

# Research Journal of Pharmaceutical, Biological and Chemical Sciences

## A Case Study on Rhinosporodiosis: The Nasal Strawberry.

A S Nithya<sup>1\*</sup>, Prasan Norman<sup>2</sup>, Uma Devi<sup>3</sup>, Udaya Shankar<sup>4</sup>.

<sup>1</sup>Post graduate, Department of Community Medicine, SreeBalaji Medical College and Hospital, Chennai, Tamil Nadu, India.

<sup>2</sup>Department of Community Medicine, Karpaga Vinayaga Medical College, Tamil Nadu, India.

<sup>3,4</sup> Professor, Department of community medicine, Sree Balaji medical college, Chrompet, Chennai.

### ABSTRACT

Rhinosporodiosis is defined as a chronic granulomatous disease of the mucous membranes of the nasal cavity which is usually characterized by polyps or other forms of hyperplasia and caused by a yeast like microorganism, *Rhinosporidium seeberi*. It is one of the most common granulomatous condition of the nose which is characterised by nasal obstruction, epistaxis, rhinorrhoea, foreign body sensation. In about 70% of the cases, the usual presentation site is the nasal cavity. It also occurs in conjunctiva and lacrimal apparatus of the eye in 15% of the cases. Skin, genital organs, rectum, mouth and upper airway is also affected in 15% of the cases. Diagnosis is confirmed through a biopsy of the polyp which shows several round or oval shaped sporangia bursting through the chitinous wall when seen under a microscopy. The following is a detailed case discussion of a case of rhinosporodiosis in a 47 year old female who was treated and cured in our clinic.

**Keywords:** Epistaxis, nasal strawberry, polyp, Rhinosporodiosis.

*\*Corresponding author*

## INTRODUCTION

Rhinosporidiosis is a chronic granulomatous infection of the mucous membranes [1]. It is usually seen as vascular friable polyp mostly arising from the nasal mucosa or external structures of the eye. It is seen affecting the mucous membrane of nasopharynx, oropharynx, conjunctiva, rectum and external genitalia [2]. The floor of the nose and inferior turbinate are the most common sites. In this case study a case of rhinosporidiosis, which was referred to the department of otolaryngology for further management has been discussed here.

### Background

Initially, Rhinosporidiosis was described by Seeber in 1900 in an individual from Argentina [3], Rhinosporidiosis is endemic in India, Sri Lanka, South America, and Africa. Most cases of Rhinosporidiosis occur in people from or residing in the Indian subcontinent or Sri Lanka [4]. Disease has been noted in cats, cattle, dogs, ducks, goats, horses, mules, parrots, and swan. It is presumed to be transmitted by exposure to the pathogen when taking bath in stagnant water pools where animals also bathe [5]. The occurrence of Rhinosporidiosis in river-sand workers, in India and in Sri Lanka, is particularly relevant to such a mode of infection, through abrasions caused by sand particles with the pathogen in the putative habitat – ground water (6). After inoculation, the organism replicates locally, resulting in hyperplasia of host tissue and localized immune response.

### Case history

A female aged 47 years of age came with complaints of unilateral obstruction and epistaxis. She also had complaints of post nasal discharge and foreign body sensation in her left nasal cavity. She gave a history of recurrence of the mass in her nose every 6-7 months. A detailed history elicited from her made us to understand that she had been visiting quacks for treatment. She has paid from 500 to 800 rupees for every visit. The person will remove the mass from the nose with a forceps and pack her nose with surgical cotton for five hours after the procedure. She has noticed that the mass would bleed whenever she picked her nose or due to accidental trauma. She has had this mass in her nose from the age of ten. She also gave history of taking baths in pools and ponds near her village. She lived in a semi-pucca house and had lots of cattle before her wedding. She has moved to Chennai after her marriage but still visited quacks whenever she went home.

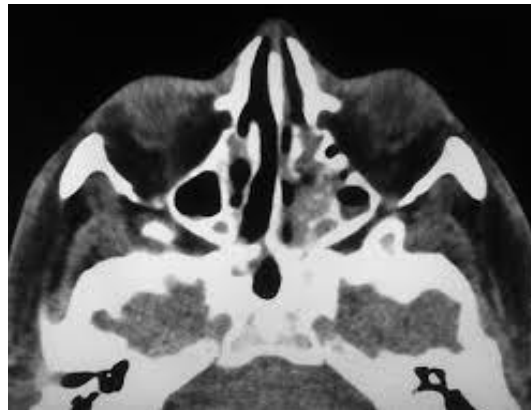
### Examination of the nasal cavity

On examination of her nasal cavity, a strawberry like mass was seen in her left nasal cavity (figure:1). It was occluding the nasal cavity and seen above the inferior turbinate. The mass appeared bright red in color, which suggested high vascularity. She had rhinorrhea, and postnasal discharge (drip) with cough.

