

Ayurveda Management of Rhinosporidiosis - A Rare Case Report and Review of literature

Stefi C.F., Smitha Mohan P. V. Athulya A.

¹P. G Scholar, ²Professor, ³Assistant Professor, Department of Shalyatantra, P.N.N.M. Ayurveda Medical College, Cheruthuruthy, Kerala, India

ABSTRACT:

Rhinosporidiosis is a chronic granulomatous infectious disease caused by the fungus *Rhinosporidium seeberi*. It primarily affects the mucosal membranes of the nose, nasopharynx, conjunctiva and urethra. This pathogen is prevalent in tropical and subtropical regions, often spreading through aquatic exposure. Even after surgical removal, it can recur. A 65-year-old male patient presented to OPD with complaints of nasal obstruction, occasional epistaxis, loss of sense of smell and painful mass in the left nostril, which had been gradually protruding for 8 months. On the basis of history and clinical examinations the case was diagnosed as Rhinosporidiosis. The patient was treated with rubber band ligation for 3 days and later with pratisaraneeya kshara (apamarga) after the mass fell off after necrosis. Patient got relief from the blocked nose. Hence a comprehensive approach was taken here to prevent the recurrence.

KEYWORDS: Ayurveda, *Khsara karma*, Rhinosporidiosis, Rubber band ligation.

Received: 19.11.2023 Revised: 22.12.2023 Accepted: 24.12.2023 Published: 26.12.2023

Quick Response code



*Corresponding Author:

Dr. Stefi C.F.

P. G Scholar, Department of Shalyatantra, P.N.N.M. Ayurveda Medical College, Cheruthuruthy, Kerala, India.

E-mail : steficfigi36@gmail.com

INTRODUCTION:

Rhinosporidiosis is a mucous membrane infection caused by the fungus *Rhinosporidium seeberi*, resulting in slow-growing masses in the nasal cavity. [1] Recent molecular techniques have identified this organism as a pathogen of fish and classified it as an aquatic protistan parasite (class-Mesomycetozoa). Its highest prevalence is in South India, Sri Lanka, and Argentina, with an incidence rate of 1.4% among paediatric populations [2]. This disease often occurs in individuals exposed to aquatic or marshy environments, such as those working or bathing in stagnant water. Men are more

commonly affected than women, with a higher incidence among individuals aged 20-40 years, with a male-to-female ratio of about 2.5:1. [3]. Treatment for rhinosporidiosis involves the excision of lesions with wide surgical margins to prevent recurrence. Rhinosporidiosis has also been reported in dogs and cats.

In Ayurveda nasal polyps are called as *nasa arshas*. *Nasarsha* = *nasa* (nose) + *arsha* (pile like growth). These are fleshy swellings. They develop in the nasal lining and in the lining of paranasal sinuses. These are benign non-cancerous growths in the lining of tissues or mucosa of the nose. In Ayurveda

the etiological factors include the suppression of urges, especially that of sneeze or forcibly producing the urge, irritating or scratching the interior of the nasal passages by introducing foreign objects like stick, any hard substances which can cause injury to the nasal mucosa, exposure to irritants- dust, smoke and lack of personal hygiene. The treatment mentioned in Ayurveda treatises includes use of *kshara* (alkali), *agnikarma* (thermal cauterisation) and surgical methods. [4]. This case report emphasizes the clinical presentation, diagnosis, and management strategies for Rhinosporidiosis.

It is a chronic infectious disease of the upper respiratory tract characterized by the formation of polypoid masses and caused by the fungus *Rhinosporidium seeberi*. The transmission occurs through water or dust from which endospore penetrates the nasal cavity mucosa and matures into sporangium within the submucosal compartment; after maturation the sporangia bursts, releasing endospores into surrounding tissue.

add

CASE HISTORY:

A 65-year-old male patient, native of Thrissur presented to OPD with complaints of nasal obstruction, occasional epistaxis, loss of sense of smell and painful mass in the left nostril, which had been gradually protruding for 8 months. He had no history of trauma. But he usually had a habit of bathing in pond near his locality. On examination, the mass was completely protruding from the left nostril and was completely occupying the cavity. The mass was fleshy, hyperplastic, reddish granular, polypoidal, pedunculated and strawberry like appearance with whitish dots. (Fig-1) The mass was not hard or fixed to skin and

hence it can be differentiated from malignancy. He was 82kg in weight and 162cm in height and was moderate built. On evaluation of his personal history, he had poor appetite and disturbed sleep. On history and on examination, Rhinosporidiosis was made as differential diagnosis.

