



Nasal Rhinosporidiosis: A Case Report and Review of Literature

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Abstract:

Rhinosporidiosis is a rare infective chronic granulomatous lesion caused by *Rhinosporidium seeberi*, which is endemic in some part of Asia, although sporadic cases seen in America, Europe and Africa. The lesion presents as a soft tissue mass of the nose (primary site), eye and urethra. The organism is difficult to culture and the diagnosis is based on microscopy and histological examination of the lesion. Nasal rhinosporidiosis is uncommon disease in our environment which mimics neoplasm in its clinical features. We report a case of nasal rhinosporidiosis in an 18 year old male rural farmer from North Eastern Nigeria.

Key words: Rhinosporidiosis, Nasal Obstruction, Paranasal sinuses, Spores, Smell.

Introduction

Rhinosporidiosis is a rare infective chronic granulomatous illness endemic in some part of Asia such as India and Ceylon, although sporadic cases were seen in America, Europe and Africa. Outbreaks of both human and animal disease have been recently described in Europe [1,2]. The causative agent is *Rhinosporidium seeberi*, it is intractable to isolation and microbiological culture and, shows morphological features of both fungi and protozoa [3,4]. But it is widely believed to be fungus. It can be visualised with fungal stains such as Gomori Methenamine Silver (GMS) and periodic Acid-Schiff (PAS) as well as Haematoxylin and Eosin (H&E) staining [5]. Clinically, the lesion presents as a polypoid, soft tissue mass, sometimes pedunculated, of the nose (primary site of the infection), the eye and its adnexa especially conjunctiva and the

urethra. A few cases have been reported in Nigeria [6-9]. A case of nasal rhinosporidiosis is presented. Nasal rhinosporidiosis is uncommon disease in our environment which mimics neoplasm in its clinical features.

Case Report

An eighteen year old farmer referred to our clinic with four months history of spontaneous left nasal bleeding, nasal blockage, left nasal growth and disturbance of smell from left nostril. No history of cheek swelling or pain, excessive sneezing, tooth ache, eye symptoms, fever, cough, drenching night sweat or progressive weight loss were present. He was non-smoker, non-alcoholic with no history of hypertension, diabetes or asthma.

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Examination revealed healthy young man with preserved external nasal pyramid. His left nasal cavity was completely blocked by left polypoid fleshy mass, covered with muco-purulent secretions, arising from the inferior meatus, and presence of contact bleeding. Other systems were essentially normal.

X-ray of the paranasal sinuses showed a soft tissue shadow in the left nasal cavity and left maxillary antrum mucosal thickening with no evidence of bony destruction. Chest X- ray appeared normal. Packed cell volume was 11 g/dL. Other haematological and biochemistry investigations were within normal limit. Retroviral screening was negative.

The left nasal mass was cleared completely under local anaesthesia after informed consent was obtained. The bleeding base of the mass was cauterised with silver nitrate. The histopathological diagnosis revealed numerous globular cysts with sharply defined wall and contains spores of rhinosporidiosis [Fig.1]. A diagnosis of nasal rhinosporidiosis was made. No antibiotic or antifungal was given. He was followed up for eight months and there were no episode of nasal bleeding and no evidence of recurrence of the left nasal mass was seen.

Discussion

Rhinosporidiosis is an infective chronic disease that was discovered initially in Latin America over a century ago. Though it appears to occur universally but remains largely endemic in Indian subcontinent [8,10,11]. The route of transmission to human is not clearly defined, however most researchers believes that direct contact with the spores through dust, soil or prolonged exposure to stagnant water are potential risk factor of contracting the disease [10,11].

Usually patients' presents with history of gradual

nasal growth, occasional nasal bleeding, nasal itching and sneezing [8,10-12] as in the index case who presented with spontaneous left nasal bleeding and nasal growth. Nasal rhinosporidiosis is characterised by development of single pedunculated polyp, multiple sessile polypoid masses or combination of both. In contrast to inflammatory polyps which often arise from the middle meatus, nasal rhinosporidiosis frequently involves the mucosal lining of the anterior nares, inferior turbinate, septum, or the floor. Thus, nasal polyps arising from these sites should always raise a high index of suspicion [13]. In the index case the mass was pedunculated and fleshy from the inferior meatus on the left nasal cavity.

The histopathology of the biopsied mass from the lesion is paramount important for definitive diagnosis of rhinosporidiosis. The typical feature being identification of the pathogen in its diverse stage (both mature and daughter cells) of development can be ascertained as in the index case [Fig.1,2].

The mainstay of treatment for rhinosporidiosis involves meticulous, complete and wide surgical excision, this if followed by electro-cautery of the base this may abate recurrence resulting from the

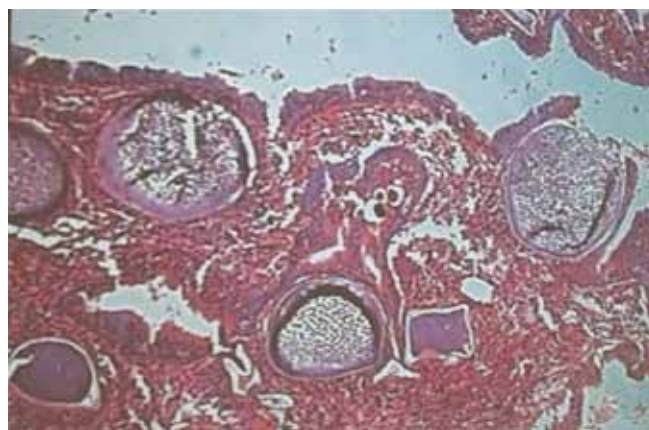


Fig. 1: Histopathology section of the nasal mucosa showing matured and immature sporangia (H&E X 100).

spillage of endospores on the adjacent mucosa [8,10,11]. The index case had excision of the lesion completely and the base was cauterised under local anaesthesia. Conservative management with medical therapies have been tried using drugs like Dapsone (4,4-diaminodiphenyl sulphone) and antifungal like Griseofluvin and Amphoterecin B with no tangible result [10,11]. No conservative treatment was offered for the index case.

Conclusion

Nasal rhinosporidiosis is uncommon disease in our environment which may mimics neoplasm in its clinical features. Therefore, it is imperative for clinicians in our environment to consider nasal rhinosporidiosis as a differential diagnosis of nasal mass.

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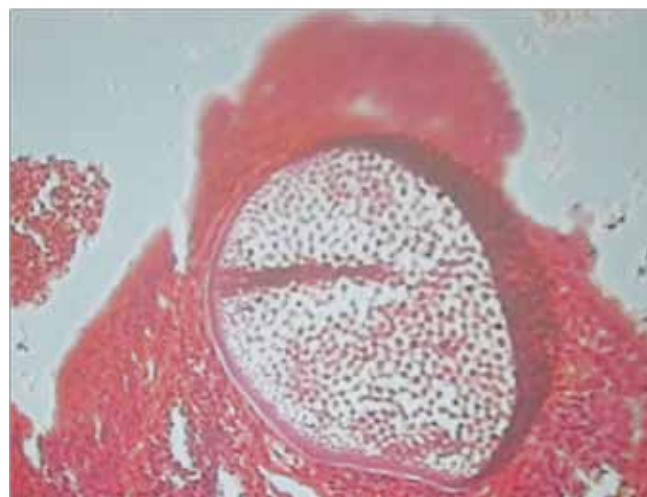


Fig.2: Histopathology section of nasal mucosa of matured sporangium (H&E X 200).

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