Figure1: Mass on examination of nasal cavity



Figure 2: CT scan showing the mass



### Treatment

So far there is no known medical treatment and several drugs have been tried, Topical application of tar emertictolenoftate etc., were tried with varying results. Systemic therapy with Dapsone over a prolonged period is supposed to delay the recurrence. Only acceptable therapy is radical surgery (figure:3) with surrounding healthy tissue and cauterization of the base to minimize the recurrence (7). Removing tissue as piecemeal should be avoided to prevent hematogenous spread as all the occurrence of generalized disease had previous history of surgery.

Figure 3: The excised mass



### DISCUSSION

The earliest symptom of this disease is often epistaxis which is neglected by many patients. The reason for this neglect was due to a misconception which prevailed among people in rural areas that nasal bleeding is a normal phenomenon that pubertal and adult males suffered from [8]. Few patients had other symptoms like viscid nasal discharge, nasal obstruction and nasal mass. As the course of the disease is slow the nasal mass may be present for years before the patient seeks medical advice. Anterior rhinoscopy revealed granular white studded reddish pedunculated lesion which was friable and bled on touch. Common sites of attachment were nasal septum and vestibule. Radiological investigations like CT-scan (figure:2) were done only for extensive cases to identify the extent and attachment of the lesion. Doubtful cases of clinical diagnosis were confirmed by biopsy before proceeding with surgical excision.

The mode of transmission of this disease could be droplet infection that is by close contact with infected humans and animals, contaminated sources like air, soil and water. The spores of seeberi which are dormant in the source become active on implantation over live tissues. The fact that nose is the commonest site of infection strengthens the theory of droplet transmission. Involvement of adjacent sites in the same individual is explained by auto-inoculation.

## CONCLUSION

Some studies have reported male predominance of 4:1 to 9:1 in incidence whereas few other studies have reported female predominance [8]. The fact that females have less chance of animal contact, less frequent pond baths may attribute to lesser female prevalence. Some authors thought that effect of estrogen in females provides protection from the disease. The high recurrence rate of this disease has brought financial burden and mental stress to patients by repeated visits to the hospital.

No vaccine is currently available to treat rhinosporidiosis [9]. The fact that Rhinosporidiosis seeberi is an aquatic parasite of fish and the finding that infection occurs after contact with stagnant water indicates that fish in freshwater sources should be tested for infection with the parasite in areas where the disease is prevalent. Identification of infected bodies of water on a wide scale could consequently be employed as an effective preventive measure.

## Recommendations

Education of populations residing near stagnant waters that are at risk for Rhinosporidiosis seeberi contamination should also be undertaken to prevent the spread of the disease. Public projects that result in the creation of standing water should also be analyzed with respect to the possibility of future Rhinosporidiosis seeberi contamination.

## REFERENCES

- [1] Vishnu Prasad. Journal of Clinical and Diagnostic Research 2015;9(5): MD01-MD02
- [2] Mihajlovic M, Vlajkovic S, Jovanovic P, Stefanovic V. International Journal of Clinical and Experimental Pathology 2012;5(8):739-753.
- [3] <http://jorl.net/index.php/jorl/article/view/2>.
- [4] Job A, Venkateswaran S, Mathan M, Krishnaswami H, Raman R. J Laryngol Otol 1993;107(9):809-12.
- [5] The pathology of rhinosporidiosis W. A. E. Karunaratne Article first published online: 9 JUN 2005 DOI: 10.1002/path.1700420121
- [6] Fouzia B, Ali SI, Gyaneshwari S. J Med Microb Diagn 2015;4: 191.
- [7] Indian J Med Microbiol 2002;20(3):119-31.
- [8] Nazia Aziz Ahmed. Rhinosporidiosis:an epidemiological study. September 2013:Volume2:Issue 38Page :7227-7233.
- [9] Fredricks D. Rhinosporidium seeberi: A Human Pathogen from a Novel Group of Aquatic Protistan Parasites. Emerging Infectious Diseases. 2000 may; 6(3).