



MANAGEMENT OF RHINOSPORIDIOSIS IN OUR EXPERIENCE

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ABSTRACT

Background: Rhinosporidiosis is a chronic granulomatous disease caused by aquatic parasite *Rhinosporidium seeberi* belonging to group of fish parasite Mesomycetozoa. It commonly affects nose and nasopharynx. It is one of the endemic disease is in India.

Materials and Methods: This is a prospective study of distribution pattern and management of 12 cases of rhinosporidiosis in our institute(GIMSR)from the region of Visakhapatnam, Vizianagaram and Srikakulam districts of Andhra Pradesh, India. This is also to study the pattern of involvement according to age, sex, site, laterality, and their management. It emphasizes the importance of excision under local anaesthesia once the stalk of the lesion is identified.

Results: Our study of 12 patients were shown slightly male preponderance, around the age of 11-20 years, with a clear cut history of having a bath in contaminated pools and rivers. Nasal obstruction & epistaxis are the predominant symptoms. The majority of cases had been excised endoscopically under local anaesthesia with less bleeding and minimal recurrence rate. It also reveals the importance of general anaesthesia when the lesions involving posterior aspect of nasal cavity, nasopharynx to prevent aspiration in to lungs and in children who don't cooperate for local anaesthesia.

Conclusion: Endoscopic identification of stalk is mandatory before excising the lesion under local anaesthesia. The bleeding is less when excision done with diathermy cautery.

KEYWORDS : Endoscopic excision, Granulomatous, Management, *Rhinosporidium seeberi*, Recurrence

INTRODUCTION

Rhinosporidiosis is a chronic granulomatous disease caused by an aquatic parasite *Rhinosporidium seeberi* belonging to a group of fish parasite Mesomycetozoa(1).It commonly affects nose and nasopharynx. Occasionally, conjunctiva, lacrimal sac, maxillary antrum, larynx, trachea, bronchi, urethra, and skin are affected. Disseminated type affects deep viscera and is known as malignant rhinosporidiosis (2). This disease is endemic in India and Srilanka(3) and few parts of Africa, South America, etc. In India, large numbers of cases are from southern states of Tamil Nadu, Kerala, and Andhra Pradesh. It presents with a soft highly vascular sessile or pedunculated polyps. Most successful treatment is endoscopic excision with cauterization of base (4). Incomplete excision leads to recurrences.

MATERIALS AND METHODS

The current study was conducted in Department of Otorhinolaryngology, GIMSR, Visakhapatnam, between April 2017 to December 2018. Each and every patient has also given consent for this study. This is a prospective study of a total of 12 cases who presented to our outpatient department. Patients presented with history of nasal obstruction, epistaxis, and nasal mass etc. All patients have undergone complete ear, nose, throat (ENT) and head and neck examination including pre-operative diagnostic nasal endoscopy to assess the site and extension and number of lesions. All patients underwent complete haemogram, blood grouping & typing, BT & CT preoperatively. Computed tomography scan of nose and para-nasal sinuses was also undertaken for complete evaluation. The diagnosis is confirmed by histopathology.

RESULTS AND OBSERVATIONS

This was a prospective study conducted in Department of ENT, GIMSR, Visakhapatnam, Andhrapradesh.

Total numbers of patients are 12. Duration of symptoms like nasal obstruction, nasal bleeding, and nasal discharge varied from 2 to 6 months.

DISCUSSION

Rhinosporidiosis is thought to be caused by parasite *R. seeberi* belonging to class of Mesomycetozoa. All our cases came from rural/semi-urban areas of Visakhapatnam, Vizianagaram & Srikakulam districts of AP. All cases had history of taking bath in ponds and swimming in contaminated ponds and rivers in their respective villages and it may indicate the most common mode of transmission(5). Mostly involves lateral wall followed by septum,

floor and nasopharynx. Predominant symptoms were a nasal obstruction and nasal bleeding. They presented clinically as papillomatous and polypoid lesions. The lesions are soft, highly vascular, sessile or pedunculated and grayish red with under-surface resembling strawberry studded with white dots representing sporangia.

In our study males were commonly effected than females constituting to 58.3% whereas females are only 42.7% these finding corresponds to Mudassar A Sharif.

