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Case Report

Rhinosporidiosis of Nose: Unusual Presentation Masquerading As Pyogenic Granuloma!!-A Case Report

Dr. Sanchari Saha[1], Dr. M.B.Hoogar[2], Dr. D.B.Borkar[3], Dr. Reeta Dhar[4], Dr. Vaidehee Naik[1]

[1]Post Graduate Resident, [2]Associate Professor, [3]Professor, [4]Professor and Head,
Department of Pathology, M.G.M. University of Health Sciences, Maharashtra, India

Corresponding Author: Dr. Sanchari Saha

ABSTRACT

Sino-nasal region is one of the most common sites of infections by various microbial agents including fungal infections. Mycoses of sinonasal region are very common, which are caused by Mucor, Aspergillus and other species including Rhinosporidium. Rhinosporidiosis and its causative organism *Rhinosporidium seeberi* have been known for over a hundred years, albeit various forms of clinical presentation of rhinosporidiosis still remain an enigma. Rhinosporidiosis is a rare infective chronic granulomatous lesion caused by Rhinosporidium *seeberi*, which is endemic in some part of Asia (India), although sporadic cases are seen in America, Europe, Africa. The lesion presents as a soft tissue polypoidalmass commonly affecting the mucous membrane of the nasopharynx, conjunctiva and palate. Rarely it can be seen in urethra. The organism is difficult to culture and the diagnosis is based on microscopy and histopathological examination of the lesion.
We report a case of nasal rhinosporidiosis in a 50-year old milk man hailing from interiors of Maharashtra, India.

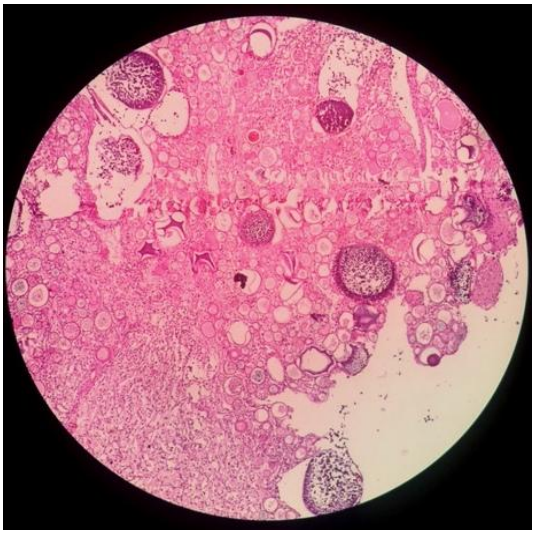
Key Words: Nose, Pyogenic granuloma, Rhinosporidiosis, R.seeberi, Spores.

INTRODUCTION

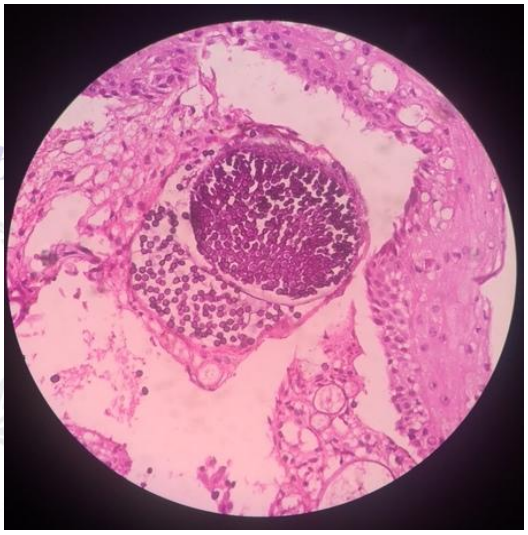
Rhinosporidiosis is a chronic granulomatous inflammation of the mucous membranes that usually manifests as friable polypoidal lesions which generally arise from the nasal mucosa or external structures of the eye. Initially described by Seeber in 1900 an individual from Argentina, rhinosporidiosis is endemic in India, Sri Lanka, South America, and Africa. Most cases of rhinosporidiosis occur in persons from or residing in the Indian subcontinent or Sri Lanka. In addition to man, disease is known to occur in cats, cattle, dogs, ducks, goats, horses, mules, parrots, and swan. [1] Rhinosporidiosis is an infection caused by Rhinosporidium *seeberi* which was previously considered to be a fungus, and rhinosporidiosis is classified as a fungal disease under ICD-10. It is now considered to be a protist classified under Mesomycetozoea. It is difficult to culture and isolate by microbiological methods though it could be diagnosed by using special stains for fungi such as such as Gomori Methanamine Silver (GMS) and Periodic Acid Schiff (PAS) as well as Hematoxylin and Eosin (H and E) stain. [2] No racial predilection is observed in its manifestation, though it displays a distinct predilection for males, the ratio of male: female being 4:1.The case presented here is unique in that it presented in an unusual manner as pyogenic granuloma in nasal cavity in a 50-year-old milk man.

