

Can Skin Findings Suggest Disseminated Opportunistic Infection, Malignancy in HIV/ AIDS?

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Case Vignette

A person living with human immunodeficiency virus (PLHIV) in his early thirties, an antiretroviral therapy (ART) defaulter, presented with a gradual onset holocranial, pulsatile headache for 10 days, which worsened on forward bending. The headache was followed by a few episodes of projectile vomiting. He also gave the history of anorexia, weight loss, and low-grade fever.

On examination, he was oriented and obeyed commands. He had pallor and multiple raised, skin-colored, umbilicated lesions over his face, scalp, and forearm, some with central ulceration (Images 1a and 1b). He was febrile, and neck stiffness was present. Examination of other systems was non-contributory.

What is your clinical diagnosis?

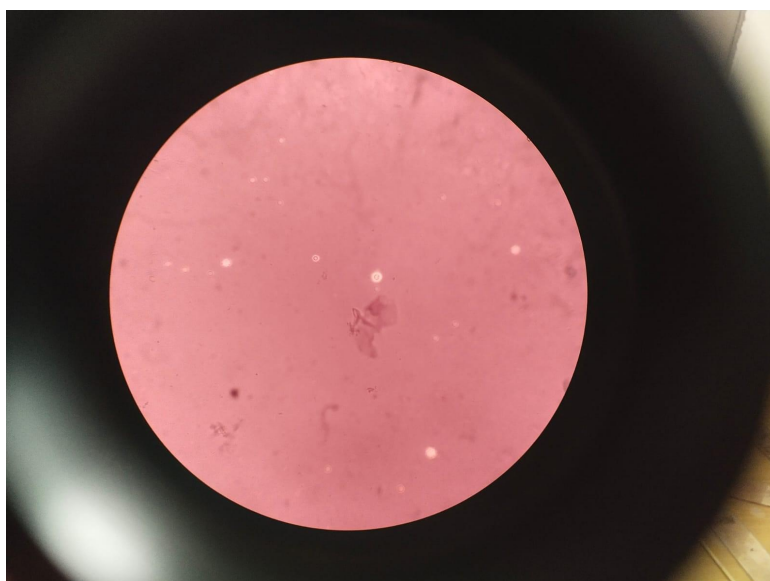
- A. Kaposi's Sarcoma
- B. Molluscum contagiosum
- C. Histoplasmosis
- D. Cryptococcosis
- E. MAC infection



Image-1

Answer:- D. Cryptococcosis**Comments**

Cerebrospinal fluid (CSF) India ink preparation showed yeast cells surrounded by clear halo and CSF biofire was positive for *Cryptococcus neoformans*. Biopsy samples from skin lesions also showed encapsulated yeast of cryptococcus on India ink preparation (image 2).

**Image-2**

Cryptococcus neoformans can cause disseminated infection, particularly in immunocompromised individuals, with the greatest risk when CD4 counts fall below 200 cells/mm³. It commonly involves the central nervous system, lungs, and skin; and can produce systemic symptoms such as fever, malaise, anorexia, and weight loss. Cutaneous cryptococcosis often presents as skin-coloured or slightly erythematous papules and nodules with central umbilication, frequently accompanied by central necrosis. In profound immunodeficiency, it can present as cellulitis or abscess which mimics bacterial infection in both rapidity of onset and appearance. However, the closest differential for these lesions is Molluscum contagiosum, which manifests as dome-shaped, umbilicated papules. Other differentials include disseminated *Mycobacterium avium complex* (MAC) infection, which may present as painless or occasionally tender clusters; disseminated histoplasmosis, which can appear as papular or nodular lesions with potential ulceration; and Kaposi's sarcoma, characterized by violaceous lesions that may coalesce into plaques, though lacking central necrosis. However, cutaneous histoplasmosis presents as variable morphologies and papules may ulcerate or become crusted. Basal cell carcinoma presents as a rodent ulcer with a rolled border, usually seen in sun-exposed areas and having visible telangiectasias.

Cutaneous manifestations are the third most common presentation of cryptococcosis. Approximately 15% of patients with disseminated cryptococcosis, primarily those with advanced HIV, exhibit cutaneous manifestations^(1,2). Additionally, about 5% of cryptococcal meningitis patients report skin involvement⁽³⁾. Hence, the presence of this type of umbilicated cutaneous lesions in HIV-positive individuals warrants consideration of disseminated cryptococcosis, and differentials should be promptly evaluated.

References

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