In our study commonest age group to be involved is 11-20 years these findings corresponds to Kameswaran S, Lakshmanan M. Rhinosporidiosis whereas in Mudassar A Sharif the commonest age group is middle aged 20-40 years.

In our study the commonest presenting symptom is nasal obstruction with nasal mass followed by epistaxis. More number of cases presented with swelling arising from the lateral wall and left side is more involved than right. 9 cases 75% were operated under local anaesthesia without any complications and recurrence rate is also very less after 1 year of followup. Pedunculated type of stock is seen in 66.6% of the cases and sessile is seen only in 33.33% of the cases. It is mostly seen in low socio economic groups agricultural workers are more affected because they will be bathing the contaminated ponds.

Certain precautions, like avoidance of use of surface water for bathing and other domestic purposes also helps in reducing the chances of recurrence. Washing of cattle and utilization of water from same water sources for human needs, should be discouraged.

In general, improvement in sanitation, general hygiene and making people in rural areas accessible to safe & piped water supply along with imparting proper health education to the high risk groups residing in rural population will help in controlling the disease.



Figure 1: Rhinosporidiosis lesion in left nose

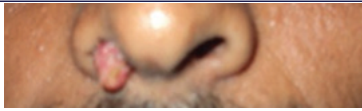


Figure 2: Rhinosporidiosis lesion in right nose



Figure 3: Endoscopy reveals strawberry like Rhinosporidiosis

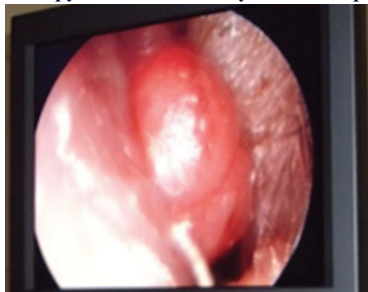


Figure 4: Endoscopy reveals rhinosporidiosis in left nasal cavity

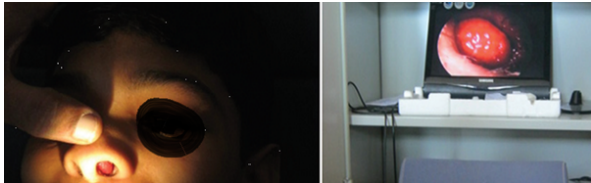


Figure 5: Rhinosporidiosis lesion in left nasal cavity



Figure 6: Extension of lesion to the oropharynx



Figure 7: Lesion in Right nasal cavity

Differential Diagnosis

Nasal polyp, hemangioma, malignancy, coccidioides immitis, etc. The organism stains with periodic acid Schiff agent(6) at all stages. Possible causes for recurrences include incomplete removal in inaccessible areas or continued exposure to the infective environment. It has been observed in our study that the rhinosporidiosis the most common seen in males 7/12 and commonly observed in the age group of 11-20 years. Predominant symptoms were nasal obstruction and nasal bleeding. It is mostly unilateral seen on left side in our study. Most common site is lateral wall of nose. It is mostly seen in agricultural laborers. It is mostly solitary in nature. Few recurrences were

seen. We have done majority of cases (9/12) done under local anesthesia without much difficulty. We have preferred general anesthesia to perform on patients who have multiple, bilateral, and lesions arising from the posterior aspect of nasal cavity and nasopharynx. Only one patient who underwent endoscopic excision under general anesthesia required post-nasal packing and compatible blood transfusion in the post-operative period. Total number of cases with recurrences after 1 year follow-up is 1. The recurrence was due to excision done in inaccessible area in inferior meatus and incomplete excision, for which repeat surgery was done. Treatment with Dapsone after surgical treatment to minimize the recurrences(8) was not done in our cases.

Advantage of Endoscope

It reduces the risk of recurrence. Removal of entire mass can be done with endoscope which cannot be seen on routine anterior rhinoscopy. It gives better illumination for removing the entire pathology precisely with minimal manipulation and tissue damage mucosa. Post-operative complications like haemorrhage and synechiae are less. For lesions located posterior aspect of nasal cavity and nasopharynx, endoscopic visualization is must and en bloc removal can be done only after proper preoperative evaluation with general anaesthesia.

