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Journal of Skin and Sexually Transmitted Diseases

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Case Report

Raspberry-like tumor on the skin – A rare entity

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Received : 02 May 19
Accepted : 16 May 19
Published : 02 December 19

DOI
10.25259/JSSTD_26_2019

Quick Response Code:

ABSTRACT

Rhinosporidiosis is a chronic granulomatous infection, caused by *Rhinosporidium seeberi*, which frequently affects the nasal cavity and nasopharynx. Cutaneous rhinosporidiosis is rare and probably underreported. We report a case of cutaneous rhinosporidiosis in association with recurrent nasopharyngeal rhinosporidiosis in a 68-year-old male patient.

Keywords: Cutaneous rhinosporidiosis, *Microcystis aeruginosa*, Ciprofloxacin

INTRODUCTION

Rhinosporidiosis is a chronic granulomatous infection caused by *Rhinosporidium seeberi*. Infection is usually caused by contact with stagnant fresh water resources. Rhinosporidiosis commonly presents as sessile or pedunculated vascular polyps in nasal and nasopharyngeal mucosa. Cutaneous dissemination, although known, is quite rare.[1] The disease, while being a common presentation for otorhinolaryngologists, is of interest to dermatologists as well because of the cutaneous and subcutaneous lesions. Herein, we report a case of cutaneous rhinosporidiosis along with nasopharyngeal involvement.

CASE REPORT

A 68-year-old male hailing from a rural area, having a history of taking regular bath in ponds, presented to our department with multiple reddish raised raspberry-like lesions over both legs and left arm for 1 year duration. Lesions were painless which seldom bled on trauma. He gave a history of recurrent polypoidal masses in the nose for which surgery was done twice, the records of which were not available. The patient also complained of dyspnea and nasal twang of voice for the past 7 months.

On dermatological examination, there were multiple reddish polypoidal fungating growths of varying sizes, ranging from 3 × 2 cm to 6 × 5 cm, present on the left arm [Figure 1], left shin, and right lateral malleolus [Figure 2]. There was no regional lymphadenopathy. Examination of oral and nasal mucosae was normal. We considered the differential diagnosis of squamous cell carcinoma, subcutaneous mycosis, cutaneous tuberculosis, and sarcoidosis and investigated the patient. Routine hemogram, erythrocyte sedimentation rate, blood sugar, liver and renal function tests, chest X-ray, X-ray of bones, and abdominal ultrasonography were within the normal limits. The Mantoux test and serology for HIV were negative. Imprint smear from the lesion stained with 10% KOH and Giemsa revealed

multiple sporangia with several endospores, as shown in Figure 3 and Figure 4 respectively.

The patient was referred to otorhinolaryngologists in view of nasal symptoms. Endoscopic examination revealed the presence of reddish, friable, polypoidal mass in the nasopharynx, which was diagnosed as nasopharyngeal rhinosporidiosis. Histopathological examination of the cutaneous lesion confirmed the diagnosis of rhinosporidiosis. The final diagnosis of cutaneous rhinosporidiosis was made.

All the cutaneous lesions were excised, and the patient was started on dapsone 100 mg daily and ciprofloxacin 500 mg twice daily. He was referred to ENT surgeon for the nasopharyngeal lesions which were also excised. He was advised to report for regular follow-up. There was no recurrence or development of new lesions during the 3-month follow-up period during which he continued to receive dapsone and ciprofloxacin but was later lost to follow-up.

DISCUSSION

Rhinosporidiosis was first described by Guillermo Seeber from Argentina in 1900. The etiologic agent, *R. seeberi*, though known for over a hundred years, its precise taxonomy is still a matter of debate. It was previously considered to be a fungus. Herr e*t al*. recently proposed that the organism should be considered in a new eukaryotic group of protists known as Mesomycetozoa.[2] Recent studies have suggested that rhinosporidiosis may represent a synergistic infection of *R. seeberi* and waterborne cyanobacterium *Microcystis aeruginosa*. Ahluwalia *et al*. have isolated *M. aeruginosa* from clinical specimen of patients as well as from water samples where they bathed.[3]

Rhinosporidiosis is more common in males and is usually seen between the second and fourth decades. Exposure to stagnant water, bathing in water in which cattle are also bathed, and repeated trauma have been blamed for its acquisition.[4] The disease is endemic in South India and Sri Lanka.

Figure 1: Polypoidal fungating growth on the left arm.

Figure 2: Polypoidal growth over the right lateral malleolus.

