

Nasal Rhinosporidiosis Revisited

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Abstract

Rhinosporidiosis is a rare chronic granulomatous disease caused by rhinosporidium seeberi. Nasal rhinosporidiosis presents with nasal mass, nasal obstruction and epistaxis. In this study, we present our experience in 17 patients of rhinosporidiosis. Diagnosis was made on clinicopathological features. Different clinical presentations, management by surgical, combined with medical line of treatment are discussed with review of literature

Keywords: Nasal rhinosporidiosis, endoscopic excision, dapsone.

INTRODUCTION

Rhinosporidium seeberi is a fungus from the class of phycomycetes of family coccidioidaceae.^{1,2} Some authors recently postulated that etiological agent is not a fungus but a prokaryotic cyanobacterium called microcystitis aeruginosa. However, the most accepted responsible agent today is an aquatic protistan parasite belonging to a novel group of fish parasites (Mesomycetozoa), located phylogenetically between the fungal and animal divergence.³ It commonly affects nose and nasopharynx. Occasionally the conjunctiva, palate, lacrimal sac, maxillary antrum, larynx, trachea, bronchi, urethra and skin are affected.^{1,2} Disseminated form involves deep viscera and is known as malignant rhinosporidiosis.⁴ The disease is endemic in India and Sri Lanka, with only few cases being reported from Africa, South America and other parts of the world. In India, highest number of cases are reported from southern states of Kerala and Tamil Nadu which are on either side of western ghats.⁴ Rhinosporidiosis presents with soft highly vascular sessile or pedunculated mass (Fig. 1). Most successful treatment is surgical excision with cauterization of the base.^{2,5} Incomplete excision leads recurrences. Dapsone is the only drug found to be of value in treating rhinosporidiosis.

MATERIALS AND METHODS

The current study was conducted in the department of Otorhinolaryngology and Head-Neck Surgery, S Nijalingappa Medical College and HSK Hospital and RC between 2005 and 2009. A total of 17 patients who were



Fig. 1: Rhinosporidiosis mass hanging into nasopharynx

referred from periphery to our hospital were studied. Patients presented with history of nasal obstruction nasal mass and epistaxis. Diagnosis was made on the basis of history and clinical appearance of the mass. Recurrent cases and cases where whole extent of the mass was not visible clinically, underwent CT scan of nose and PNS to know the exact extent of the mass. All patients underwent complete hemogram and blood grouping and typing before being taken up for surgery. Patients under went endoscopic surgical excision with cauterization of the base. 12 patients were operated under general anesthesia and 5 cases under local anesthesia. Excised mass was sent for histopathological study. Postoperatively, patients were put on Dapsone for 1 month. Patients were followed up at 1, 3, 6, months and at one year interval.

RESULTS AND OBSERVATIONS

This was a prospective study conducted in a tertiary referral hospital. 17 patients presented to us with history of nasal obstruction, epistaxis and nasal mass. Duration of the symptoms varied from 6 months to 10 years (2.47 years). In our study 11(64.1%) were males and 6 (35.2%) were females. Age of the patients varied from 16 years to 52 years (28.4 years).

Out of 17 patients, 14 patients (82.3%) had unilateral disease and presented for the first time and 3 (17.6%) patients had recurrent disease and bilateral involvement. Out of these 3 patients, one patient had undergone repeated excisions about 9 to 10 times in the past. Other two patients had excisions 3 times in the past. One patient who had repeated surgeries had large septal perforation and



Fig. 2: Recurrent rhinosporidiosis involving vestibular skin and vestibular (partial) stenosis due to repeated surgeries in the past

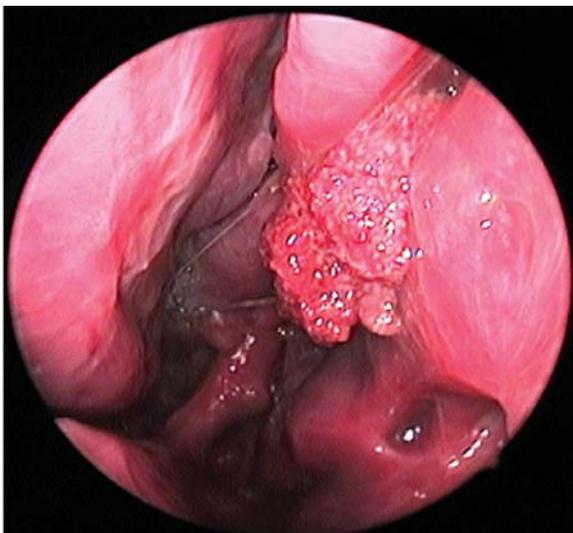


Fig. 3: Endoscopic picture showing recurrence in a patient one year after surgery. Note large septal perforation and absence of inferior turbinate on one side due to previous repeated surgeries