Table 1 : Sex Distribution

SEX	NUMBER	PERCENTAGE
MALE	7	58.3%
FEMALE	5	42.7%
TOTAL	12	100%

Table 2 : Age Distribution

AGE IN YEARS	NUMBER	PERCENTAGE
0-10	1	8.3%
11-20	4	33.3%
21-30	2	16.66%
31-40	2	16.66%
41-50	2	16.66%
>50	1	8.3%
TOTAL	12	100%

Table 3 : Presenting Features

PRESENTING FEATURES	NUMBER	PERCENTAGE
NASAL OBSTRUCTION	12	100%
MASS IN THE NOSE	12	100%
EPISTAXIS	8	66.6%
NASAL DISCHARGE	5	41.66%
CHANGE IN VOICE	2	16%
HEADACHE	1	8.3%

Table 4 : Occupation

OCCUPATION	NUMBER	PERCENTAGE
AGRICULTURAL WORKER	6	50%
STUDENT	5	41.6%
HOUSEWIFE	1	8.33%
TOTAL	12	100%

Table 5 : Site Of Distribuiton

SITE	NUMBER	PERCENTAGE
LATERAL WALL	5	41.6%
SEPTUM	1	8.33%
NASOPHARYNX	2	16.66%
FLOOR	1	8.33%
MULTIPLE SITES	3	25%
TOTAL	12	100%

Table 6 : Laterality

LATERALITY	NUMBER	PERCENTAGE
RIGHT	4	33.3%
LEFT	5	41.6%
B/L	3	25%
TOTAL	12	100%

Table 7 : Type Of Stock

TYPE	NUMBER	PERCENTAGE
PEDUNCULATED	8	66.6%
SESSILE	4	33.3%
TOTAL	12	100%

Table 8: Mode Of Anaesthesia

MODE	NUMBER	PERCENTAGE
GENERAL	3	25%
LOCAL	9	75%
TOTAL	12	100%

CONCLUSION

Rhinospordiosis is a chronic granulomatous disease of the nose and nasopharynx. It is commonly seen in certain areas of Visakhapatnam, Vizianagaram and Srikakulam districts of Andhra Pradesh state. Taking bath in contaminated ponds and in river is the main mode of transmission. Surgical excision with cautery of the base is the treatment of choice. Endoscopic identification of stalk is mandatory before excising the lesion under local anaesthesia. The bleeding is less in excision under local anaesthesia. The patients who have multiple, bilateral and lesions arising from posterior aspect of nasal cavity and nasopharynx have to be undergoing endoscopic excision under general anaesthesia.

REFERENCES

- Herr RA, Ajello L, Taylor JW, Arseculeratne SN, Mendoza L. Phylogenetic analysis of *Rhinospordium seeberi*'s 18S small-subunit ribosomal DNA groups this pathogen among members of the protactistan Mesomycetozoa .clade. *J Clin Microbiol* 1999;37:2750-4.
- Kameswaran S, Laxamanan M. Rhinospordiosis. *ENT Disorders in a Tropical Environment*. 2nd ed. Chennai: MERF Publications; 1999. p. 19-34.
- Arseculeratne SN. Recent advances in rhinospordiosis and *Rhinospordium seeberi*. *Indian J Med Microbiol* 2002;20:119-31.
- Ali A, Flieder D, Guter G, Hoda SA. Rhinospordiosis: An unusual affliction. *Arch Pathol Lab Med* 2001;125:1392-3.
- Cutchavaree A, Lekagul S, Sastarsadhith V, Sritulanondha S. Rhinospordiosis. *J Med Assoc Thai* 1980;63:578-81.
- Rippon JW. *Medical Mycology*. 2nd ed. Philadelphia, PA: WB Saunders; 1982. p. 325-33.
- Ratnakar C, Madhavan M, Sankaran V, Veliath AJ, Majumder NK, Rao VA. Rhinospordiosis in Pondicherry. *J Trop Med Hyg* 1992;95:280-3.
- Venkateswaran S, Date A, Job A, Mathan M. Light and electron microscopic findings in rhinospordiosis after dapsone therapy. *Trop Med Int Health* 1997;2:1128-32.
- Saha J, Basu AJ, Sen I, Sinha R, Bhandari AK, Mondal S. Atypical presentations of rhinospordiosis: A clinical dilemma? *Indian J Otolaryngol Head Neck Surg* 2011;63:243-6.