

Ocular Acanthamoebiasis in Iraq

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Introduction

Free – living or limax amoebae are small free-living protozoans which exist in fresh water and soil environment. These amoebae were found infective to man causing a fatal disease affecting the central nervous system. Fowler and Carter were the first to report four fatal human cases of acute pyogenic meningitis caused by free-living amoebae¹. The genera *Naegleria* and *Acanthamoeba* are incriminated in such infections². Swimming in contaminated water has been frequently postulated as the way of infection through the intranasal mucosa. Since that time more than one hundred cases of primary amoebic meningoencephalitis were reported from different parts of the world. On the other hand, the free-living amoebae of the genus *Acanthamoeba* are known to cause eye infection and keratitis^{3,4,5}. The discovery of progressive corneal ulceration due to several species of *Acanthamoeba* were reported in many parts of the world^{6,7}. We describe here the first reported case of ocular acanthamoebiasis in Iraq due to the infection with *Acanthamoeba* sp.

Case:

A 27-years-old Iraqi woman consulted the Ophthalmology department of the Medical City Teaching Hospital in Baghdad with a complain of ocular itching and foreign body sensation and redness in both eyes with swollen lids of two weeks duration. She did not give any previous history of eye infection or any trauma and she is not a contact lens wearer. Other general physical findings were normal. Several corneal swabs from both eyes were examined by Grams' stain and Zeihl-Neelsen stain with negative results. Cultures of the eye swabs for bacteria and fungi were negative. The eye swab which was examined as a wet film revealed few amoeboid cells with filamentous pseudopodia, sluggish movement and a size approximately 25-30 μm in diameter. These cells were subsequently grown on non-nutrient agar with *Escherichia coli* following the method of Singh², a luxurious growth of amoeba trophozoites and cysts obtained after five days incubation at 28-30°C, these were subsequently identified as *Acanthamoeba* sp. According to this laboratory result the patient was treated with chlorhexidine eye drops and neomycin eye ointment. The patient regained good visual acuity and the symptoms disappeared post-treatment.

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Discussion:

Studies carried out on soil protozoa have shown that soil is an ideal habitat for amoebae to exist in active and cystic condition. These amoebae thrive in sufficient numbers to cause infection when their environmental temperature is fairly high as the organisms are thermophilic⁸. *Acanthamoeba* keratitis is a rare corneal infection which cause prolonged morbidity and significant effect on visual acuity^{9,10}. Most infections are contact lens wearers and cosmetic wear of contact lenses reaching to about 90 percent of the cases which is considered as an increasing risk factor for the infection¹⁰. Ring-shaped infiltrate is usually a late sign of the infection with *Acanthamoeba* and is considered one of the diagnostic features¹¹.

The patient described in this article was atypical *Acanthamoeba* eye infection giving the lack of contact lens wear or antecedent trauma and without progression to ring infiltrate. There was no other evidence of fungal, bacterial or viral agents associated with the amoebae could be found. The patient was in good health and had ever suffered from any chronic disease. The only way by which our patient got the infection is washing her face and eyes with contaminated unchlorinated water in a rural area.

It seems that *Acanthamoeba* might be able to produce significant eye infections in man, and they should certainly be born in mind in any patient with symptoms of red eye and ocular discomfort. Our report of this case suggests that many cases of *Acanthamoeba* infections of the eye are undiagnosed.

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