Case Report

An Uncommon Presentation of Rhinosporidiosis in A 17-Year-Old Female: A Case Report.

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Abstract

Rhinosporidiosis is an inflammatory disease prevalent in Asia, with the majority of the cases found in India. However, it has also been reported in other parts of the world. It is caused by *Rhinosporidium seeberi* and predominantly affects the mucous membranes of the nasal cavity and occasionally the eyes, skin and other parts of the respiratory system. Diagnosis is by histological examination of the affected tissues. In this article, we present an uncommon case of Rhinosporidiosis in a 17-year-old female.

Keywords: Rhinosporidiosis, 17-Year-old, Female.

INTRODUCTION

Rhinosporidiosis is a chronic granulomatous infection caused by the fungus-like parasitic protist, *Rhinosporidium seeberi,* of the class Mesomycetozoea.[1] It typically affects the nasal mucosa but occurrence in extra-nasal tissue such as the respiratory airway, larynx, eye and skin has been seen.[2] It is more frequent in males, affects all ages usually between 10 to 40 years and is highly recurrent.[3] Diagnosis entails imaging usually a CT(computed tomography) scan which shows the site and magnitude of the lesion and definitive diagnosis is by histology.[4] Treatment is by surgical excision but some forms of medical treatment have been utilized even though response is poor.[5,6]

CASE PRESENTATION

A 17-year-old female student from Mani Local Government area of Katsina state, north-western Nigeria presented with an 11-month history of progressive right nasal obstruction, nasal discharge and recurrent epistaxis. There was no loss of dentition, orbital, otologic or throat symptoms, or neck swelling.

Anterior rhinoscopy findings revealed a polypoidal mass from the right lateral nasal wall almost filling the nasal cavity. There was diffuse non-tender right cheek swelling but with absent orbital signs. She had a CT scan of the paranasal sinuses which revealed a slightly isodense mass in the right nasal cavity with extension into the right antrum. However, nasopharyngeal extension was lacking. She had surgical clearance of the tumour and the sample was given to the patient to take to the pathology laboratory for histologic analysis which she discarded. The patient was then lost to follow up but she eventually presented two years later with

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complaints of a discharging opening below the right eye and the hard palate.

There was however no associated visual disturbance. A nasal endoscopy was done which revealed the absence of the right lateral nasal wall and exposure of the right antral cavity with hyperemic oedematous mucosa. A mucosal biopsy was taken and sent to the pathology laboratory for histological analysis.

Grossly, fragments of greyish-white tissue aggregating 1.5cm were received. Microscopic findings showed a polypoid lesion lined by stratified squamous epithelium with the submucosa demonstrating multiple globular cysts containing thick-walled sporangia in different stages of maturation. These were surrounded by multinucleated giant cells, intense neutrophilic and lymphoplasmacytic inflammatory infiltrates disposed within a fibrovascular stroma. [Figures 1 and 2]. The sporangia were positive for Gomori–Methenamine Silver (GMS) and Per-iodic acid Schiff (PAS) stains. [Figures 3 and 4]. A diagnosis of Rhinosporidiosis was made. The patient is currently on fluconazole tablets 400mg daily and is being followed up.

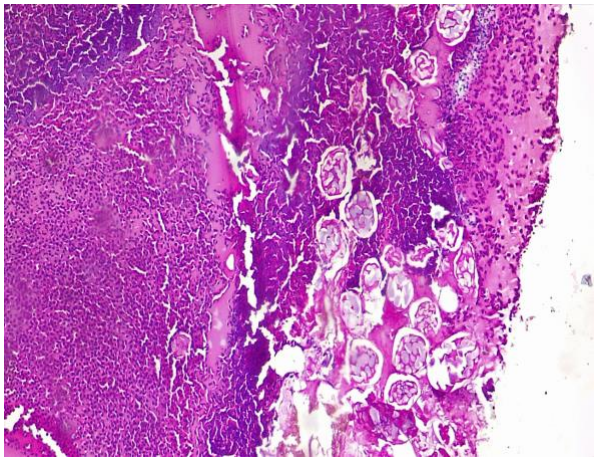

Figure 1: Photomicrograph of H&E-stained slide showing rhinosporidiosis with multiple globular cysts and intense mixed inflammatory infiltrates. Magnification X100.

