Background: Rhinosinusitis is an inflammatory and infectious process affecting the nasal cavities and the paranasal sinuses. **Objective:** To evaluate the clinical profile and management of chronic rhinosinusitis in a resource poor country in sub-Saharan Africa. **Methods:** This was a 5-year retrospective study of patients managed for clinically and radiologically diagnosed chronic rhinosinusitis with/without nasal polyposis at National Ear Care Centre Kaduna, Nigeria. Patients' medical records were reviewed for relevant data which included demographics, clinical presentations, nasal cytology and radiologic reports and treatments. The data were collated and analysed using simple descriptive statistics. **Results:** There were 570 patients, 283 (49.65%) males and 287 (50.35%) females. Their age ranged from 18 - 80 (mean = 36.19± 12.23) with the majority (64.38%) in the second and third decades of life. The duration of symptoms ranged from 4-28 weeks with an average occurrence of 110 new cases per year. The main clinical presentations were rhinorrhea in 478 (83.86%), nasal blockage in 413 (72.46%), excessive sneezing in 345 (60.53%), itchiness of ENT in 392 (58.0%) and nasal polyps in 8(1.40%). Allergy was the cause in 384 (64.43%) patients and microbiologic studies showed that 6 (1.05%) were fungi. Maxillary antral mucosal thickening and engorged inferior turbinates were the commonest radiological features. All our patients had medical treatments but only 43 (7.5%) patients who failed medical therapy had surgical treatment: bilateral inferior meatal antrostomy 21(48.83%); intranasal polypectomy 3(6.97%), frontoethmoidectomy 1 (2.33%), and FESS 17(39.53%). **Conclusion:** The clinical profile of chronic rhinosinusitis in our environment is similar to what previous studies have reported but with slightly *higher* new cases per year. Allergy accounted for about 2/3rd of the cases.

Key words: Adults, Rhinosinusitis, Kaduna, Nigeria.

1.INTRODUCTION

Rhinosinusitis is an inflammatory and infectious process affecting the nasal cavities and the paranasal sinuses [1]. It is a common clinical condition which affects at least 16% of the adult population annually [2], also affects 40% of school children aged 13 – 14 years in Nigeria [3,4]. Rhinosinusitis is a very common and heterogenous disease in South-east Asia and also in Latin American countries [5,6]. Pathological changes in the nose are usually accompanied by similar changes in the paranasal sinuses [7].

Aetiologically the most common precursor to bacterial rhinosinusitis is viral upper respiratory tract infection, then sinus obstruction from mucosal oedema following inhalation of allergens [8]. Typical presentations include, but not limited to nasal discharge, nasal obstruction, excessive sneezing, smell abnormalities, headache, halitosis [9].

For patients' evaluation, it is of prime importance to carryout bacteriological studies among other things to identify the offending organism [10]. Plain radiographs are of limited value in evaluating patients, however it is still being utilized in resource poor settings like ours [9,11]; but the most preferred imaging modality is Computed Tomographic (CT) scan, Magnetic resonance Imaging (MRI) [9,11-12].

The aim of every Otorhinolaryngologist, after making a diagnosis of rhinosinusitis is to come up with a treatment plan for the patient, which ranged from avoidance of identified allergens, antibiotics, anti-fungals; and sometimes resorting to surgical management [12-14].

Complications may arise from the pathology or mode of treatment adopted [15-19]. Some of the possible complications include, but not limited to orbital cellulitis, osseous as well as intracranial complications. Rhinosinusitis, when untreated and neglected may tend to undergo malignant transformation; the development of nasal and paranasal tumours [20,21].

Objective:

To evaluate the clinical profile and management of chronic rhinosinusitis in a resource-poor country in sub-Saharan Africa.

2. MATERIALS AND METHODS

This was a 5-year retrospective study of patients managed for clinically and radiologically diagnosed chronic rhinosinusitis with/without nasal polyposis at National Ear Care Centre Kaduna, Nigeria. Patients' medical records were reviewed for relevant data which included demographics (age, gender, occupation, and marital status), clinical presentations (nasal discharge, nasal blockage, excessive sneezing, itchiness of ear, nose and throat, ear pain, headache, cough, facial congestion, anosmia, hyposmia, associated epistaxis, facial pain, dental pain, halitosis, fatigue and fever), nasal cytology and radiologic reports (haziness of the paranasal sinuses, water-fluid level, thickening of maxillary sinus antral mucosa) and treatments (medical treatment, surgical options: bilateral inferior meatal antrostomy, intranasal polypectomy, frontoethmoidectomy, and Functional Endoscopic Sinus Surgery (FESS)). The data were collated and analysed using simple descriptive statistics.