Differential diagnosis:

- Antrochoanal polyp - occurs in young individuals, benign lesions that arise from mucosa of maxillary sinus.
- Rhinosporidiosis - caused by fungus *Rhinosporidium seeberi*, polypoidal, pink to purple coloured mass with discharge and epistaxis.
- Rhinoscleroma - foul smelling, purulent nasal discharge, caused because of bacillus, *Klebsilla rhinoscleromatis*, it affects nose and upper respiratory tracts.
- Inverted papilloma - Benign and locally aggressive tumour, that arises in the nasal cavity and paranasal sinuses. Caused due to HPV virus can become malignant.
- Nasopharyngeal Angiofibroma - It has symptoms like headache, hearing loss, recurrent epistaxis. Angiogenesis and vascular proliferation, situated in posterior nasal cavity, sphenopalatine foramen and nasopharynx

Treatment protocol:

Chedana, ksharakarma, vranasodhana and *vranaropana*.

Diagnostic assessment:

The sample taken from the lesion was sent for histopathological studies on 09/01/2023. (Fig- 5).



Fig-1: Rhinosporidiosis on 1st day visit (7/1/2023)



Fig-2: Taken after rubber band ligation (10/1/2023)



Fig-3: Taken after Ksharakarma (12/1/2023)



Fig-4: Taken on follow-up (15/1/2023)

Thrissur Path Centre
V/428/36 Ponganamoola Building, P.T. Manuel Road, Kovilakathumpadam, Thrissur - 22
 Ph : 0487 2320587

Patient Information			
Reference No :	Sasi S Nair PJ 432	201321	Age : 63
Referred By :	Dr. T Sreekumar		Sex : Male
Specimen Information			
Collected at :	Thrissur Path Centre	Date of Collection :	6/1/23
Specimen Type :	Excision Biopsy	Reporting Date :	9/1/23

HISTOPATHOLOGY REPORT

Specimen : Biopsy from mass left nostrils

MACROSCOPIC EXAMINATION:

Two small grey brown bits of tissue. AE.

MICROSCOPIC EXAMINATION :

Serial sections taken from the biopsy sent show bits of tissues covered externally by squamous epithelium in some places. There are sheets of inflammatory cells, predominantly lymphocytes and plasma cells. Many sporangia varying sizes are seen, some of them containing spores in various stages of maturation. Most of the sporangia are totally hyalinised. No evidence of malignancy or any other specific lesion seen.

IMPRESSION:

Rhinosporidiosis.

Fig-5: Histopathological report to exclude the malignancy

THERAPEUTIC INTERVENTION:**Pre-operative procedure:**

- The part preparation was done
- The area was cleaned with aseptic solution
- TT and Test dose was given
- Consent was taken
- Blood routine assessment (10/01/2023)
 - Hb-16.3g/dl
 - RBC-4.3mcL
 - WBC-8.63 X 10³ /μL
 - Neutrophil- 59.3%
 - Lymphocytes-29%
 - Eosinophils-2.6%
 - Monocytes-8.5%
 - Basophils-0.4%
 - Platelet Count-237 x 10³ / μL
 - Plateletcrit-0.17%
 - Glucose (fasting)-88mg/dl
 - HIV-Negative
 - HBsAg-Negative

Operative procedure:

The patient was made to lie in supine position, the part exposed, cleaned and local anaesthesia was given in situ followed by traditional rubber band ligation to the base of mass. [5] The biopsy specimen of the small lesions was sent for histopathology examination. The mass was partly necrosed and there was reduction in size after 2 days. On 3rd day, base was treated with *Apamarga kshara*. After application of *pratisaraneeya kshara* for 2 minute the mass attained *samyak dagdha lakshana (Fig-3)*. Subsequently, vinegar was applied for 1 minute. It was observed that the colour changed to blackish brown (*Pakwajambuphalavarna*) as per Ayurveda. The packing was done with *jatyadi kera taila*.

Post operative procedure:

Vitals were rechecked and reassured. Patient was relieved after one hour of

observation. Patient was asked to come for alternate days for 2 weeks and dressing was done with *jatyadi kera taila*.

RESULT AND DISCUSSION:

The patient had an uneventful recovery, the mass was removed. Patient also relieved from blocked nose and pain. The disease has been reported across different countries in the world with diverse geographical features. In contrast, with the presentation, the epidemiology and morphology of those caused by *Rhinosporidium seeberi* remains controversial. [6]. The disease is more prevalent among those working in contact with soil or stagnant water in ponds or lakes. Similarly, the patient who reported here had a history of frequent bathing in pond. The procedure done here was the Manual rubber band ligation at the base of mass. This caused slow cessation of blood supply to the mass preventing haemorrhage and leading to necrosis and later falling of the gangrenous part. Later *pratisaraneeya kshara* was applied. *Pratisaraneeya kshara* causes coagulation of hemorrhoid plexus, necrosis of tissue followed by fibrosis of plexus, adhesion of mucosal, submucosal coat helps in prevention of further dilatation of veins and prevents prolapse of regional mucosa. [10] It is sharp, hot in potency and has burning action. It causes coagulation necrosis of the tissue followed by fibrosis and prevents the recurrence. Moreover, *Jatyadi kera taila* has significant effect on the lesion by its *vrana sodhana* and *vrana ropana* property. *Jati,patola* and *sikta* have *vranaropana* action. *Manjishta, sariva, karanja* ingredients are having *vranasodhana* property. *Neem, haridra, daruharidra, Abhaya* have antimicrobial activity. *Kushta* has anti-inflammatory action. [11]

