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Ocular rhinosporidiosis in Tamil Nadu, India

J.S. Moses[1] & C. Balachandran[2], S. Sandhanam & N. Ratnasamy, S. Thanappan, Johnson Rajaswar & Dinakar Moses[3]
Madras Veterinary College, Madras-600 007, Ophthalmologists, Govt. Headquarter's Hospital, Nagercoil-629 001, Veterinary Doctors, Nagercoil-629 001

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Abstract

A high incidence of ocular rhinosporidiosis in Kanyakumari district of Tamil Nadu, India is reported. Among the four taluks (sub-division for administration), highest occurrence was found in Agastheeswaram taluk (51.2%) followed by Kalkulam (24.4%), Thovalai (22%) and Vilavancode (2.4%). The disease occurred among both sexes equally and preponderance of a particular sex was not observed. The young adolescents were found to be more susceptible. The disease was found in all socio-economic strata and among all communities and persons belonging to different religious groups. Most of the patients gave a history of bathing in muddy stagnant pools of water.

Introduction

Rhinosporidiosis, a mycotic infection, is caused by *Rhinosporidium seeberi*, producing polyps mostly on the mucous membranes of the nostrils and throat, less frequently in the eye and rarely in the bronchus, genitalia, skin and bone. Rhinosporidiosis of the eye has been reported from various parts of the world and in India [1–27]. The elusive nature of the epidemiology of rhinosporidiosis makes it as one of the most unique and interesting diseases. This paper is about the high incidence of ocular rhinosporidiosis (OR) in Kanyakumari (KK) district of Tamil Nadu, India.

Materials and methods

Two hundred and nineteen cases of primary OR recorded between August, 1984 and November, 1988 at Government Headquarters Hospital, Nagercoil were analysed. Tissues preserved in 10% formalin were processed, stained by haematoxylin and eosin and examined. The growth varied in size from a pin head to a polyp measuring 2 × 3 cm (Figs. 1–3).

[1] Retired Professor of Microbiology and Project Leader University Scheme on 'Electronmicroscopic and Ultrastructural studies on rhinosporidiosis in nasal polyps of animals and man'. *Present address*: Emeritus Professor of Indian Council of Agricultural Research at Madras Veterinary College, Madras-600 007, India.
[2] Then Assistant Professor of the Scheme. *Present address*: Associate Professor of Pathology, Veterinary College and Research Institute, Namakkal-637 002, India.
[3] E.N.T. specialist, Madras-600 007.

Fig. 1.

Fig. 2.

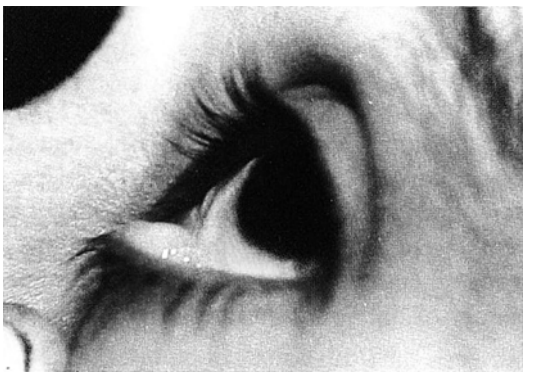

Fig. 3.

Results and discussion

Histopathological examination of the ocular growths were positive for rhinosporidiosis. The histological features agree with earlier findings [9, 10].

The age and sex distribution and various anatomic sites involved are given in Table 1 and 2 respectively. The youngest was one year old and the oldest 79 years old. Of 219 patients, 119 were male and 100 were female.

Moral and Gracia [14] stated that out of 510 cases of OR, 233 were from India. Shukla *et al.* [24] reported 119 cases from Raipur during a 13 year period. Six out of 272 cases attended at 3 medical colleges were OR 926. Billore [4] found a prevalence rate of 1% in urban area and 0.22% in rural area of Raipur. This report of 219 cases in a period of 4 years and 3 months, clearly indicates a high incidence of the disease in KK district. Among the four taluks, the highest occurrence was found in Agastheeswaram (51.2%) followed by Kalkulam (24.4%), Thovalai (22%) and Vilavancode (2.4%). A high incidence of nasal rhinosporidiosis in Agastheeswaram taluk has been reported previously [5, 13, 15]. Even in a sample survey conducted in a high school located in this area, one case of OR was seen out of 4 rhinosporidiosis cases [15].

The male to female ratio in this study was 1.19 : 1.00 as against 2 : 1 [24]. In the age group of 11 to 20 the number of females even though

Table 1. Age and sex distribution of ocular rhinosporidiosis

Age group	Male	Female	Total
0–10	32	26	58
11–20	51	48	99
21–30	12	4	16
Above 30	24	22	46
Total	119	100	219

Table 2. Anatomic sites of ocular rhinosporidiosis

Sites	No. of cases
Upper tarsal conjunctiva	137
Lower tarsal conjunctiva	63
Bulbar conjunctiva	16
Lacrimal sac	3
Total	219

arithmetically more, was not statistically significant. A preponderance of rhinosporidiosis in the male [3, 24] or the female [5, 13] has been reported. But, in this study almost an equal distribution among both sexes were observed.

The growths were more common in upper tarsal conjunctiva (62.5%) than in the bulbar conjunctiva (7.3%) and very rare in lacrimal sac (1.4%). An increased incidence in the upper tarsal conjunctiva may be due to the presence of sulcus tarsalis, a linear groove, where the spore of foreign body gets lodged and is not washed off easily. Rippon [21] also states that in 90% of ocular infection, the palpebral conjunctiva is involved.

Shukla *et al.* [24] has categorically stated that all the patients belong to the lower economic strata. However, in this study the OR was found to occur in people belonging to different strata of socio-economic order and there was no preponderance of the disease in any community belonging to a particular caste or religion. Kannankutty *et al.* [8] stated that a member of one community is a much vulnerable to this disease as a member of another community.

The disease may occur after dust storms [11] and is common in dry dusty areas [21]. But, in this study, most of the patients hailed from wet areas. The KK district gets the benefit of both southwest and northeast monsoon. Average rainfall is more than 140 cm. Further, most of the patients gave a history of taking baths in local ponds. This habit has been attributed to be a primary factor in the causation of disease by several authors. But, so far, the method of transmission and the occurrence of the infective stage in the ponds have not been known.

Hence, it can be concluded that KK district, a hyperendemic area for nasal rhinosporidiosis [15] is also highly endemic for OR, mostly affecting young adolescents, frequently involving upper tarsal conjunctiva, equally affecting both sexes belonging to various socio-economic and religious groups.

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