

Management of Rhinosporidiosis: Our Experience

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Abstract

Background: Rhinosporidiosis is a chronic granulomatous disease caused by aquatic parasite *Rhinosporidium seeberi* belonging to novel group of fish parasite *Mesomyxozoa*. It commonly affects nose and nasopharynx. This disease is endemic in India and Sri Lanka.

Materials and Methods: This is a prospective study of distribution pattern and management of 54 cases of rhinosporidiosis in around Srikakulam district, Andhra Pradesh and also to study the pattern of involvement according to age, sex, site, laterality, and their management. It emphasizes the importance of excision under local anesthesia once the stalk of the lesion is identified.

Results: Our study of 54 patients was shown slightly farmer male preponderance around the age of 11-20 years, with a clear cut history of having a bath in contaminated pools and rivers in and around Srikakulam. Nasal obstruction was the predominant symptom than epistaxis as everybody would think of its vascularity. The majority of cases had been excised endoscopically under local anesthesia with less bleeding and minimal recurrence rate. It also reveals the importance of general anesthesia when the lesions involving posterior aspect of nasal cavity and in the nasopharynx to prevent spillage of blood into the laryngeal inlet and also for better accessibility.

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

Key words: Endoscopic excision, Granulomatous, Management, *Rhinosporidium seeberi*, Recurrence

INTRODUCTION

Rhinosporidiosis is a chronic granulomatous disease caused by an aquatic parasite. *Rhinosporidium seeberi* belonging to a novel group of fish parasite *Mesomyxozoa*.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 Srilanka³ 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

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, RIMS, Srikakulam between 2010 and 2015 after taking proper approval by our local ethics committee. Each and every patient has also given consent for this study. This is a prospective study of a total of 54 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 hemogram and blood grouping and typing before being taken up for surgery. Computed tomography scan of nose and paranasal sinuses was undertaken to know the extent and site

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of origin of disease. All the patients underwent endoscopic excision with cauterization of the base. The diagnosis is confirmed with histopathological examination.

RESULTS AND OBSERVATIONS

This was a prospective study conducted in Department of ENT, RIMS Srikakulam.

Total numbers of patients are 54. Duration of symptoms like nasal obstruction, nasal bleeding, and nasal discharge varied from 2 to 6 months.



Figure 1: Rhinosporidiosis lesion in left nasal cavity after tip elevation



Figure 2: Polypoidal rhinosporidiosis lesion in right nasal cavity



Figure 3: Diagnostic nasal endoscopy reveals strawberry like rhinosporidiosis lesion

DISCUSSION

Rhinosporidiosis is thought to be caused by parasite *R. seeberi* belonging to class of *Mesomycetozoa*. All our cases came from rural areas surrounding Srikakulam district. All cases had history of taking bath in ponds and swimming in contaminated ponds and rivers in their respective villages 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 presents clinically as papillomatous and polypoid lesions. The lesions are soft, highly vascular, sessile or pedunculated and grayish



Figure 4: Diagnostic nasal endoscopy reveals rhinosporidiosis lesion in left nasal cavity



Figure 5: Rhinosporidiosis lesion in left nasal cavity



Figure 6: Extension of rhinosporidiosis lesion in to the oropharynx

Table 1: Sex distribution

Sex	n (%)
Male	38 (70.37)
Female	16 (29.63)

Table 2: Age distribution

Age in years	n (%)
0-10	8 (14.81)
11-20	24 (44.44)
21-30	14 (25.92)
31-40	6 (11.11)
41-50	1 (1.85)
51-60	1 (1.85)

Table 3: Presenting features

Presenting features	n (%)
Nasal obstruction	48 (88.88)
epistaxis	44 (81.48)
Nasal discharge	26 (48.14)
Mass in the nose	43 (79.62)
Change of voice	18 (33.33)
Headache	12 (22.22)

Table 4: Occupation

Occupation	n (%)
Agricultural laborer	28 (51.85)
Students	18 (33.33)
House wife	8 (14.81)

undersurface resembling strawberry studded with white dots representing sporangia.

Differential Diagnosis

Nasal polyp, hemangioma, malignancy, coccidioides immitis, etc. The organism stains with periodic acid Schiff agent⁶ 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 males⁷ 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. 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 (38/54) 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

Table 5: Laterality

Laterality	n (%)
Right	23 (42.59)
Left	28 (51.85)
Bilateral	3 (5.55)

Table 6: Site distribution

Site distribution	n (%)
Lateral wall	33 (61.11)
Nasal septum	6 (11.11)
Nasopharynx	5 (9.25)
Floor	2 (3.70)
Multiple sites	8 (14.81)

Table 7: Number of lesions

Number of lesions	n (%)
Solitary	46 (85.18)
Multiple	8 (14.81)

Table 8: Mode of anesthesia

Mode of anesthesia	n (%)
LA	38 (70.37)
GA	16 (29.63)

LA: Local anesthesia, GA: General anesthesia

Table 9: Type of stalk

Type of stalk	n (%)
Pedunculated	41 (75.92)
Sessile	13 (24.08)

with Foleys catheter and compatible blood transfusion in the post-operative period. Total number of cases with recurrences after 1 year follow-up is 6. The recurrences were due to excision done in inaccessible areas like inferior meati and incomplete excision for which repeat surgery was done. Treatment with dapsone after surgical treatment may minimize the recurrences.⁸ Treatment with dapsone after surgical treatment may minimize the recurrences. (Table 1-9), (Figures 1-6).

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 least resection of surrounding normal mucosa. Post-operative complications like hemorrhage 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

endoscopic guided cauterization of the base. Bleeding is minimal provided the Stalk of the lesion is identified endoscopically.

Recent Advance

Recently, KTP-532 laser was used for larger granulomas which pose difficulties of bleeding and impair vision during surgery.

CONCLUSION

Rhinosporidiosis is a chronic granulomatous disease of the nose and nasopharynx.⁹ It is commonly seen in certain areas of Srikakulam district such as Pathapatnam and Kothur Mandals and Parlakhimudi of Odhissa. Taking bath in contaminated ponds and in Vamshadhara 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 anesthesia. The bleeding is less in excision under local anesthesia. 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 anesthesia.

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