CASE REPORT

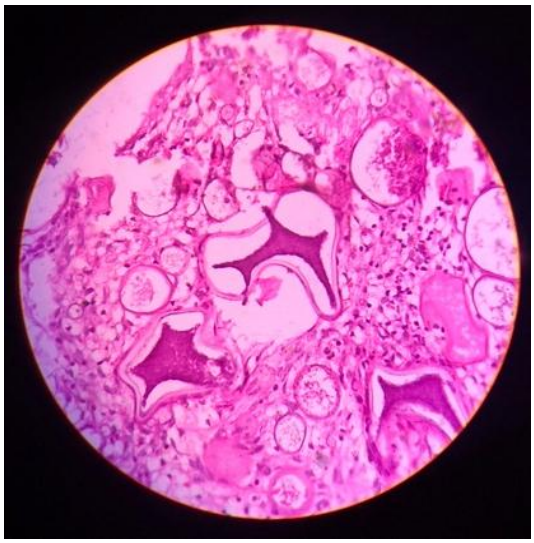
The case being presented here is of a 50-year-old man, a milk man by profession, who complained of dyspnoea on exertion since seven months (NYHA- Grade II), and left sided nasal obstruction with itching, and yellowish foul smelling discharge associated with blood-stained purulent discharge. On examination, a painless, palpable, pedunculated polypoidal soft tissue mass was seen hanging down the left nasal cavity which did not bleed on touch and which apparently compressed the nasal septum and the vestibule of the nose, thus blocking the left nasal cavity. It was clinically diagnosed as Pyogenic Granuloma. A surgical excision was performed. We received the specimen which on gross examination revealed a spongy grey brown polypoidal friable mass measuring 2.5X2 cm in size, containing multiple pin-headed yellowish spots. Histopathological examination of the mass revealed polypoid tissue fragments lined by stratified squamous epithelium and focally by diffusely denuded ciliated columnar epithelium. The polypoid tissue fragments were composed of loose connective tissue with diffuse infiltration by mononuclear inflammatory cells. The tips of the polypoidal tissue fragments showed marked oedematous connective tissue stroma with numerous globular cysts of varying shape representing sporangia in different stages of development, surrounded by predominantly mononuclear inflammatory cells. The scattered sporangialined by chitinous layer contained numerous spores which appeared to be scattered at places due to possible rupture of sporangia with consequent evoking of foreign body granulomatous lesion at one place. Sections stained with Periodic Acid Schiff (PAS) and Gomori's Methenamine Silver(GMS) stains confirmed the diagnosis of sporangia containing spores of Rhinosporidiosis.



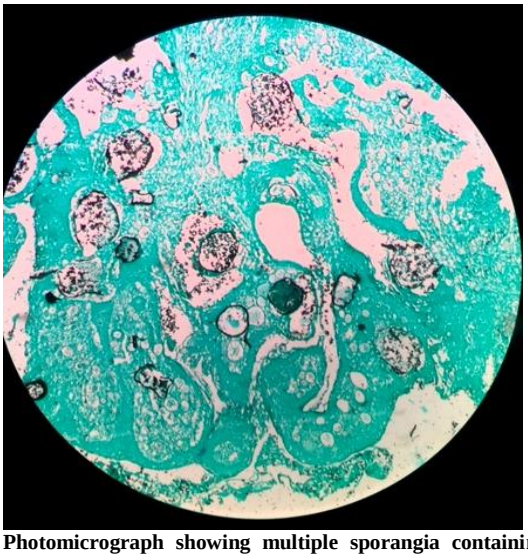
1. Photomicrograph showing multiple sporangia containing spores.(Haematoxylin and Eosin Stain : 10x)



