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A Captivating Case of Amoebiasis Cutis with Nodular Fasciitis

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Abstract

Primary cutaneous amoebic infections as well as cutaneous lesions from disseminated amebiasis are exceedingly rare and are more commonly seen in immunocompromised patients. Review of Literature has shown several species that cause cutaneous disease include Entamoeba histolytica, Acanthamoeba, Naegleria fowleri, and Balamuthia mandrillaris. Although cutaneous amoebic infections are rare, they are usually underrecognized and frequently misdiagnosed. Hence, it is important for pathologists to be aware of this histomorphologic appearance and diagnostic pitfalls when evaluating a skin lesion. Primary cutaneous amoebic abscess in association with nodular fasciitis in an immunocompetent patient.

Keywords: *Amoebic, Cutis*

1. Introduction

Human cutaneous amebiasis can be segregated into two main categories caused by E. histolytica and free-living amoebae composed of acanthamoeba, naegleria fowleri, Balamuthia mandrillaris. Amoebae are single cell organisms that exist in either environmentally stable cyst form or pathogenic trophozoite form. Entamoeba histolytica primarily infects the GIT. Cutaneous lesions typically result from either direct extension to the perianal and genital skin or through fistulas to the skin from underlying GI or hepatic abscess. Primary cutaneous lesions from disseminated amebiasis are exceedingly rare and are more commonly seen in immunocompromised patients.

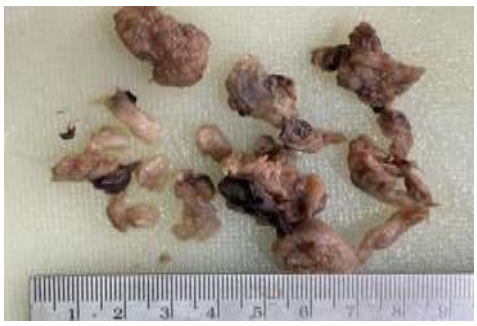
Case Presentation

51Y/M from a low socioeconomic background, came with complaints of painful swelling in the right lower lumbar region for the past 2 months. No history of prodromal symptoms or comorbidities. He had similar swelling in an adjacent area earlier for which he underwent native treatment. Clinical workup showed anaemia with neutrophilia. USG: diffuse subcutaneous edema in the right lumbar region. Urine and stool routine were normal.

Histopathology

Gross

Received 3 grey white to yellowish soft tissue fragment, Cut section of all: grey white and yellowish.

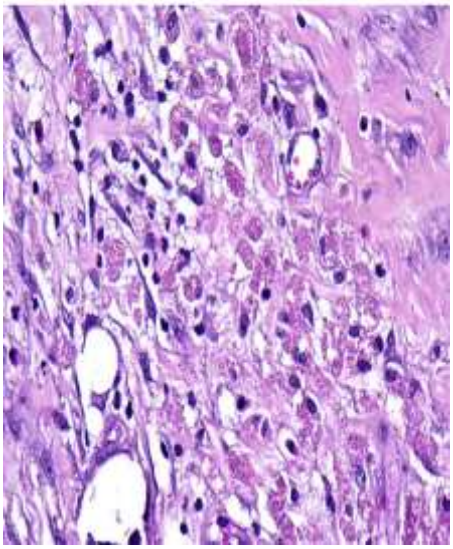


Microscopy

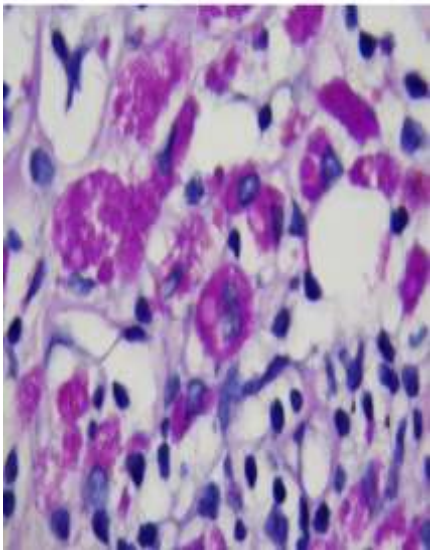
Histopathological examination of the excised nodule showed sheets of fibroblastic proliferation interspersed with pseudo-lipoblasts and foreign body giant cell reaction. Fibroblastic area showed positivity for Masson trichrome. S100, EMA & CK were negative.

