

OCULOSPORIDIOSIS IN EASTERN NEPAL: A REPORT OF FIVE CASES

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Abstract. Rhinosporidiosis is endemic in India, Sri Lanka, and parts of East Africa and South America; sporadic cases are reported in other countries. We report on five patients from eastern Nepal with oculosporeidiosis. The conjunctiva was involved in two patients and the lacrimal sac was involved in three patients; treatment was by simple total excision of the conjunctival growth (patients with conjunctival involvement) and by dacryocystectomy (patients with lacrimal sac involvement). This is the second case report from Nepal.

INTRODUCTION

Rhinosporidiosis is a chronic infection caused by the fungus *Rhinosporidium seeberi*, which was first described as a human pathogen at the turn of the century. It usually produces granulomatous inflammation of the nose and the nasopharynx and extranasal involvement is unusual; the conjunctiva may be affected and, rarely, mucus membranes at other sites, eg the lacrimal sac, larynx, trachea, bronchus, and genitalia, may be involved.

We retrospectively reviewed all the histopathological records of the Departments of Ophthalmology and Pathology, BP Koirala Institute of Health Sciences, that had been created since 1995, where services were established at the institute. These records, spanning some 6 years, included those of 60 patients with histopathologically proven rhinosporidiosis: of these, 5 patients had involvement of the eye or its adnexa.

Case 1: A 17-year-old male presented in the Eye Outpatients' Department (OPD) with complaints of watering of the left eye for 6 months. Pressure over the lacrimal sac area

produced a reddish discharge from the upper punctum. Intraoperatively the lacrimal sac was distended and a provisional diagnosis of rhinosporidiosis was made. Dacryocystectomy (DCT) was performed and the lacrimal sac was sent for histopathological examination, which confirmed the clinical diagnosis.

Case 2: An 18-year-old female presented in the Eye OPD with complaints of watering of and mucopurulent discharge from the right eye for eighteen months. On syringing, there was a regurgitation of red-colored fluid with some granular material. The clinical diagnosis of rhinosporidiosis was corroborated by histopathological examination after DCT.

Case 3: A 6-year-old male presented with a 20-day-old growth (5mm x 5mm) in the lower fornix of the right eye. Simple excision of the growth was performed following a clinical diagnosis of granuloma; the histopathological examination found it to be a case of conjunctival rhinosporidiosis.

Case 4: A 29-year-old farmer was referred to our center with a diagnosis of recurrent chalazion. On examination there was a swelling in the palpebral conjunctiva of the right lower lid, which had multiple pus points. The growth was excised and sent for histopathological examination: it turned out to be a lesion of conjunctival rhinosporidiosis.

Case 5: A 35-year-old male presented in the

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Fig 1–Dacryocystorhinostomy scar showing wound gaping.

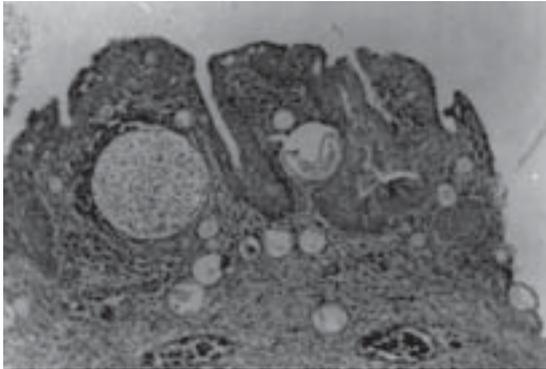


Fig 2–Section showing hyperplastic epithelium, multiple sporangia and trophocytes in the subepithelial region (H & E stain; X 100 magnification).

Eye OPD complaining of watering and a swelling in the lacrimal sac area; he had undergone dacryocystorhinostomy and dexilar silastic tube insertion 5 months earlier (Fig 1). Examination revealed a lacrimal fistula and wound gaping. Surgical revision was performed and the growth was excised, followed by ablation with povidone iodine. The patient was referred to the otorhinolaryngologist for further management. Histopathological examination confirmed rhinosporidiosis of the lacrimal sac.

Histopathological examination

Both hematoxylin-eosin and periodic acid-Schiff staining were carried out in all cases. Histological examination revealed the charac-

teristic sporangia of rhinosporidiosis at various stages of the life cycle, *eg* young trophocytes and mature sporangia embedded in the substantia propria (Fig 2); in some cases, sporangia were also seen in the surface epithelium. There were dense chronic inflammatory cell infiltrates mainly plasma cells and lymphocytes, in the substantia propria. In two cases, epithelioid cell granulomata with multinucleated giant cells and polymorphonuclear cells were noted, especially around overlying sporangia. The overlying epithelium was hyperplastic in all cases and squamous metaplasia of the lining mucosa of the lacrimal sac was seen in all of the three cases of lacrimal sac involvement. Periodic acid-Schiff stained the sporoblasts very strongly and the sporangial wall faintly.

The eye and adnexa are the second most common sites of *Rhinosporidium seeberi* infection in human. Kuriakose (1963) coined the term *Oculosporidiosis* for rhinosporidiosis of the eye. From reviewing the literature, it appears that 4,848 cases have been reported, of which 4,040 (83.3%) were nasal, 546 (11.2%) were ocular, and 262 (5.4%) were of other sites (Billore, 1996). Our review showed that of 60 cases of rhinosporidiosis, 5 cases (8.34%) involved the eye or its adnexa.

Kuriakose (1963) reported 25 cases of oculosporidiosis, of which 16 (64%) involved the palpebral conjunctiva and 6 (24%) involved the lacrimal sac. Shukla *et al* (1982) reported 119 cases of oculosporidiosis, of which 71 (59.6%) involved the palpebral conjunctiva and 38 (31.5%) involved the lacrimal sac. In our review, the conjunctiva was involved in two cases (40%) and the lacrimal sac was involved in three cases (60%); our review, by virtue of its small size, does not allow general comment to be made. Shreshta *et al* (1998), in the only other study from Nepal, reported involvement of the conjunctiva in 92.6% and involvement of the lacrimal sac in 7.3% of cases.

Although rhinosporidiosis is not endemic in Nepal, any patient presenting with a reddish granular discharge expressed by pressure over

the lacrimal sac or found on syringing should prompt the consideration of rhinosporidiosis of the lacrimal sac. Rhinosporidiosis of the lacrimal sac is best managed by dacryocystectomy; conjunctival lesions are best managed by surgical resection with cautery.

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