2. Photomicrograph showing a sporangia containing spores (Haematoxylin and Eosin stain:40x)

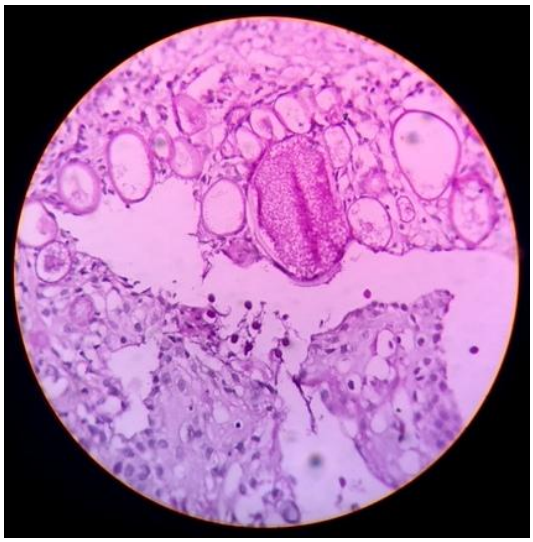


3. Photomicrograph showing collapsed chitinous wall of sporangia. (Haematoxylin and Eosin stain: 10x)

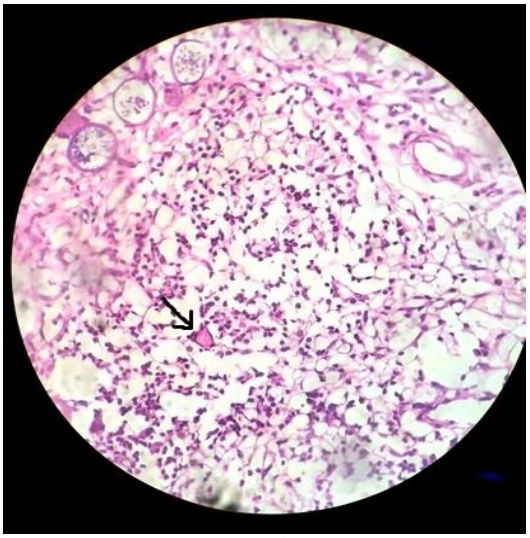


4. Photomicrograph showing multiple sporangia containing spores. (Stained with Gomori Methanamine Stain :10x)

5. Photomicrograph showing a sporangium with a prominent chitinous wall containing spores.(GomoriMethanamine Stain :40x)



6. Photomicrograph showing sporangia containing spores. (Periodic Acid Schiff Stain: 10x)



7. Photomicropgraph showing a focal granulomatous reaction along with a giant cell (blackarrow) due to spillage of the spores into the stroma. (Heamtoxylin and Eosin :10x)

DISCUSSION

Rhinosporidiosis is an infective chronic disease which was observed for the first time in Latin America over a century ago. Though its prevalence is noted all over the world, it is largely endemic in Indian sub-continent. [3] The mode of transmission in man remains unclear though it is believed that direct contact with the spores through dust, soil or prolonged exposure to stagnant water are supposed to be potential risk factors for contracting the disease. [4] The most common site of infection remains the upper respiratory tract, notably the anterior nares, the nasal cavity-the inferior turbinates, septum and the floor. Hence, nasal polyps originating from these locations should always be considered with suspicion for rhinosporidiosis. Usual clinical presentation is in the form of gradual nasal growth, occasional nasal bleeding, nasal itching and sneezing. [5] In the index case being presented here, the patient presented with dyspnoea on exertion and left nasal mass with yellowish, purulent and foul-smelling nasal discharge and sporadic itching episodes. Nevertheless, nasal rhinosporidiosis is characterised by development of single pedunculated polyp or multiple sessile polypoid masses or combination of both. [6]

The conclusive diagnosis of Rhinosporidiosis is by histopathological

examination of the biopsied or resected tissues, with identification of the pathogenic Rhinosporidium *seeberi* in various stages of development. The developmental stages of the pathogen have definitive characteristics such as formation of sporangia with varying number of spores depending on the stage of evolution of sporangia.

CONCLUSION

Though infrequent in its prevalence, nasal rhinosporidiosis belongs to those diseases of enigmatic varied clinical manifestations. It is often found to mimic many inflammatory and neoplastic lesions of the sinonasal region, and hence it is of paramount importance to exercise diligence on the part of clinician and the histopathologist to not to miss its diagnosis inasmuch as a misdiagnosis might lead to unwarranted and undesirable consequences in management and outcome of this clinical condition. The mainstay of diagnosis remains precise diagnosis by conventional histopathological methods by using special stains for fungi since culture and isolation of the Rhinosporidium *seeberi* by microbiological methods is difficult by conventional methods.

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