



## Cutaneous Rhinosporidiosis with varied clinical presentations in an Immunocompetent Adult

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### Abstract:

Rhinosporidiosis is a recurrent granulomatous disorder involving the mucocutaneous tissue. Commonest presentation is with the involvement of nose and nasopharynx. Cutaneous dissemination is possible by auto-inoculation or hematogenous spread. We present the case of a 70-year old immunocompetent male who presented with multiple warty growths over the abdomen, upper limbs and trunk which were gradually increasing in size. He also had numerous tiny molluscum-like lesions around the warty growths and subcutaneous nodules over the popliteal fossa and dorsum of foot. He gave history of a nasal growth for which he underwent surgical excision around 10 years back. Histopathological examination of the growth confirmed the diagnosis of rhinosporidiosis. Occurrence of warty growths, subcutaneous nodules and molluscum-like lesions in the same individual is extremely rare and this case is being reported to highlight this.

**Key words:** Cutaneous, Rhinosporidiosis, Nasopharyngeal

### Introduction:

Rhinosporidiosis is a chronic infective granulomatous disease caused by *Rhinosporidium seeberi*. It is endemic in India and Srilanka.<sup>1</sup> It usually presents as friable pedunculated polypoidal growths in the nose and nasopharynx.<sup>2</sup> Cutaneous lesions, though reported are rare. Literature search revealed reports of rhinosporidiosis presenting as subcutaneous nodules<sup>3</sup> and warty growths;<sup>4</sup> however, molluscum-like lesions is a rare presentation.

### Case Report:

A 70-year old manual labourer presented with complaints of multiple warty growths and subcutaneous tumours since 6 months gradually increasing in size. A few of them developed pain, ulceration and discharge since few days. He gave history of nasal

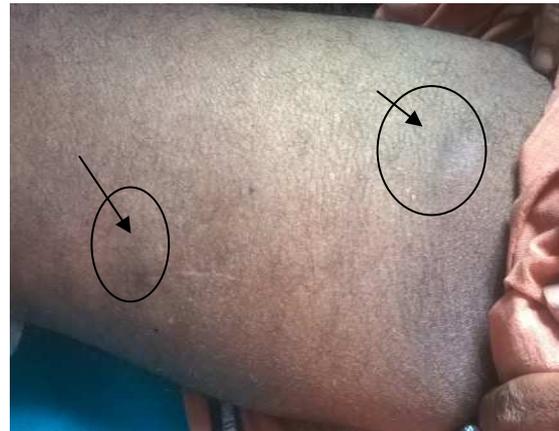
surgery for a growth 10 years back and a surgical excision of tumours from jaw and left thigh 6 years back.

On examination, he had a tender friable verrucous tumour around 7x 6 cms in size over the abdomen which showed discharge (**Figure I**). He had smaller verrucous papules and plaques over the forearm and upper back (**Figure II**). He had difficulty in walking because of a polypoid growth over the right popliteal fossa which had an ulcerated surface (**Figure III**). Subcutaneous nodules were seen over the right thigh (**Figure IV**) and dorsum of foot. On careful examination, it was found that he had multiple molluscum-like papules predominantly around the warty growths and also over other areas (**Figure V**). Examination of the oral cavity and nasopharynx was found to be normal. There was no significant lymph node enlargement.

**Figure I: Warty growth over abdomen**



**Figure IV: Subcutaneous nodules over right thigh**



**Figure II: Warty lesions over forearm and upper back**



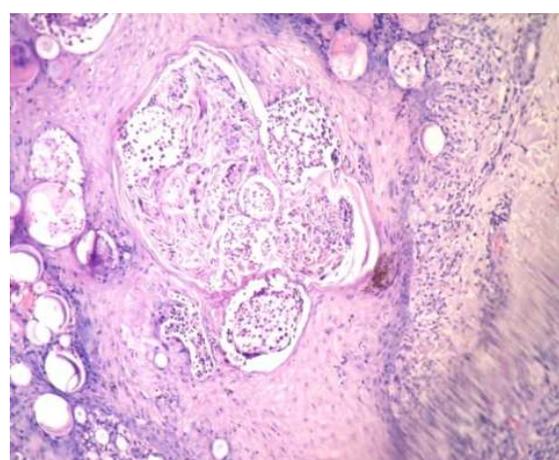
**Figure V: Molluscum-like lesions over popliteal fossa**



**Figure III: Polypoid growth with ulcerated surface over popliteal fossa**



**Figure VI: HPE showing mature sporangia containing endospores**



He was subjected to a detailed hematological examination including ELISA for HIV, which showed no abnormality. KOH examination from the surface of the warty growth did not yield any fungus. Biopsy was done from the lesions which showed multiple thick walled mature sporangia releasing endospores. There was a heavy inflammatory infiltrate in the stroma (**Figure VI**). This was diagnostic of rhinosporidiosis. There was no growth in fungal culture. Chest X-ray and ultrasound abdomen were done to rule out any systemic dissemination and it was found to be normal.

