

CASE REPORT

Sinister Looking Lump: A Rare Case of Palmar Rhinosporidiosis in Disguise of Soft Tissue SarcomaSoumyadip Das¹, Mouli Mishra¹, Sangita Majumder², Chhanda Das¹, Gopinath Barui¹**ABSTRACT**

Rhinosporidiosis may have varied presentations including tumor like masses at various extra nasal sites. It is challenging at times to distinguish them with malignant soft tissue neoplasms on basis of clinical and radiological findings alone. Cytology and histopathology may prove to be very useful to ascertain the exact nature of such ambiguous lesions. Strong clinical acumen, coupled with knowledge of extra nasal sites and diverse presenting features may help us in making a proper diagnosis. A rare occurrence of palmar rhinosporidiosis has been documented in this case report.

Keywords: Palm of hand, rhinosporidiosis, sarcoma

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DOI: <https://doi.org/10.31344/ijhhs.v10i4.989>**INTRODUCTION**

Rhinosporidiosis is a granulomatous disease with an infectious etiology. *Rhinosporidium seeberi*, the causative organism has a dubious phylogenetic origin. While some consider it is a fungus, it was previously regarded as an aquatic eukaryotic pathogen of the class Mesomycetozoea.¹ The commonest presenting feature is of a strawberry like mass coming out of nasal cavity that bleeds to touch. However, several extra-nasal sites of involvement like orbital region, respiratory tract, buccal cavity, lacrimal sac, scalp, skin, urethra, bone and external genitalia have also been widely reported.² We intend to document an interesting case of Rhinosporidiosis involving palmar aspect of hand.

CASE SUMMARY

A 55-year old man attended the surgery outpatient

department (OPD) with complaints of a ball sized lump in his left palm for 6 years. The swelling had gradually enlarged in size over years and had a history of traumatic nail prick injury at similar site 10 years ago. Local examination revealed a round, well circumscribed swelling approximately 8 cm × 7 cm in size and firm in consistency (Figure 1). Overlying skin shows no pigmentation or venous engorgement. The local temperature appeared normal and there was no associated pain. The patient, however, was bothered of functional disability owing to the increasing size of lump. A provisional clinical diagnosis of soft tissue sarcoma was made. Radiological imaging had diverse connotations. Ultrasonogram of the swelling reported an infiltrative, lobulated hypoechoic soft tissue lesion with internal vascularity measuring 8.2 cm × 6.8 cm × 6.0 cm involving the first web space of left hand and was suggestive of a neoplastic entity in favour of Giant cell tumor of

1. Department of Pathology, Nil Ratan Sircar Medical College & Hospital, Kolkata-700014, India.

2. Department of General Surgery, Nil Ratan Sircar Medical College & Hospital, Kolkata-700014, India.

Correspondence to: Dr. Soumyadip Das, Department of Pathology, Nil Ratan Sircar Medical College & Hospital, Kolkata-700014, India. Email: smart.soumyadip@gmail.com

tendon sheath. MRI performed on the swelling demonstrated an enhancing multiseptated, multiloculated swelling with alteration of signal in first webspace in between first and second metacarpal and proximal phalanges with marked widening of space and destruction of first metacarpal; suggestive of synovial sarcoma (Figure 2). Fine needle aspiration cytology (FNAC) was performed from the swelling, which surprisingly revealed cellular smears composed of multiple tiny spherical sporulating bodies containing spores (Figure 3). Cytomorphological diagnosis of Rhinosporidiosis was hence made. Due to a gross disparity between clinico-radiological and cytological findings, we were initially hesitant with the cytological diagnosis. Subsequently, core biopsy was taken from this lump and sent for histopathological examination. Specimen received was few fragmented greyish white soft tissue cores, the longest measuring 1.8 cm. On microscopy, sections from fragmented cores depicted presence of multiple sporangia filled with sporangiospores along with mixed inflammatory infiltrates in the adjoining stroma (Figure 4 A&B). The ultimate diagnosis of rhinosporidiosis was hence substantiated by the gold standard tissue diagnosis. Later, this patient agreed to his habit of pond-bathing and provided with a history of excision of nasal mass 15 years ago. However, no such documentary medical records could be made available to us.



