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Case Report

Nasal Polyposis Associated With Rhinosporidiosis in an 11 Year Old Boy - A Rare Case Report

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ABSTRACT

Rhinosporidiosis is a rare granulomatous entity that affects mucosa of nose, nasopharynx, conjunctiva and palate. Rhinosporidium seeberi is the causative agent. It is most common in southern India subcontinent and Sri Lanka. Here we present a rare case of nasal rhinosporidiosis in 11 year old boy who presented with Right nasal growth associated with nasal obstruction.

Key words **-** Nose, polyps, rhinosporidiosis.

INTRODUCTION

Rhinosporidiosis is a rare infectious granulomatous disease of humans and domestic animals. Nasal Rhinosporidiosis is endemic in India, Sri Lanka, Bangladesh and other parts of world such as Brazil, Italy, Iran, Argentia, Nigeria and Uganda. (1) From India, it has been reported from Tamilnadu, Kerala, Andhra Pradesh, Pondicherry, west Bengal and Chhattisgarh. (2) Rhinosporidiosis is commonly affected in adult men with men to female ratio 3:1 to 4:1. The causative agent of rhinosporidiosis is Rhinosporidium seeberi which is recently classified as a member of the protoctista mesomycetozoa. Nose is the commonest site being affected more than 70% of cases and 15% of the cases has ocular involvement. (3) The common mode of infection from aquatic habitat of Rhinosporidium seeberi is through the traumatized epithelium. Infection can spread in the body by lymphatic and hematogenous routes. (4) We report a rare case of presentation of Rhinosporidiosis in 11 years old boy who presented with of nasal growth associated nasal obstruction.

CASE REPORT

An 11 year old boy presented with complaints of right nasal obstruction since 3 months. He has history bleeding on touch and no history of trauma, headache, fever, sneezing, change in voice and loss of weight. Basic haematological investigation, liver function tests, renal function tests were normal. Examination of right nasal cavity using 0 degree Hopkins endoscope showed reddish, soft pedunculated mass 2cm in the floor of nasal cavity, arising from the anterior end of interior turbinate with granular surface. The mass bleeds on touch and patient had pain on touching.

No abnormality was seen in the contra lateral nasal cavity or nasopharynx. Clinical diagnosis of nasal polyp was made. An endoscopic excision of nasal mass was done and the tissue was sent to pathology

department for histopathological examination. Received grey white to grey brown soft tissue bits altogether measuring 3x2 cm. Microscopic examination revealed Polypoidal tissue lined by stratified squamous epithelium with focal pseudo stratified ciliated columnar epithelium with ulceration (Fig-1). The sub epithelium showed juvenile and mature sporangium filled spores in different stages (Fig-2). The fibroconnective stroma shows mixed inflammatory cells, consisting of lymphocytes, neutrophils and congested blood vessels (Fig-1). Occasional foci of granulomas consisting of foreign body giant cells, lymphocytes and epithelioid cells were seen. A diagnosis of Nasal polyp associated with Rhinosporidiosis was made based on histopathological examination.

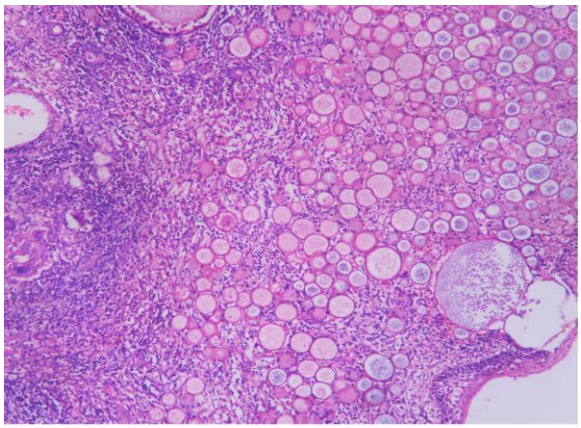

Fig-1: Microscopic examination shows(H&E)(10X) Polypoid tissue lined by stratified squamous epithelium. Subepithelium shows sporangium filled with sporangiospores, giant cells and inflamatory cells.