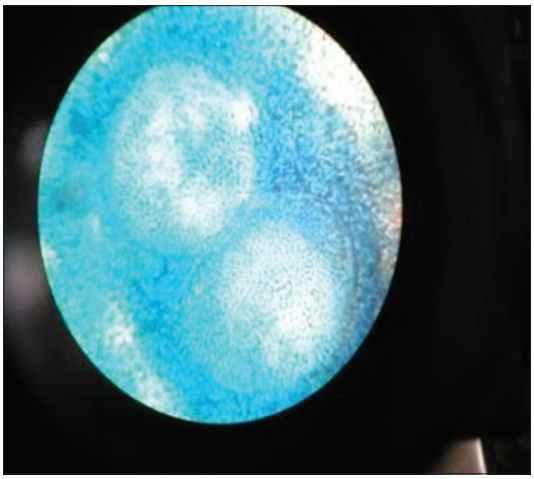

Figure 3: Imprint smear showing sporangia with several endospores.

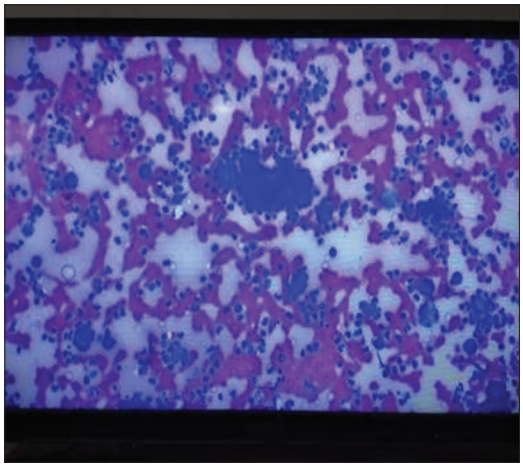

Figure 4: Imprint smear showing sporangia with several endospores (Giemsa stain, ×100).

Four forms of the disease are recognized, namely nasal, ocular, cutaneous, and disseminated (rare). The most common sites of infection are the nose and the nasopharynx, accounting for more than 75% of cases, followed by palpebral conjunctiva or associated structures such as lacrimal apparatus. Cutaneous lesions are infrequent and are generally associated with mucosal lesions.[5]

The mode of spread of rhinosporidiosis to the skin can be by three means: (a) autoinoculation causing satellite lesions on the skin adjacent to nasal rhinosporidiosis; (b) hematogenous spread causing generalized cutaneous involvement; and (c) primary inoculation on the skin resulting in primary cutaneous rhinosporidiosis.[6] The development of skin lesions distant to the nasal lesions, as seen in our case, could be due to hematogenous spread of the infection. Thus, our case fits into the description for generalized cutaneous type in association with recurrent nasopharyngeal lesions.

Cutaneous lesions in rhinosporidiosis have been reported as pedunculated or sessile growths,[7] verruca vulgaris-like lesions,[5,6] subcutaneous swellings,[8] furunculoid lesions,[6] cutaneous horn,[6] and cutaneous ulceration.[9] In our case, there were multiple pedunculated and sessile growths over extremities.

As the organism cannot be grown in culture, histopathology is the gold standard.[8] Characteristic sporangia in various stages of maturation are seen as globular cysts of various sizes lined by well-defined wall containing endospores, giving the corium a distinctive "Swiss cheese" appearance. The typical histopathological findings were also seen in our case. Giemsa imprinted smears and a fine-needle aspirate with 10% KOH examination are also diagnostic.

Surgical excision of the lesion, followed by electrocautery of the base, is the mainstay of treatment. However, recurrence is common after excision due to spillage of endospores in the surrounding area during removal.[10] Rhinosporidiosis may be medically managed with dapsone which is believed to arrest the maturation of the sporangia and induce fibrosis in the stroma. However, dapsone remains an adjunct to surgical removal. As *M. aeruginosa* remains in synergistic relationship with *R. seeberi*, drugs active against *M. aeruginosa* such as ciprofloxacin may confer additional benefit.[11] This rationale was put to use in treating our patient with a combination of dapsone and ciprofloxacin.

CONCLUSION

This case highlights rare occurrence of cutaneous rhinosporidiosis even in present times where pond bathing is unusual. The possibility of this rare entity should be kept in mind, particularly when polypoidal growths in the nasal cavity are associated with cutaneous lesions.

Declaration of patient consent

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

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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How to cite this article: Sreedharan S, Sobhanakumari K, Pulikkal F, Celine MI, Balachandran PK. Raspberry-like tumor on the skin – A rare entity. J Skin Sex Transm Dis 2019;1(2):91-3.