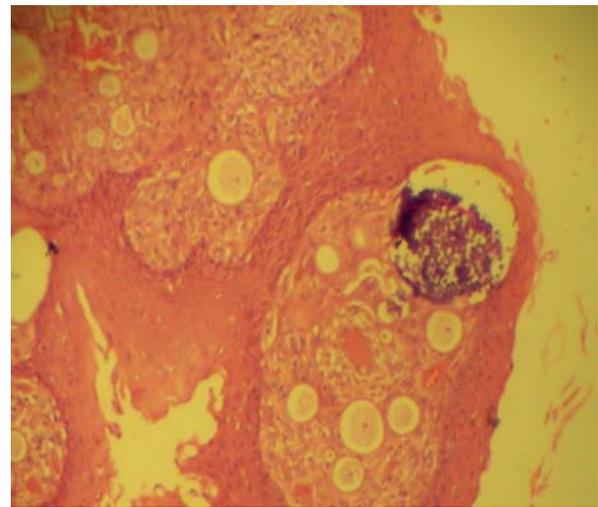


Fig. 4: Microscopic photograph of rhinosporidiosis showing sporangium filled with spores (H&E stain)

involvement of vestibular skin (Figs 2 and 3). 5 patients had excessive intraoperative bleeding and one patient was transfused one bottle of blood postoperatively. 3(17.6%) patients had recurrence and underwent endoscopic excision of mass.

DISCUSSION

Various modalities of transmission of rhinosporidiosis have been proposed, but none have been proved beyond doubt. Trauma to nasal mucosa, taking bath in stagnant waters or infected ponds have been proposed as possible modes of transmission.^{2,6}

All our cases came from rural and semi urban areas surrounding our hospital. All cases had history of taking bath in the pond situated in a place by name BADAMI which is a famous heritage center of Karnataka known for its rock caves.

Nasal rhinosporidiosis presents with nasal mass, nasal obstruction and epistaxis.^{2,6} Other than nasal symptoms disease can manifest with oral mass, hemoptysis, ocular mass, cutaneous or bony involvement. Mass resembles strawberry or ripe raspberry, surface of the mass is studded with white dots or flecks representing underlying sporangia.^{2,7} Diagnosis of the disease mainly depends on histopathological confirmation. Histopathology shows sporangia, stroma infiltrated with lymphocytes, plasma cells, polymorphs and eosinophils (Fig. 4). Recently nasal smear cytological study has been recommended as screening technique by few authors.²

One of our case had undergone surgical excision 9 to 10 times in the past and had developed involvement of the vestibular skin, bilateral partial vestibular stenosis, bilateral

nasal involvement, nasopharyngeal involvement and large septal perforation due to repeated cauterizations. Two other patients had multiple lesions with separate attachments. Surgical excision of the mass with cauterization of the base remains the mainstay of treatment. Use of endoscope greatly increases the visibility of lesion and helps in complete excision. It also helps in finding the recurrence, in two of our cases endoscope helped us to excise nasopharyngeal involvement completely.

Medical line of management in rhinosporidiosis is not encouraging. Various agents like dapsone, itraconazole, griseofulvin and amphotericin-B have been used with different success rates.^{2,8} But dapsone is cost effective with less side effects and has given promising results.⁹ All our patients received dapsone for 4 weeks postoperatively. This combination of surgical combined with medical line of management produced good success rate in our series. Nair reported 28.2% of recurrence in 3 years follow-up where as in our study, 3 patients (17.7) had recurrence in 1 year follow up and they again underwent surgical excision.¹⁰

CONCLUSION

Diagnosis, proper assessment and combined modality of treatment comprising of surgical excision and dapsone therapy still gives good results in treating this enigmatic disease. Regular postoperative follow-up is a must to detect and treat early recurrence.

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