Rhinosporidiosis of the male urethra

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Rhinosporidiosis is a benign condition with minimal systemic effects. The organisms are limited to the polyps; regional lymph nodes and adjacent tissues are not involved. The lymph nodes and tissues cause pressure and obstructive symptoms when they enlarge. Commonest sites of infection are the nose, followed by eyes and skin. Other extranasal sites include the larynx, hard palate, vagina, vulva, urethra and anus. In the urethra, the lesions are red, sessile or a pedunculated mass extending beyond the external urethral meatus. This may resemble a mucocoele, hemangioma, condylomata or a neoplasm.⁴⁻⁶ We describe a case of rhinosporidiosis involving the external meatus.

Case

A 48-year-old male gardener from Kerala, India working for the last 6 years in Saudi Arabia, presented with a recurrent fleshy mass protruding from the external urethral meatus. This led to recurrent self-resolving haemorrhage secondary to minor trauma. There was no complaint of any difficulty in voiding. The condition had been present for the last 10 years with an increase in severity over the preceding 5 years. Prior to coming to Saudi Arabia the patient was a tileworker by profession, and lived near a river where he bathed everyday. There was no history of similar problems in his family.

Meatotomy was performed to expose the lesion at the external urethral meatus to facilitate complete excision. Cystourethroscopy revealed numerous lesions in the distal half of the penile urethra. These were excised completely endoscopically, and electrocautery was performed to the base

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and edges of the lesions to avoid implantation to the adjoining tissue. Histology confirmed Rhinosporidiosis with various stages of development from small trophic cysts to large sporangia (Figures 1, 2). Follow-up cystourethroscopy at 3 months failed to show any recurrent lesions.

Discussion

Rhinosporidium seeberi was described by Ashworth following a detailed analysis of the organism.¹ The fungus begins its life cycle measuring 8 μ . At this stage it contains 4000 nuclei, which form 16 000 spores. The sporangium represents the mature parasite. At this stage it also develops an envelope with a germinal spore through which spores are extruded. *Rhinosporidium seeberi* has been successfully cultivated in vitro. However completed development in vitro appears to require mammalian cells. This probably

Figure 1. Sporangia at different stages of development, including small trophic cysts and large cystic sporangia. The sporangia are seen in the overlying urothelium and sub-epithelial tissue separated by chronic granulomatous reaction. (Haematoxylin and eosin x 100)

Figure 2. A large sporangium containing numerous endospores of *Rhinosporidium seeberi* in the lumen. A sharply chitinous wall can also be seen. (Haematoxylin and eosin x 200)

explains the failure to propagate the organism in standard microbiological media. In addition a period of development may be required under favourable circumstances before the spores are capable of further development. This observation helps explain why it is not contagious and not transmitted either from human or animal to human.²

Karunaratne³ reported India and Sri Lanka as the areas with the highest incidence of the disease. In India, the states of Kerala and Tamil Nadu have the greatest endemicity. Most patients at diagnosis are between 20 to 40 years of age. The infection is very slow to develop with little discomfort; it is often difficult to ascribe age at onset. Males account for 70% to 90% of cases, mostly from the rural environment and there is an association with contaminated water and soil.

Diagnosis is made by direct and histological examination of the lesion. Urothelium at microscopy shows layers of transitional epithelium invaginated to flask shaped and forming pseudocysts. The pseudocysts contain spores, pus

and mucous material.

Systemic or local medical treatment has minimal influence on the course of the disease. Surgical excision followed by extracoagulation is the best form of treatment. Meatotomy helps to expose the lesion prior to excision.⁷ Recurrence of infection is a characteristic of Rhinosporidiosis. Electrocoagulation at the time of excision reduces the recurrence rate as does local infiltration of the site with amphotericin B.⁸ Dapsone has also been reported to reduce the recurrence rate in 70% of cases.⁹

Multiple lesions extending along the penile urethra pose a problem as transurethral excision and electrocoagulation may lead to urethral stricture formation. If the lesion recurs or urethral stricture occurs following transurethral excision, the urethra should be laid open, which will facilitate complete excision. Urethral reconstruction should only be performed once there has been a recurrence-free interval of 6 months.⁹

References

1. Ashworth JH. On Rhinosporidium seeberi with special reference to its sporulation and affinities. *Trans R Soc Edin.* 1923;53 Pt 2: 301-342.
2. Levy MG, Meuten DJ, Breitschwerdt EB. Cultivation of Rhinosporidium seeberi in vitro: Interaction with epithelial cells. *Science.* 1986;234:474-476.
3. Karunaratne WAEQ. *Rhinosporidiosis in man.* University of London: Athlone Press; 1964.
4. Joseph MK, Babu Ma. Rhinosporidiosis of urethra. *J Indian Med Assoc.* 1984;82:66-67.
5. Palaniswamy R, Bhandari M. Rhinosporidiosis of the male terminal urethra. *J Urol.* 1983; 129: 598-599.
6. Gahukamble LD, John F, Gahukamble DB. Rhinosporidiosis of urethra. *Trop Georg Med.* 1982;34(3):266-267.
7. Sasidharan K, Subramonian P, Moni VN, Aravindan KP, Chally R. Urethral Rhinosporidiosis. Analysis of 27 cases. *Br J Urol.* 1987;59:66-9.
8. Rippon JW. Rhinosporidiosis. *Medical Mycology.* Philadelphia: W.B.Saunders;1988: 362-372.
9. Nair KK. Clinical trials of diamino de-phenyl sulphone (DDS) in nasal and naso-pharyngeal Rhinosporidiosis. *Laryngoscope.* 1979;89:291-295.