Figure 1: Lump in palmar aspect of left hand.

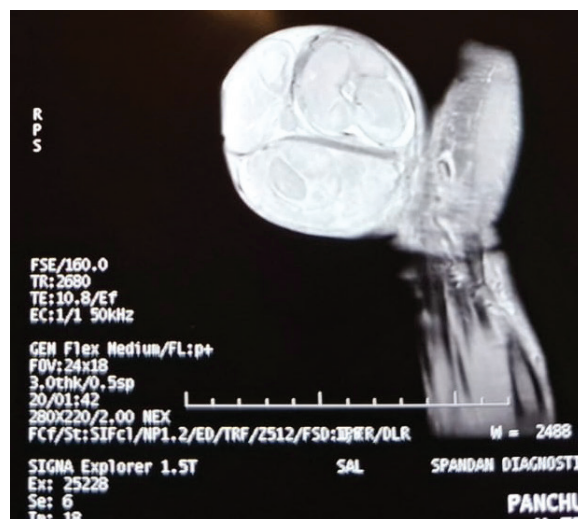


Figure 2: MRI of the swelling at the palmar aspect of left hand.

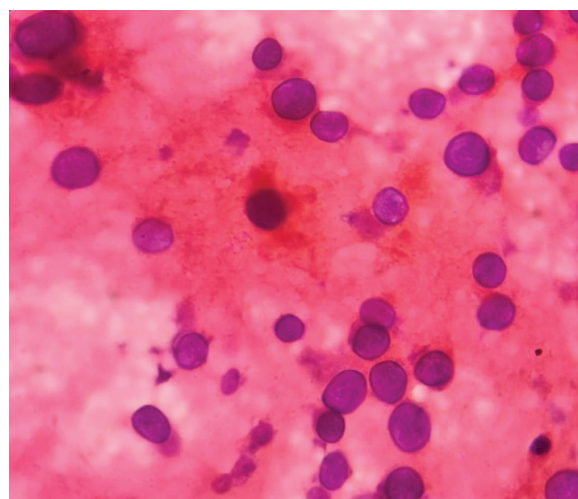


Figure 3: FNAC smears showing sporangiospores within sporangia ($\times 400$; PAP stain)

DISCUSSION

Synovial sarcoma is a rare and highly aggressive soft tissue sarcoma caused due to translocation between chromosomes X and 18, resulting in formation of SS18::SSX fusion oncogenes. It constitutes a tiny proportion of all soft tissue sarcomas and the involvement of the hand is an extremely rare possibility.³ Involvement of the palm by rhinosporidiosis is also another rare occurrence. To our knowledge, this is perhaps the index case of palmar rhinosporidiosis after extensive literature review on the subject. Table 1 is a treatise of some published cases of rhinosporidiosis involving the subcutaneous tissue that were provisionally diagnosed as soft tissue neoplasms by clinico-radiological means.

