Tracheal Rhinosporidiosis

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Abstract
Rhinosporidiosis is a chronic granulomatous infectious disease caused by rhinosporidium seeberi that usually affects the nasal mucosa and ocular conjunctiva. Involvement of trachea and bronchial tree is extremely rare. Few cases (8) have been reported in literature. We report a case of tracheal rhinosporidiosis that presented with stridor and haemoptysis with past history of surgery for recurrent rhinosporidiosis of nose and nasopharynx. Complete endoscopic excision and cauterization of base was done under general anaesthesia. No recurrent was observed for last 9 months of follow up.

Tracheo-bronchial involvement by rhinosporidiosis should be suspected when a known case of rhinosporidiosis involving upper respiratory tract presents with respiratory distress and/or haemoptysis.

Key words: Trachea, Rhinosporidiosis, Tracheostomy, Endoscopic excision, Cauterization.

Introduction
Rhinosporidiosis is a chronic granulomatous infectious disease that usually affects the nasal mucosa and ocular conjunctiva. The disease is widely prevalent in the tropics, especially in Southern India and Srilanka.¹ Rhinosporidiosis is caused by rhinosporidium seeberi a protistal microbe belonging to the newly described class mesomycetozoea at the animal-fungal boundary.² Involvement of tracheo-bronchial tree is extremely rare and such involvement poses many diagnostic and therapeutic challenges. To the available literature review no tracheal rhinosporidiosis yet reported from Bangladesh. Here we report a case of 45 years old man with tracheal rhinosporidiosis and discuss the diagnosis and management of this rare case.

Case report
A 45 year old man presented with respiratory distress for last 2 months and occasional haemoptysis for last 3 months. Severity of respiratory distress was progressively increasing in nature and patient was admitted in our department with mild to moderate degree of respiratory distress.

Patient was a known case of recurrent rhinosporidiosis of nose and nasopharynx and he had undergone operation in 1990, 2004
and 2010 for excision of nasopharyngeal rhinosporidiosis. His physical examination revealed a loud stridor and a bilateral respiratory wheeze. The results of ear, nose, throat examination were normal. Fibre-optic laryngoscopic examination revealed a reddish, fleshy mass attached with left antero-lateral wall of trachea with occluding the lumen of trachea. Biopsy was not done because of the risk of bleeding. The patient was managed by using a combined approach of rigid endoscopy and tracheostomy which anable complete resection of the mass under direct visualization and haemostasis was achieved. The mass appeared purple red in colour and the histopathology showed many sporangia confirm the diagnosis of rhinosporidiosis. In the postoperative period we did not consider any drug therapy to prevent recurrence. Regular follow up was done to see any recurrence and no recurrence was observed within 9 months of follow up.

Discussion
Rhinosporidiosis occurs in the Americas, Europe, Africa and Asia but is most common in the tropics, with the highest prevalence in Southern India and Sri Lanka and is caused by rhinosporidium seeberi. The disease results in a granulomatous inflammation of the affected tissues. The toxonomic relationship of rhinosporidium seeberi with other organism remained controversial for more than a century. The organism was first described by Malbran in 1892 as a sporozoan, as a protozoan by seeber and as a phycomycetes by Ashworth in 1923. Recently molecular
studies have shown rhinosporidium seeberi to be a protistal microbe in the newly described class mesomycetozoea at the animal fungal boundary. Rhinosporidiosis commonly involves in nose, nasopharynx, lacrimal sac and conjunctiva in that order of frequency. It occasionally involves the lips, palate, uvula, larynx, trachea, penis, vagina and bone. Cases of disseminated cutaneous rhinosporidiosis are also reported. Involvement of trachea and bronchial tree is very rare. Few cases have been reported of the tracheal involvement. Rhinosporidiosis mostly affects adult men and is possibly transmitted to human subjects by means of direct contacts with spores of rhinosporidium seeberi through dust, infected clothing or fingers and through swimming in stagnant water contaminated with the spores. Tracheal rhinosporidiosis in our patient could be the result of trauma and implantation of spores during intubation for previous operations. Diagnosis of tracheo-bronchial rhinosporidiosis by means of bronchoscopic biopsy is dangerous because of the high risk of bleeping. Thomas et al. reported the bronchoscopic biopsy of bronchial rhinosporidiosis without much bleeding.

The main stay of treatment for rhinosporidiosis is surgical excision by laser or electric diathermy, by using a wide tracheostomy complete endoscopic excision with base cauterization of the mass was done in our case. One study reported that rigid bronchos copy combined with wide tracheostomy incision made the removal of tracheal rhinosporidiosis mass easier and complete. Several anti-bacterial and anti-fungal drugs have been tested clinically but the only drug which was found to have some anti-rhinosporidial effect is Dapsone which appears to arrest the maturation of the sporangia but the result are not satisfactory and the disease may recur after months or years. So we did not consider any drug therapy for the prevention of recurrence in follow up period. The chance of recurrence in the case of nasal rhinosporidiosis after excision is about 10% but that of tracheobronchial lesion is unknown. In our case no sign of recurrence was noted in tracheobronchial tree with in 9 months of follow up.

Conclusion
Rhinosporidiosis in trachea could be secondary to implantation of spores from previous surgeries for nasal and nasopharyngeal rhinosporidiosis. We should inform anesthesiologist about trauma and accidental implantation of spores from nose, nasopharynx, oropharynx to lower respiratory tract by tube during endotracheal intubation. So care should be taken during endotracheal intubation. We must be careful about use of suction during surgery of rhinosporidiosis. Separate suction nostrle should be used for each nasal cavity and pharynx. A known case of rhinosporidiosis involving upper respiratory tract when presents with respiratory distress and/or haemptysis should be kept in mind that may be involve tracheo-bronchial tree.

References


