Case report:

Cutaneous acanthamoebiasis in Iraq

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Abstract
Acanthamoeba spp. is causing fetal infection in center nerve system known as granulomatous amoebic encephalitis, and can infected skin, lung and other organ, these amoeba usually infect individual with immunocompromised In the current study, the case of cutaneous acanthamoebiasis was first recorded in Iraq for a 25-year-old Iraqi woman patient suffering from lesions, ulcers and nodules on the left-foot skin despite treatment with a combination of antibiotics. The fluid from the nodules was taken and cultured on the non-nutritious agar medium and examined with light microscopy after 4 days of cultivation. Acanthamoeba was diagnosed based on the morphological features of trophozoites and cysts. The results of culture and diagnosis showed the patient was infected with Acanthamoeba triangularis, one of the opportunistic species.

Introduction
Free-living amoebas are presented in all places throughout world. A number of species that source of severe human disease such as Acanthamoeba species, Naegleria fowleri, and Balamuthia mandrillaris. cutaneous lesions as well as Primary cutaneous amoebic infections are much more common in patients with immunocompromised. Even though amoebic infections are very rare, they are possible under recognized and therefore misdiagnosed. It is significant for pathologists to be aware of their histomorphologic look and diagnostic pitfalls when evaluating immunocompromised patients with new skin lesions (Morrison et al., 2016).

The first human disease with Acanthamoeba was reported by Jager and Stamm in 1972, Acanthamoeba produces encephalitis, sinusitis, cutaneous infections and keratitis, which is characterized by grows gradually for weeks, months, or years (Ortiz, 2006). Infection of the central nervous system develops after spread by blood from a primary cutaneous or respiratory tract lesion (Ndiaye, 2005).

The life cycle of this amoeba contains two forms that are vegetable phase known as trophozoite and doormat phase known as cyst. The cyst can be found in environments for many years and when the environmental condition become suitable the cyst transfers to trophozoite and leads its vital function, Acanthamoeba is opportunistic amoeba that’s mean its survives as free living in environmental but can be cause disease when enter the human and animals body and live as parasite. The genus of Acanthamoeba consist of 20 species some of them are very important because they are causing infection such as A. castellanii, A. polyphaga, A. triangularis, A. culbertsoni and other .These species can be causing infection in skin, lung, eye and center nerve system (Gardner et al., 1991).

Case Report
A 25-year-old woman with hurting cutaneous nodules that had developed over a 6-month period. The first
skin lesion appeared as a small papule on her left foot that slowly extended as other nodules appeared in a generalized distribution over the next 30 days. Some of the nodules ulcerated, draining purulent fluid and forming necrotic. On physical examination. The woman was suffer from multiple small scars were present on her left foot.

we have been took a swap from ulcer and then was cultured on N.N.N. agar after 4 days, results of the culture demonstrated that negative to fungal and bacteria and positive to Acanthamoeba, trophozoite forms with acanthopodia structures, confirming the amoeba to be Acanthamoeba and cysts with three angular and double wall, so it is A. triangularis.

![Ectocyst, Endocyst, Pore](image)

Figure (1) cyst of Acanthamoeba triangularis after cultured on n.n.agar staining with safranin defined, hyper pigmented nodule.

**Figure (2) cutaneous acanthamebiasis, well four days**

**Discussion:**

The skin lesions of distinctive signs in patients with cutaneous acanthamoebiasis and thus is one of the common signs to diagnose this disease. Theses lesion are multiform they may be subcutaneous or intracranial (Huapaya et al., 2002) and differ in size there are ranging from a few millimeters and several centimeters in diameter (Hamide et al., 2002). The diagnosis of the acantha requires its cultivation and then examined after several days to observe the turtle and the esophagus. The turf contains one nucleus and nucleus. The diameter of the stem is different depending on the species but varies between 13-30mm.

In the present study, the diameter of the Acanthamoeba cysts ranged between 13-16.5 µm and had a wrinkled ectocyst, the endocyst was a triangle shape and the number of pores was three and therefore was classified as an A. triangularis depending on Visvesvara (1991). Trophozoites of all isolates were irregular in form, measuring 23 to 35µm in length with highly vascular cytoplasm.

Acanthamoeba's treatment depends mainly on the sensitivity of this amoeba to some in vitro drugs such as metronidazole, pentamidine and 5-flucytosine. Amoebiasis may be rare but has increased in recent years due to the large number of people suffering from immunodeficiency, diabetes and others. Therefore, immediate diagnosis is necessary and delayed treatment leads to rapid deterioration and death (Paltiel et al., 2004)
References