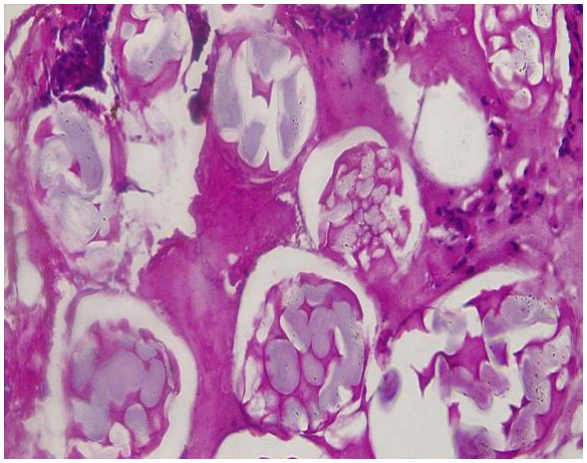

Figure 2: Photomicrograph of H&E-stained slide showing multiple globular cysts containing thick-walled sporangia. Magnification X400.

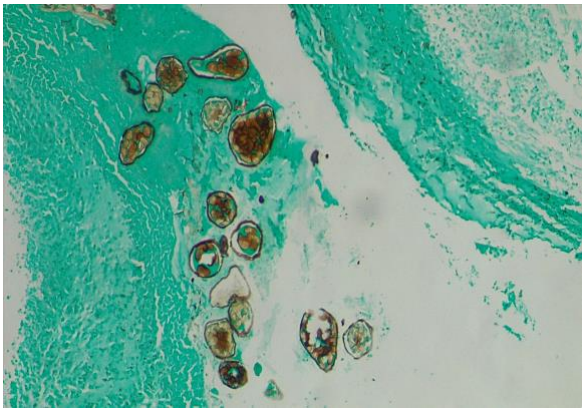

Figure 3: Photomicrograph showing positive brown staining of the sporidia for GMS stain. Magnification X100.

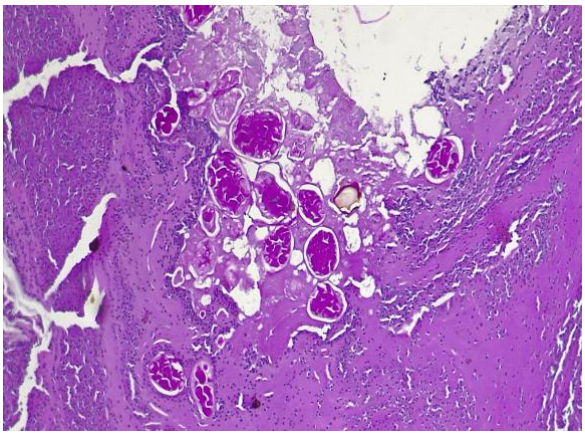

Figure 4: Photomicrograph showing positive magenta staining of sporidia for PAS stain. Magnification X100.

DISCUSSION

Rhinosporidiosis is a rare disease affecting people of any age and sex, but it is more common in males and often seen between the ages of 10-40 years. [3,7] In the index study, our patient is aged 17 years. However, in a South African study, almost all cases were less than 15 years of age at presentation while Nwana et al reported a presentation at 17 years in a north-central state in Nigeria.[6,8]

Within the African continent, only a few sporadic cases have been reported in the literature.[8] The highest incidence of Rhinosporidiosis is seen in India and Sri Lanka but it has been reported in more than 70 countries globally including countries in sub-Saharan Africa.[9,10] In East Africa, Owor and Wamukota reported some cases from Uganda and Tanzania respectively while Nwana et al reported a case in a north-central state of Nigeria.[6,11,12] Nevertheless, there are no reports to suggest that Nigeria is an endemic area for rhinosporidiosis.[6]

The etiological agent, *Rhinosporidium seeberi*, causes granulomatous inflammation of the

mucocutaneous sites most frequently as polypoidal lesions in the nose and occasionally the nasopharynx, conjunctiva, trachea and skin.[1] In South Africa, Prasad et al reported that almost all the patients presented with ocular involvement.[9] Stagnant water is said to be the natural habitat of the causative organism and a positive history of bathing in stagnant water has been reported in many cases.[13] Our patient presented with a nasal lesion only with no history of bathing in stagnant water.

Complete surgical resection is the primary treatment for the disease with long-term follow-up to prevent recurrence and emergence of complications. [14] A similar treatment was offered to index the patient on regular follow-up. Other forms of medical treatment such as griseofulvin and amphotericin B have been tried in previous studies, but the results have been unconvincing due to recurrence.[7] The index case did not benefit from this type of treatment.

CONCLUSION

Nasal Rhinosporidiosis remains an uncommon condition in our environment. However, with the increase in the number of cases in our region, it becomes necessary for clinicians to consider rhinosporidiosis as a differential diagnosis when assessing patients presenting to the hospital with nasal masses.

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