A case of paracoccidioidomycosis in a HIV-positive patient

Sir,

A 35-year-old HIV-positive male with a CD4 count of 20 cells/µl presented with 2-month history of insidious onset, painless, skin-colored nodules over face [Figure 1]. Gradually, the number of lesions increased, and new lesions appeared over the entire head-and-neck region. The patient was not on any antiretroviral therapy and was evaluated on the basis of his clinical presentation and cutaneous markers suggestive of an underlying immune suppression. His examination revealed generalized lymphadenopathy, angular cheilitis, and mucosal candidiasis. A differential diagnosis of systemic mycosis including paracoccidioidomycosis, histoplasmosis, and coccidioidomycosis was considered, considering the morphology of the lesions and the underlying immunosuppression. The other differentials which were considered included multiple giant molluscum contagiosum, acneiform drug eruptions, cutaneous sarcoidosis, histoid leprosy, lupus vulgaris, cutaneous leishmaniasis, cutaneous lymphoid hyperplasia, and other granulomatous disorders. Skin biopsy of one of the nodules [Figure 2] revealed a dense granulomatous inflammation with lymphocytes, epithelioid cells, and multinucleated giant cells along with overlying epidermal pseudoepitheliomatous hyperplasia. High-power examination revealed large round fungal forms. There were numerous eosinophils. The characteristic feature of the histopathology was the presence of several minute narrow-based buds surrounding the large round fungal forms. These have often been referred to as “mariner’s wheels” or “captain wheels” considering their appearance. His Chest X-ray did not reveal any evidence of systemic fungal infection or tuberculosis. He was started on highly active antiretroviral therapy and capsule itraconazole 100 mg twice daily for the next 6 months.

Paracoccidioidomycosis is a subcutaneous fungal infection caused by a dimorphic fungus Paracoccidioides brasiliensis.[1] It is primarily a systemic pulmonary infection then spreading onto oral mucosa and skin.[2] P brasiliensis naturally resides in soil, and the infection is due to inhalation of its propagules. Paracoccidioidomycosis rarely affects the skin in isolation. Cutaneous lesions generally

Figure 1: Multiple skin-colored nodules over face with angular cheilitis

Figure 2: Histopathology showing granulomas with dense aggregation of lymphocytes, epithelioid cells, and multinucleated giant cells in × 40 magnification (a), and several Paracoccidioides sp. (yellow arrows) in × 100 magnification (b) showing as “mariner’s wheel” or “captains wheel” appearance with abundant round to oval yeast cells enclosed in a granuloma. Gomori Methenamine Silver stain
originate from contiguous lesions, from hematogenous dissemination, or rarely, from direct inoculation of *P. brasiliensis* into the skin. Skin lesions generally appear over the face mostly around the mouth and nose. Lesions tend to be monomorphic initially and later may ulcerate or settle with a verrucous appearance. Sometimes, a sarcoid-like lesion on the face can be a close differential adding additional diagnostic difficulties, but sarcoid-like lesions have few, if any, visible fungi on histologic examination.\[3]\n
The histopathology was classic in this case with the presence of Mariner’s wheel appearance, and this helps in differentiating from other subcutaneous and systemic mycoses. The other differential diagnoses considered were eliminated due to the presence of granulomas and fungal budding yeast. The classical clinical features and histopathological features are listed in Table 1.

This case highlights the importance of early diagnosis of this fungal infection preventing a systemic dissemination. The case is rare as isolated cutaneous presentation without pulmonary involvement is generally not reported. Furthermore, underlying immunosuppression due to HIV did alter its clinical presentation, and cutaneous cases of paracoccidioidomycosis are also not reported frequently in HIV setup. Itraconazole 100 twice daily is the standard therapy recommended for 6–9 months.\[4\] In therapy resistant cases or more severe infection, as in multiorgan spread including pulmonary dissemination, amphotericin B deoxycholate in doses of 0.75–1.0 mg/kg daily is recommended, followed by sulfamethoxazole 2400 mg daily for 24 months.\[4\] The present case illustrates the diagnosis process and successful systemic treatment of a paracoccidioidomycosis case in the backdrop of HIV infection and may serve as an alert for clinicians about the manifestation and importance of diagnosing and treating this infection.

**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.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

**REFERENCES**

1. Tomo S, da Silva RL, Miyahara GI, Stefanini AR, Simonato LE. Diagnosis and treatment of primary paracoccidioidomycosis in oral
Sir,

Sexually transmitted infections (STIs) are responsible for a significant proportion of infertility in both sex, morbidity, economic loss to the family, and increased susceptibility to HIV infection. A study of prevalence of STIs is important to know about their incidence at a particular place and to plan and implement appropriate control strategies.

The present study was conducted to determine the pattern of STIs at a tertiary care center of Ahmedabad Gujarat in Western India. All the data of patients who attended the STI clinic of a tertiary care hospital in Ahmedabad, Gujarat, from April 2007 to March 2019 were included in this study. Detailed history, clinical examination, relevant laboratory investigations, and the diagnosis were reviewed. STIs were categorized into different syndromes as depicted by the National AIDS Control Organization in the syndromic management of STIs.

A total of 10,899 patients attended the STI clinic of our tertiary care hospital from April 2007 to March 2019, of which 9036 (83%) were diagnosed to have some STI. Out of these, 33.4% were males and 66.6% were females with male-to-female ratio being 1:1.9 [Figure 1]. The majority of the patients (81.19%) belonged to the age group of 18–45 years followed by >45 years (16.19%) and <18 years (2.62%) [Figure 2]. The most common STI during the study period was cervical/vaginal discharge and there was no patient with anorectal discharge and painful scrotal swelling [Figure 3]. Cervical/vaginal discharge was the most common STI (54.17%), followed by herpes genitalis (12.15%), urethral discharge (11.96%), other STIs including scabies and pediculosis pubis (10.24%), genital warts and molluscum (5.09%), lower abdominal pain (LAP) (2.8%), serologically positive for syphilis (2.08%), nonherpetic genital ulcer disease (1.48%), and inguinal bubo (0.03%). There were no patients of anorectal discharge or painful scrotal swelling. Eighty-five percent (85%) of patients had a history of exposure outside marriage and 37% of patients had a history of exposure with multiple partners. Partner notifications were done in 29% of cases, and partner management was done in 5.7% of cases.

STIs have a tremendous impact on public health. They are responsible for significant proportion of infertility in both sex, morbidity, economic loss to the family, and increased susceptibility to HIV infection. STIs are also a major contributor to abortions, fetal deaths, and the delivery of low birth weight babies.

In the present study, most of the patients (81.19%) who were diagnosed to have some STIs were in the age group of 18–45 years. This is the sexually active group and is at a high risk of being behaviorally more vulnerable to STI acquisition, as they generally tend to have a higher number of sexual partners and more concurrent partnerships. Furthermore, they may change partners more often than older age groups.

In our study, females (87.5%) outnumbered the males (12.5%), this might be due to increased referral to the STI clinic from gynecological outpatient departments. The overall most common STI in our study was cervical/vaginal discharge.