Also noted were several PAS positive structures resembling Amoebic trophozoites, exhibiting erythrophagocytosis, surrounded by mixed inflammatory infiltrate. We arrived at the diagnosis of Acute on Chronic cutaneous Amoebic Abscess with underlying Nodular Fasciitis and foreign body giant cell reaction.

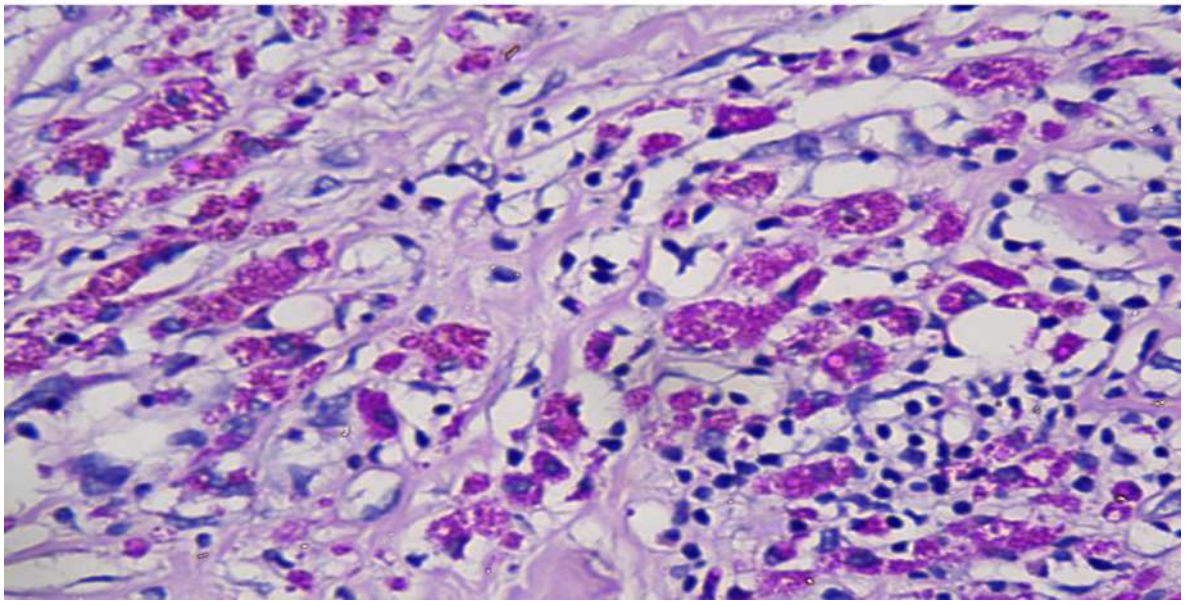
H&E Amoebae 10x



