CASE REPORT

Disseminated Cutaneous Rhinosporidiosis: Revisited

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Abstract

A vegetative growth in the nasal mucosa and nasopharynx present for a considerable period of time raises the possibility of rhinosporidiosis. Such presentation in the Indian subcontinent is not rare but erythematous cauliflower-like or tumor-like growths often reaching large size present on various areas of the skin without necessarily involving the nasal apparatus are often confusing to the attending clinician. A dermatologist may suspect the disseminated form of cutaneous rhinosporidiosis and perform a diagnostic histopathology. Early institution of treatment may give significant relief to the patient.

Key Words: Cutaneous, disseminated, rhinosporidiosis

Introduction

Rhinosporidiosis is a chronic granulomatous disease of infective etiology previously thought to be caused by Rhinosporidium seeberi but now a cyanobacterium Microcystis aeruginosa has been proposed as the causative agent. The disease is endemic in India and Sri Lanka. The most common site of involvement is the nasal mucosa and nasopharynx (70–75%). Cutaneous lesions in rhinosporidiosis, though reported, are very rare. There have been less than twenty cases of disseminated cutaneous rhinosporidiosis reported till date. When present they have a multifaceted and varied appearance, thus posing a diagnostic dilemma.

Case Report

A 37-year-old housewife of rural background from eastern India presented with generalized tumor-like lesions since last 6 months. The lesions started in the neck and gradually spread to the trunk, upper and lower extremities. They were gradually increasing in size and were painful. She had history of nasal polyp 2 years back, which extended to the nasopharynx and oropharynx, and was operated 1 year back. There was a history of occasional use of pond water. On examination, multiple skin-colored tender tumor-like swellings, some sessile, some pedunculated, varying in 1 to 12 cm in size were present over the neck, anterior chest, right arm, right thigh, and right hip [Figure 1]. The lesion over the right hip showed ulceration and necrosis and was friable [Figure 2]. Anterior and posterior rhinoscopy revealed no mass or polyp. Systemic examination revealed no abnormality. Chest X-Ray and ultrasonography abdomen were normal. Serology for HIV, hepatitis, and syphilis was negative. Potassium hydroxide smear from the nodule showed numerous globular cysts of varying sizes representing sporangia [Figure 3]. Some of the cysts were in ruptured condition with release of endospores. Histopathology showed hyperplastic stratified squamous epithelium with underlying subcutis enclosing many well defined thick-walled sporangia. The sporangia showed many endospores inside it [Figure 4]. Periodic acid Schiff staining further confirmed the diagnosis [Figure 5]. A final diagnosis of rhinosporidiosis with cutaneous dissemination was made. All the cutaneous lesions were excised [Figure 6] and the patient was started on oral dapsone 100 mg daily. The patient was keeping well 6 months after removal of the masses and there was no sign of relapse.

Discussion

Rhinosporidiosis has been known to mankind over the years. It was first described in Argentina. In India, the...
disease is reported to have a higher prevalence in West Bengal and Tamil Nadu. It is more commonly seen in men than in women. Bathing in water bodies like lakes filled with stagnant water in endemic areas has been considered as a major risk factor. Rhinosporidiosis can manifest in various forms—nasal, ocular, mucosal, cutaneous, or disseminated. Cutaneous lesions are very rare and were first described by Forsyth. It usually occurs as a part of

Figure 1: Patient with multiple tumor-like growths on various areas of skin

Figure 2: Large cauliflower-like friable mass with ulceration and necrosis over right hip

Figure 3: KOH mount under 40× showing sporangium containing spores

Figure 4: H and E stained smear under 10× and 40× showing sporangia containing endospores

Figure 5: PAS stained smear under 10× and 40× showing sporangia containing endospores

Figure 6: After excision of mass over neck and right hip
disseminated cutaneous rhinosporidiosis. Three types of cutaneous lesions have been described: satellite nodules around nasal polyps, disseminated lesions with visceral involvement, and cutaneous lesions without mucosal involvement. Dissemination is a rare phenomenon and possible modes of transmission postulated are autoinoculation, hematogenous, and direct implantation. The cutaneous lesion in rhinosporidiosis may have varied modes of presentation. A thorough review of all the reported cases of disseminated cutaneous rhinosporidiosis till date [Table 1] showed polymorphic and multi-faceted appearance, tumor-like nodules,\(^1\) warty papules,\(^2,3\) plaques,\(^4,5\) and pedunculated mass.\(^7\)

Prasad et al. reported a case with multiple cutaneous plaque-like lesions with nasal obstruction. A polypoidal lesion was also present at the base of oral cavity.\(^6\) Priyadarshini et al. presented a 22-year-old student with multiple recurrent subcutaneous swellings.\(^1\) Diagnosis can be easily obtained by aspiration cytology and examining the smear with 10% potassium hydroxide or Papanicolaou stain. Giemsa imprint can also be used. However, the organism cannot be grown in culture. Histopathology is the gold standard for diagnosis. Biopsy shows characteristic sporangia, seen as globular cysts of various sizes lined by well-defined wall. Inside the sporangia are present numerous endospores. The disease remains a therapeutic challenge to the clinician. Various antimicrobials and antifungals have been tried but proved ineffective. Dapsone has been used to decrease the frequency of recurrences. It is not curative. Surgical excision is the treatment of choice.

This article has been presented to highlight the rarity of the disease and to emphasize its polymorphic presentations, which may at times confuse the physician. A keen suspicion can alert the clinician leading to early diagnosis and prompt treatment.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the forms, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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### Conflicts of interest

There are no conflicts of interest.

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