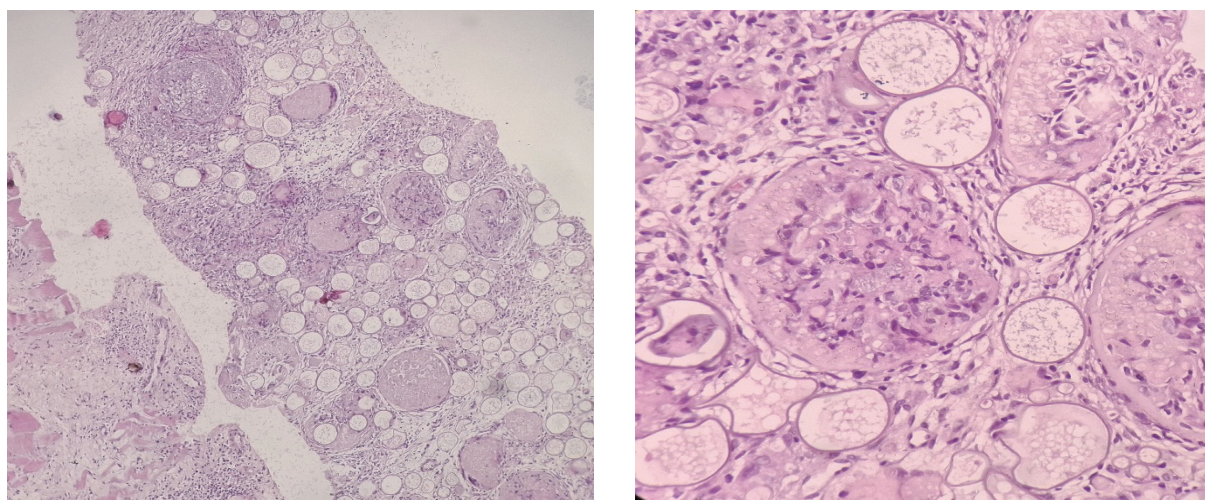


Figure 4: Histopathological section of core biopsy (left: A $\times 100$; H&E), (right: B $\times 400$; H&E).

Table 1: Cases of rhinosporidiosis presenting as soft tissue neoplasm

Sl. No.	Author(s)	Year	Patient's age and sex	Clinical presentation	Clinico-radiological diagnosis	Histopathological diagnosis
1	Aravindan et al. ⁴	1989	60, M	Mass in left scapula	Chondrosarcoma	Rhinosporidiosis
2	Date et al. ⁵	1995	30, M	Mass in right thigh	Soft tissue sarcoma	Rhinosporidiosis
3	Houreih et al. ⁶	2006	39, M	Mass in popliteal fossa	Soft tissue sarcoma	Rhinosporidiosis
4	Tolat et al. ⁷	2007	48, M	Left Elbow swelling	Angiolipoma	Rhinosporidiosis
5	Avadhani et al. ⁸	2008	57, M	Right leg swelling	Soft tissue sarcoma	Rhinosporidiosis
6	Agrawal et al. ⁹	2017	32, M	Left foot swelling	Soft tissue sarcoma/ Squamous cell carcinoma	Rhinosporidiosis
7	Prabhakar et al. ¹⁰	2016	55, M	Right thigh mass	Lipoma	Rhinosporidiosis
8	Guru & Rath ¹¹	2020	32, M	Swelling in thigh	Liposarcoma	Rhinosporidiosis
9	Nath et al. ¹²	2021	60, M	Swelling in right calf	Soft tissue sarcoma	Rhinosporidiosis
10	Index case	2026	55, M	Swelling in palm of left hand	Synovial sarcoma	Rhinosporidiosis

In our case, the characteristic slow growing nature and smooth surfaced lesion are not typically in favour of synovial sarcoma; which is a highly aggressive tumor. Moreover, the social history of pond-bathing and past surgical history of nasal mass excision could have the clinched the diagnosis along with gold-standard confirmatory tissue diagnosis.

CONCLUSION

Tumoral manifestation of Rhinosporidiosis is not an unprecedented finding. However, involvement of the palm by Rhinosporidiosis is indeed a novel finding. Strong degree of clinical suspicion on basis of personal history; in addition to histopathological findings can render confirmatory diagnosis on microscopy. Clinicians and pathologists alike should consider this entity as one of their differential diagnoses while dealing with similar cases. Histopathological examination provides the ultimatum in such dubious cases and can significantly alter the further management of the case. Whereas synovial sarcoma needs meticulous wide local excision followed by Radiotherapy; Rhinosporidiosis patients are

subjected to Dapsone pharmacotherapy post surgical excision.

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