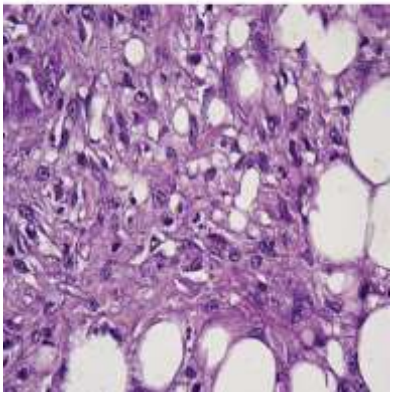
Erythrophagocytosis100x



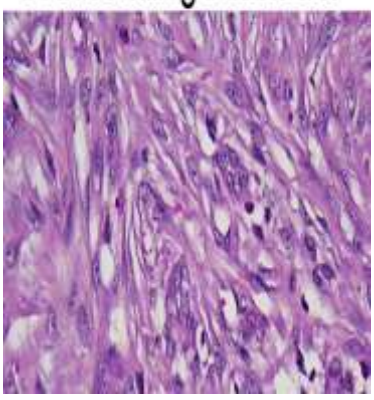
PAS +ve Amoebae 40x



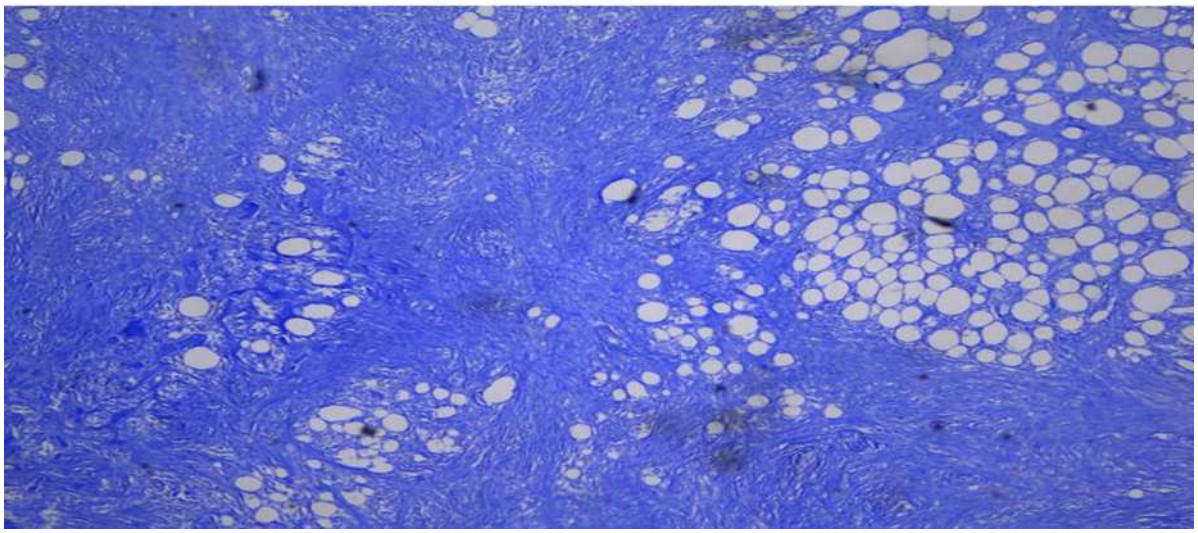
Spindle cell proliferation



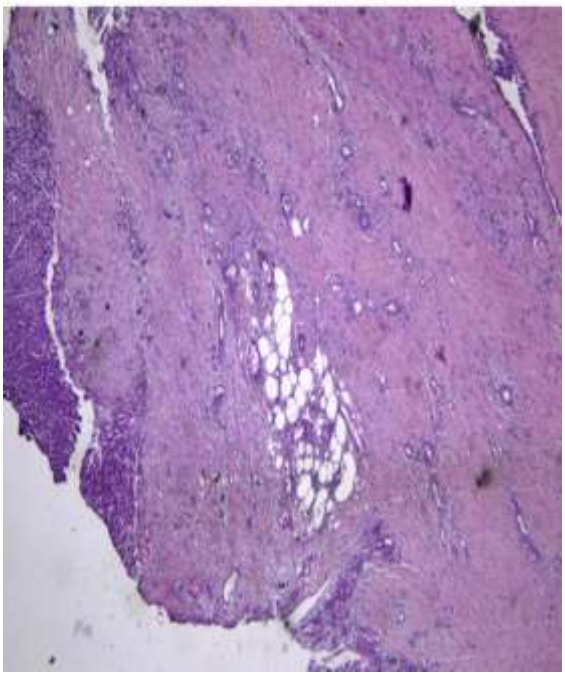
Proliferating fibroblast



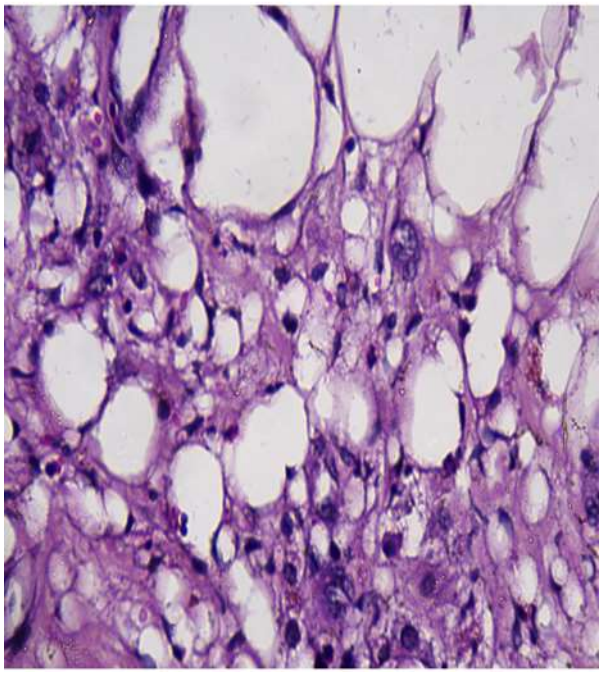
Masson's Trichrome +ve fibroblastic area