In modern surgery the treatment principle for rhinosporidiosis includes excision of the lesion followed by chemotherapy. Nose is a region which is more prone to bleeding.

Hence, we have adopted rubber band ligation which leads to slow cessation of blood supply and later necrosis. Similar to chemical cauterization we have adopted *kshara karma*, where *kshara* by its sharp, hot potency has the ability to destroy the spores of the fungus, helps in reduction of the size of the lesion and prevent the recurrence. It is an excellent Anusastra in the management of Nasaarshas, as it has *lekhana*, *tridoshaghna*, *teekshna* and *ushna* property.^[12] *Kshara karma* was found to be safe, efficient and cost-effective method.

CONCLUSION:

The patient was well satisfied and had reduction in pain and size of mass. Compilation of cases are needed to standardize the treatment protocol and to record the outcome. Hence comprehensive procedures can be done to prevent the recurrence on a long-term basis.

Informed consent:

Written informed consent was obtained from the patient for the publication of this case report

Author Contribution:

Prof. T Sreekumar consulted the case. Dr Stefi C F assisted, took follow-up and written the article. All the authors reviewed and edited the article.

Limitation of the study:

This is a single case study. Hence more number of cases needs to be subjected for validation.

REFERENCES:

1. Agha R.A., Franchi T., Sohrabi C., Mathew G., for the SCARE Group The SCARE 2020 guideline: updating consensus Surgical Case Report (SCARE) guidelines. *Int. J. Surg.* 2020;84:226-230.
2. Pasternack J.G. Goravey W., Al Hyassat S.A., Petkar M., AlMaslamani M.A., Hadi H.A. Recurrent nasopharyngeal rhinosporidiosis: case report from Qatar and review of the literature. *IDCases.*2020;3(21):901-910.
3. Morelli L. Human nasal rhinosporidiosis: an Italian case report. *Diagn. Pathol.* 2006;1(1):25-30.
4. Acharya YT. *Susruta, Susruta Samhita, Sutrasthana/ chapter 24/sloka-9 Choukambha Sanskrit Samsthan, Varanasi.* Teeka, 2014 ,p.117.
5. Rubber band ligation versus excisional haemorrhoidectomy for hemorrhoids. Shanmugam V, Thaha MA, Rabindranath K; Cochrane Database Syst Rev.2005(1);CD005034
6. Fredricks D.N. Rhinosporidium seeberi: a human pathogen from a novel group of aquatic protistan parasites. *Emerg. Infect. Dis.*2000;6(3):273-282
7. Das S. Nasal rhinosporidiosis in humans: new interpretations and review of literature of this enigmatic disease. *Med. Mycol.* 2011;49(3):311-315.
8. Ali G.M., Goravey W., Al Hyassat S.A., Petkar M., Al Maslamani M.A., Recurrent nasopharyngeal rhinosporidiosis: case report from Qatar and review of the literature. *ID CASES.*2020;3(21):901-910.
9. Strawberry nose and rhinosporidiosis A Kanodia et al., *QJM: An International Journal of Medicine*, 2020; 113(1):64-65.
10. Mahapatra A, Srinivasan, Sujithra R, Bhat RP. Management of internal hemorrhoids by *kshara karma*: An educational case report. *J Ayurveda Integr Med.*2012 3(3):115-8
11. Dhande Priti P, Raj Simpy et al., Burn Wound Healing Potential of Jatyadi Formulations in Rats., *Research Journal of Pharmaceutical, Biological and Chemical Sciences*,2012;3(4):747

12. Acharya YT. Sushruta, Susruta Samhita, Sutrastana/ chapter 11/ sloka-2 Choukambha Sanskrit Samsthan, Varanasi Teeka, 2014, p-47.

Conflict of interest: The author declares that there is no conflict of interest.

Guarantor: The corresponding author is the guarantor of this article and its contents.

Source of Support: None

How to cite this article:

Stefi CF, Smitha Mohan PV, Athulya A. Ayurveda Management of Rhinosporidiosis - A Rare Case Report and Review of literature. Int. J. AYUSH CaRe. 2023;7(4):494-499.