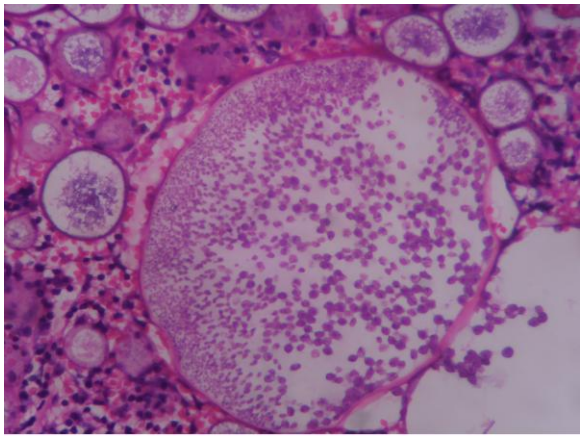

Fig-2: Microscopic examination shows(H&E)(40x) sporangium filled with sporangiospores of various stages of maturation.

DISCUSSION

Rhinosporidiosis is a chronic granulomatous disease and has existed since ancient times. This disease entity was made over a century ago in Latin America. It is endemic in South India, Sri Lanka and some areas of African continent. The etiological agent taxonomy has been debated in the last decades. Microbiologists initially considered as fungus because of its property to be stained by fungal stains such as GMS (Gomori methenamine silver stain) and PAS (periodic acid Schiff stain). The uncertainty of etiological agent arises from the difficulty to isolate and to grow in culture. The micro organism of the diseases was not a fungus but a prokaryotic cyanobacterium called microcystis aeruginosa. This hypothesis was based on the finding of bacterium in rivers and ponds where patients used to bath which is supported by light electron molecular findings. [(5)] Some authors found no evidence of a relationship between this microorganisms and Rhinosporidium seeberi. [(6)] Most accepted responsible agent is an aquatic protistan parasite belonging to a noval group of fish parasites localized phylogenetically between fungal and animal divergence. [(7)]

The path way of transmission of rhinosporidium is unclear and understood. According to literature the transmission made to human is most direct contact with spores through dust, soil or prolonged exposure to stagnant water are among major risk factors for infection acquisition. Generally patient present with history of gradual nasal growth, occasional epistaxis, sneezing and postnasal dipping. Clinically nasal Rhinosporidiosis presents with single pedunculated polyp or polypoid or combination of both. Ordinary polyps which often arise from the middle turbinate, where Rhinosporidiosis arises from nasopharynx, interior turbinate and nasal floor.

The microscopic differential diagnosis of nasal rhinosporidiosis is nasal polyp. Clinically rhinosporidiosis present as polypoid mass with primary site of nose, often eye, and its adnexa, larynx, lung and

skin are less frequently affected. Microscopic examination showed polypoid structure lined by stratified squamous epithelium. Sub epithelium showed cysts representing thick walled sporangium containing numerous spores in different stages of development. Intervening stroma shows fibrous continue tissue with inflammatory cells. Inflammatory nasal polyp presents with complaints of mass arising from nasal cavity associated with nasal obstruction. Microscopic features of nasal polyp shows polypoid tissue lined by pseudo stratified ciliated epithelium with focal ulceration. Stroma is edematous with mucous glands and mixed inflammatory cells. Absence of sporangium with spores in different stages is important differentiating diagnostic feature with rhinosporidiosis.

At present surgical excision remains the mainstay of treatment for rhinosporidiosis lesions. According to literature complete and meticulous excision of the polyp followed by through electro-cautery of the lesion base is recommended. **(8)**

CONCLUSION

Nasal rhinosporidiosis may mimic inflammatory nasal polyps. The diagnosis is established by histopathologic examination of tissue selections. Rhinosporidiosis consider a differential diagnosis when evaluating patient presenting with nasal growths. Based on history and clinical findings, histopathology of the adipose tissues from the lesion is mandatory for definitive diagnosis of rhinosporidiosis.

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