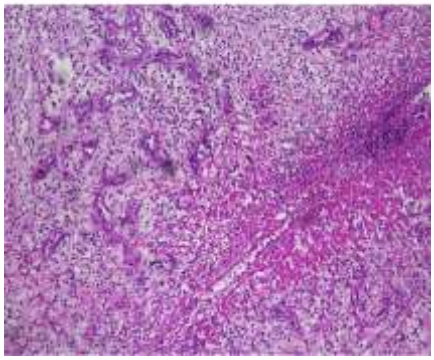
4x Necrosis, Fibromatosis



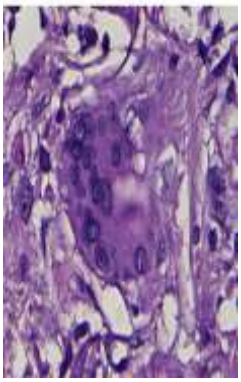
Psuedolipoblast



Granulation



Giant cell



2. Results and Discussion

Histopathological examination of the excised nodule showed sheets of fibroblastic proliferation interspersed with pseudo lipoblasts, foreign body giant cell reaction and few foamy macrophages. Special stains Masson's trichrome and PAS along with Immunohistochemistry using antibodies against desmin, EMA, S100, CD34 and Cytokeratin was performed to rule out xanthogranulomatous lesion with fibrohistiocytic proliferation with giant cells. Masson trichrome showed positivity in the fibroblastic area Also noted were foamy macrophages showing PAS positive structures resembling Amoebic trophozoites having a halo around them and erythrophagocytosis. Amoebae are of two types, *E. histiolytica* and Free-living amoeba, which are found ubiquitously throughout nature and are known to thrive in freshwater include *Acanthamoeba, Naegleria fowleri, and Balamuthia mandrillaris*. Acanthamoebiasis are known to cause cutis amebiasis more commonly than others, where *Acanthamoeba* have centrally placed nucleus without erythrocytes or debris within the cytoplasm. However, this case showed round, basophilic organisms with eccentrically placed nuclei and central cytoplasm resembling *E.hystiolytica.* Primary cutaneous amoebiasis is a rare entity and manifests principally as an ulcer. In the immunocompromised, infections by the genus *Acanthamoeba* may begin as erythematous papules or nodules, which ultimately drain purulent material leading to ulceration. In patients infected by the genus Entamoeba often, ulceration occurs in the genital area or upon the abdominal wall as direct extension of a hepatic abscess.,

Expected Results of Diagnostic Studies

For acanthamoebiasis the diagnosis is typically made through skin biopsy of the raised and advancing border. Characteristic trophozoites (double walled; 15-20 um diameter) are identified in the areas of suppuration. Culture and specialised immunohistochemistry may confirm the diagnosis. For entamoebiasis, which is generally a gastrointestinal and/or hepatic disease with only rare cutaneous involvement, serological testing is sensitive and specific, but it cannot distinguish between active and past infection.Skin biopsy specimens taken from the ulceration may afford visualisations of trophozoites (eccentric nuclei, prominent pink nucleoli, often with phagocytosed erythrocytes; 20-50 um diameter). Motile trophozoites have been described in skin scrapings taken from the edge of an ulceration. Absence of large trophozoites ruled out Balantidium coli, no increased mitotic active and other IHC showed negative, excluded our different options.

Peculiarity

Primary Cutaneous Amoebic Abscess associated with nodular fasciitis in immunocompetent patients.

3. Conclusion

The possible etio-pathogenesis may be the patient would have developed the Nodular fasciitis, a rapidly growing soft tissue tumour with unhygienic practice following the native treatment. Although cutaneous amoebic infections are rare, they are usually underrecognized and frequently misdiagnosed. Hence, it is important for pathologists to be aware of this histomorphologic appearance and diagnostic pitfalls when evaluating a skin lesion.

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