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Disseminated histoplasmosis: Rare entity in immunocompromised individuals in India

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Invasive mycoses kill more than one million people every year. The disease burden of mycoses has increased over the last 20 years and the importance of fungal disease is expected to keep increasing in the years to come. One of these mycoses, histoplasmosis, a disease caused by species of dimorphic genera, Histoplasma and is endemic in the USA, Asia, and Africa with sporadic cases reported from India. In the United States alone, 3.4 cases/100 000 people occur yearly. In India, prevalence of histoplasmosis is seen in the eastern part of the country and few cases are reported from north India. Here, we present four cases of classic progressive disseminated histoplasmosis from non-endemic central and northern parts of India.

Cases I and II: Two cases, firstly a 51-year-old male resident of Delhi, came with complaints of fever, generalized weakness and weight loss for the past 6 months, and another a 55-year-old in an apparently immunocompetent female from a non-endemic state in central India. The disease was diagnosed by bone marrow aspirate incidentally.

Cases III and IV: A 25-year-old female and a 29-year-old HIV-infected female, with chief complaints of multiple skins colored swellings on her face, neck, chest, and back and also on both limbs. Physical examination revealed multiple skin-colored papules and nodules coalescing to form large plaques on the face, neck, upper back, and chest which had overlying yellowish-brown crusting (Fig.1). Her entire face was involved with depression of the nasal bridge and madarosis. Multiple discrete 0.1-0.5 mm papules and nodules on bilateral upper and lower limbs. Patient was started on the treatment of cutaneous histoplasmosis with injection of liposomal amphotericin-B 100 mg intravenous (around 3 mg/kg/day) after pre-medication for 10 days. For both cases, capsule itraconazole 200 mg BD started for 4 days. Patient responded well to the treatment and follow-up showed improvement in the condition of the patient.

Results: In all the cases, fine needle aspirate cytology of the lesions showed plenty of inflammatory cells and macrophages in pathological microscopic examination. Microscopic examination of skin tissue revealed that macrophages comprising of yeast forms of Histoplasma have pericellular halo around them. Moreover, on long incubation of biopsy sample on SDA media plate at 27˚C, white/buff colonies with yellow-tan on the back were observed. Furthermore, microscopic examination of grown fungal culture showed mycelial septate hyphae bearing round to pear-shaped, smooth-walled broadly elliptical microconidia, or tuberculate macroconidia. In all the cases, clinical suspicion, histopathological and mycological findings (microscopy, culture and post-culture sequencing) led to a confirmatory diagnosis of progressive disseminated Histoplasmosis by H. capsulatum var. capsulatum was made.

Conclusion: In all, 3 of these cases are of progressive disseminated histoplasmosis in apparently immunocompetent patients from the non-endemic states of north India. On the contrary, one of the cases was HIV positive with mucocutaneous lesions. Disseminated histoplasmosis in immunocompetent individuals is not a rare entity, in India. High clinical suspicion and awareness regarding the pathogen are required. From the point of good patient care, an accurate diagnosis, and timely management in cases of histoplasmosis are warranted.