Management of cutaneous rhinosporidiosis is unsatisfactory and surgical management is more effective for larger lesions. Our patient was initially started on oral Cotrimoxazole and Dapsone with which there was decrease in discharge and size of the larger warty tumours. He later underwent surgical excision of the polypoid and verrucous growths. The molluscum-like lesions was curetted and cauterized. He was maintained on Dapsone 100mg daily. After 6 months of follow-up, he has again started developing new molluscum-like lesions and subcutaneous nodules.

### Discussion:

Rhinosporidiosis was first described in Argentina.<sup>5</sup> Even though the disease and the associated fungus, *Rhinosporidium seeberi* is known for the past 100 years, its taxonomic position is still unclear. The organism was first described as a sporozoan by Guillermo Seeber in 1896 and was later considered to be an aquatic protozoan.<sup>4</sup> Ahluwalia et al proposed the etiological agent to be a prokaryotic cyanobacterium *Microcystis aeruginos* after the isolation of the same from clinical samples as well as the water where the patient was probably exposed.<sup>6</sup> Later, Herr et al,<sup>7</sup> proposed that the organism should be considered in a new eukaryotic group of protists known as Mesomycetozoa.

Fredericks et al<sup>8</sup> also concluded that an aquatic protistan parasite named Ichthyosporea is the probable etiological agent. The disease is acquired by direct contact with spores by immersion or swimming in stagnant water.

Four forms of the disease have been described- nasal, ocular, cutaneous and disseminated.<sup>9</sup>

Nasopharyngeal rhinosporidiosis affects mainly males (70-90%) and usually presents with nasal obstruction and bleeding. They appear as pink friable polyps with strawberry-like dots on its surface, which are spores in the sporangia. Ocular rhinosporidiosis with involvement of conjunctiva and lacrimal sac is seen in 15% of the individuals.<sup>4</sup>

Cutaneous lesions are rare and are acquired by the entry of spores through traumatized epithelium or auto-inoculation. Hematogenous and lymphatic spread to non-contiguous sites has also been reported. Cutaneous involvement in rhinosporidiosis has been described to be of three types<sup>10</sup>: (1) Satellite lesions associated with the nasal lesions, (2) Disseminated lesions associated with visceral involvement, and (3) Primary cutaneous lesions without any other involvement. Varied cutaneous presentations have been reported in the literature which includes warty lesions, lipoma-like, subcutaneous nodules, ecthyma-like and as cutaneous horns.<sup>3,4</sup> However, molluscum-like white papules have not been reported.

Diagnosis can be made by doing Giemsa-stained imprint smear or fine-needle aspiration cytology from the lesion. Histopathology is diagnostic and shows sharply defined globular thick-walled cysts (sporangia), up to 0.5 mm in diameter, which contain numerous rounded endospores, 6-7  $\mu$  in diameter. Immature and collapsed sporangia are also present.<sup>4</sup> The organism has not been successfully cultured nor transmitted to experimental animals.<sup>1</sup> Disseminated systemic spread to liver, spleen, kidney,

heart and lungs have been described and is thought to be due to hematogenous spread.<sup>10</sup>

To the best of our knowledge rhinosporidiosis still remains a therapeutic challenge. Some studies have reported spontaneous regression of the disease which is very rare. Surgical excision stills remains the preferred modality of treatment and is associated with a high rate of recurrence. Of the various drugs used for the management of rhinosporidiosis, Dapsone is the only one with encouraging results. It is supposed to arrest the maturation of sporangia and accelerate degenerative changes by inducing stromal fibrosis.<sup>9</sup>

Our patient had multiple cutaneous lesions – warty growths, subcutaneous nodules and tiny molluscum-like papules which could be curetted out. He had history of nasal polyp and the histopathology confirmed the diagnosis of rhinosporidiosis. There was no evidence of systemic dissemination. He underwent surgical excision of the growths and was started on adjuvant oral Dapsone therapy. However, he has started developing new lesions after 6 months of follow-up, which are being removed periodically. This case is being reported for the varied clinical presentations of the disease.

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