3. RESULTS

A total of 35,164 adult patients were seen at the study centre during the period under review out of which 570 presented with rhinosinusitis. The prevalence of rhinosinusitis was calculated as 1.62%. There were 283 (49.65%) males and 287 (50.35%) females. Their age ranged from 18-80 (mean = 36.19 ± 12.23) with the majority (64.38%) in the second and third decades of life. Detailed in table 1.

Table 1: The table presents the age distribution of studied patients.

Age (Years) n=570	Frequency	Percentage
18-29	190	33.33
30-39	177	31.05
40-49	109	19.12
50-59	69	12.11
60 and above	25	4.39
Total	570	100

The duration of symptoms ranged from 4-28 weeks with an average occurrence of 110 new cases per year. All our patients had more than one symptom, the main clinical presentations is as shown in Table 2.

Table 2: The table presents the symptoms of patients with Rhinosinusitis

Symptoms n=570	Frequency	Percentage
Nasal Discharge	478	83.86
Nasal Obstruction	413	72.46
Excessive Sneezing	345	60.53
Itchiness of ENT	338	59.29
Ear Pain	84	14.74
Headache	82	14.39
Cough	60	10.53
Anosmia	34	5.96
Associated epistaxis	33	5.79
Fever	32	5.61
Hyposmia	30	5.26
Facial pain	26	4.56
Facial congestion	22	3.86
Halitosis	21	3.68
Fatigue	11	1.93
Dental pain	7	1.23

Anterior rhinoscopy revealed engorged inferior turbinates in 530 (92.98%) of the patients while nasendoscopy was carried out in 33 patients.

Allergy was the cause in 384 (64.43%) patients and microbiologic studies showed that 6 (1.05%) were fungi.

Maxillary antral mucosal thickening and engorged inferior turbinates were the commonest radiological features in X-ray of the paranasal sinuses (occipitontal, antero-posterior and lateral views). Seventeen patients had Computed Tomographic (CT) Scan of the paranasal sinuses in preparation for surgery.

All our patients had medical treatments but only 43 (7.5%) patients who failed medical therapy had surgical treatment: bilateral inferior meatal antrostomy 21(48.83%); intranasal polypectomy 3(6.97%), inferior turbinectomy 1(2.33%), frontoethmoidectomy 1 (2.33%), and Functional Endoscopic Sinus Surgery was performed in 17(39.53%) patients.

4. DISCUSSION

Rhinosinusitis is a devastating disease because it affects the quality of life of the sufferer, and also impacts psychological wellbeing and daily functioning [14]. In this study, no gender difference was found, as the Male / Female ratio approaches unity. Fasulna et al. (2011) found slight male preponderance in south western Nigeria [2]. Ahmad et al. (2004) also found slight male preponderance in Northeastern Nigeria [7].

Only 20 patients had computed tomographic scan of the paranasal sinuses in preparation for surgery. Computed tomographic scan is very vital in the evaluation of patients with chronic rhinosinusitis [9]. However, the cost of this investigative modality in a poor resource country is most often beyond the reach of a common man; this could be because most of the patients we reviewed were peasants. However, plain radiographs of the paranasal sinuses was able to demonstrate maxillary enteral mucosal thickening, and in some cases, fluid-air levels. This is paramount in the overall management of patients with chronic rhinosinusitis.

All our patients had medical treatment, with surgical option being resorted to those who had failed medical treatment. The small number of patients who had functional endoscopic sinus surgery in the centre being a referral centre for most North-western Nigerian states could be attributed to the late commencement of surgeries in the study centre. Functional Endoscopic Sinus Surgery was commenced in the centre in the late months of the year 2011. Despite challenges of manpower, technical skills and logistics, 17 (39.53%) patients have benefitted from functional endoscopic sinus surgery within the period under review.

5. CONCLUSION

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 The clinical profile of chronic rhinosinusitis in our environment is similar to what previous studies have reported but with slightly higher new cases per year. Allergy accounted for about 2/3rd of the cases

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