

Cutaneous Rhinosporidiosis Presenting as Cutaneous Horn and Verrucous Plaque

Sir,

A 52-year-old male presented with a growth over the right little finger and the left popliteal fossa since 1 year. He gave a recurrent history of nasal stuffiness, difficulty in breathing, and change in voice. He was diagnosed and operated for nasal rhinosporidiosis four times within the last 3 years. He had a habit of regular pond bathing. Dermatological examination showed a verrucous plaque measuring $3 \times 4 \text{ cm}^2$ covering the entire palmar and medial aspect of the right little finger along with a horn-like projection over the right popliteal fossa. Examination of nasal mucosa revealed a polypoidal, grape-like growth with a red shiny surface covering the medial aspect of right anterior nare [Figure 1a-d]. His blood counts, erythrocyte sedimentation rate (ESR), blood sugar, liver, and renal function tests were within normal limits. Serology for human immunodeficiency virus (HIV) was negative. Systemic examination was unremarkable. Chest X-ray and ultrasound abdomen and pelvis were normal. Histopathology from lesions over finger and growth over right popliteal fossa showed multiple thick-walled mature sporangia-releasing endospores, with surrounding areas showing marked inflammatory reaction suggestive of cutaneous rhinosporidiosis [Figure 2a and b]. Patient was started on tablet dapsone 100mg/day and tablet cotrimoxazole double strength twice daily. However, there

was minimal improvement in skin lesions despite 2 months of treatment.

Discussion

Rhinosporidiosis is a chronic granulomatous infection caused by *Rhinosporidium seeberi*.^[1] It commonly affects mucosa with nasopharynx (70%) being the most common site involved followed by ocular (15%), oral, and genital mucous membranes. Four forms of rhinosporidiosis have been described – nasal, ocular, cutaneous, and disseminated. Cutaneous lesions are generally associated with mucosal lesions. Based upon the modes of spread, three morphological presentations of cutaneous rhinosporidiosis have been described i.e., (1) satellite lesions, in the skin adjacent to the nasal rhinosporidiosis; (2) generalized cutaneous type, occurring via hematogenous dissemination; and (3) primary cutaneous type without any visceral involvement associated with direct inoculation of organisms on the skin. Cutaneous lesions are usually in the form of friable warty growths.^[2] Other presentations such



Figure 1: (a) Polypoidal growth inside the right anterior nare. (b) Verrucous plaque on the palmar aspect of right little finger. (c) Verrucous plaque on the dorsal aspect of right little finger. (d) Cutaneous horn in the popliteal fossa

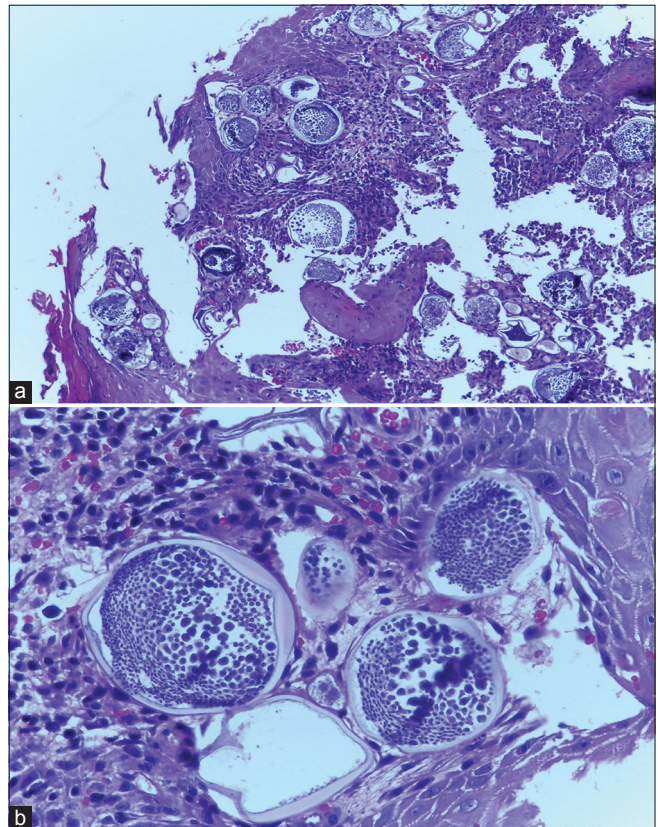


Figure 2: (a) Hematoxylin and eosin; 100x: multiple sporangia in various stages of maturation. (b) Hematoxylin and eosin; 400x: sporangia-containing endospores

as verrucous plaques, polypoidal growths, subcutaneous nodules, furuncle, ecthyma, and friable nodules have been reported.^[3,4] Because of varied clinical presentations, it can be easily confused with tuberculosis verrucosa cutis, warts, cutaneous leishmaniasis, bacillary angiomatosis, granuloma pyogenicum, Kaposi's sarcoma, and deep mycoses such as cryptococcosis. Clinical diagnosis is usually confirmed by fineneedle aspiration cytology and histopathological examination of the resected tissue. However, definitive diagnosis is made by histopathology which shows sporangia at various stages of maturation consisting of large, thick-walled spherical structures, and smaller daughter cells termed endospores, which can be seen with fungal and routine hematoxylin and eosin staining.^[4] Though definitive treatment remains surgical excision with cauterization, recurrence rate is still high due to incomplete excision and accidental spillage of sporangia to the adjacent tissue. Among medical treatments, dapsone has been found to be somewhat effective which arrests the maturation of the sporangia, inducing stromal fibrosis and accelerating its degenerative changes.^[5]

Our case had nasal rhinosporidiosis and skin lesions were on the right little finger and left popliteal fossa possibly due to autoinoculation. The presence of nasal rhinosporidiosis which was previously proven by histopathology and culture led to the suspicion of cutaneous involvement, which was further supported by histopathology from the skin lesion. The patient was started on dapsone and cotrimoxazole (double dose) without appreciable improvement after 2 months, which was expected. Among various presentations, verrucous plaque-like morphology has been reported by many authors.^[3,4] However, cutaneous horn-like presentation of rhinosporidiosis has been reported by few.^[4] Our patient had two types of morphologies, verrucous plaque and cutaneous horn, and we believe it will add to the pool of evidences of atypical presentations of cutaneous rhinosporidiosis.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have

given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Access this article online	
Website: www.idoj.in	Quick Response Code 
DOI: 10.4103/idoj.IDOJ_106_18	

How to cite this article: Sirka CS, Dash G, Pradhan S, Baisakh M. Cutaneous rhinosporidiosis presenting as cutaneous horn and verrucous plaque. *Indian Dermatol Online J* 2019;10:178-9.

Received: March, 2018. **Accepted:** July, 2018.

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