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Case Report Open Access

A Clinical Experience: A Cutaneous Leishmaniasis Case with Spontan Abortus Following To Meglumine Antimoniate Therapy

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Abstract

A 27 years old female patient was diagnosed with cutaneous leishmaniasis histopathologically and received intramuscular meglumine antimoniate therapy at a dose of 20 mg/kg/day for consecutive 20 days. The base-line pretreatment complete blood count, hepatic transaminases, lipase, amylase, beta-hCG level and electrocardiogram were within normal limits. Following to the treatment-free two weeks at the control visit, the patient stated that she was 4 weeks pregnant. Gynecological follow-up was recommended to the patient but it is learned that she had spontaneous abortion one day later. We presented our experience on this case regarding possible toxicity of meglumine antimoniate treatment on fetus.

Keywords: Leishmaniasis; Meglumine antimoniate; Abortion

Introduction

Cutaneous leishmaniasis (CL) is a clinical condition caused by protozoan parasites of the genus *Leishmania*, transmitted via vectors [1]. It is characterized by protracted noduloulcerative lesions on the skin, which heal leaving atrophic scar. Incidence of CL is estimated about 2-2.5 million new cases each year and endemic in approximately 98 countries in the world [2]. In Turkey, it is more frequent in southeast region.

When left untreated, CL generally heals in 1-1.5 years leaving atrophic scar. However, treatment in diagnosed cases reduces the risk of transmission. The first option in treatment is meglumine antimoniate compounds [3]. Monitoring is necessary during its administration, since it has nephrotoxic, hepatotoxic, and cardiotoxic effects. Additionally, it is not recommended in pregnant and breast-feeding women due to insufficient experience [4].

Case report

Twenty-seven years old female patient applied to our polyclinic due to lesions on her nose and right wrist which started two months ago and got bigger in time. In dermatological examination, two plaques, one on the nasal dorsum, 3x4 cm in size, and one on the dorsum of wrist 3x3 cm in size, were observed; lesions were edematous, slightly raised from the skin, sharp-edged, and they had ulcerated center and erythematous surroundings (Figures 1,2).

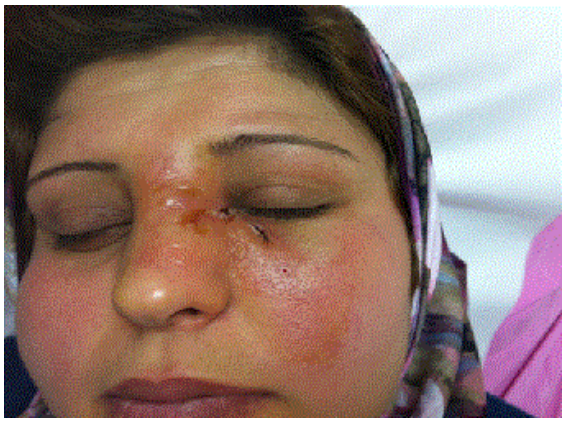

Figure 1: Edematous, slightly raised from the skin, ulcerated plaques on the nasal dorsum (3x4 cm)

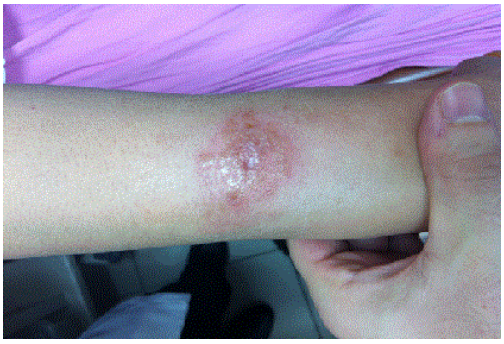

Figure 2: Edematous, sharp-edged, and erythematous surroundings plaques one on the dorsum of wrist (3x3 cm).

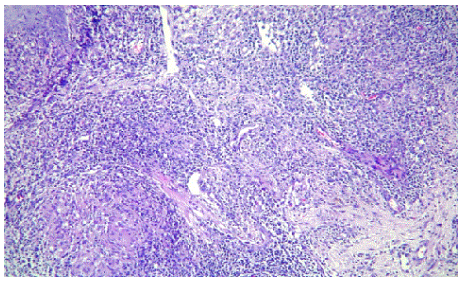

Figure 3: There are diffuse and dense dermal inflammatory infiltrate composed of lymphocytes, plasma cells, histiocytes, granuloma structures at the dermis (Hematoxylin eosin X 200)

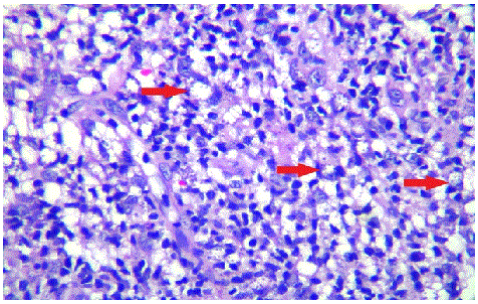

Figure 4: Leishmania Donovani bodies in the cytoplasm of histiocytes (Hematoxylin eosin X 200)

In addition, the lesion in the dorsum of the nose was lying beneath the left eyelid. Four mm punch biopsies were obtained from both lesions, with an initial diagnosis of CL. Histopathological examination by microscopic assesment of Giemsa-stained smears prepared from skin lesions, revealed intracytoplasmic Leishmania Donovani bodies (Figures 3,4). And CL was diagnosed by direct microscopic examination histopathologically. In her systemic examination, there was no axillary and cervical lymphadenopathy, or hepatosplenomegaly. Complete blood count, routine blood chemistry tests, chest X-ray and complete abdominal ultrasonography were in normal limits and beta-HCG was negative before treatment. The patient was diagnosed as CL with these findings. While the patient had more than one lesions, and the one in the dorsum of the nose was lying beneath the left eyelid and also the cosmetical concerns lead us to systemic treatment. Patient was advised to use contraception; and 1400 mg/day meglumine antimoniate was administered intramuscularly for 20 days with weekly monitorization of ECG, blood chemistry, lipase, amylase and complete blood count tests. The lesions improved remarkably with the treatment, and a control visit was planned after two weeks. Patient applied for control visit after twenty days, and it was learnt that patient was four weeks pregnant by ultrasonography. One day later, she had spontaneous abortion.

Discussion

CL generally occurs as a single or a few lesions on open areas such as face and hands. The lesion starts as an erythematous, painless papule emerging after 4-8 months incubation period. It grows into 1-2 cm nodule, and its center gets ulcerated and forms a crust in time [1]. Direct microscopic examination and culture methods are mainly used in the routine diagnosis of CL [5].

Leishmaniasis is a parasitic disease in which the treatment and control is difficult. Although there are various treatment options, meglumine antimoniate compounds is the first option in Turkey. Intralesional antimony injection is the gold standart for the treatment of single, small lesions. But systemic treatment is prefered when cosmetic problems are discussed and if the localization of the lesion (joints, eyelids, etc.) may develop functional disturbances while it recovers [3]. While our case had more than one lesions, and the one in the dorsum of the nose was lying beneath the left eyelid and also the cosmetical concerns lead us to systemic treatment. Systemic meglumine antimoniate therapy may cause toxicity signs such as pancreatitis, which is mostly chemical and sometimes clinical, elevations in liver enzymes, electrocardiographical changes (T negativity, prolonged QT interval), mild bone marrow suppression, herpetic reactivation, rashes, arthralgia, myalgia and malaise. Its use in pregnant and breast-feeding women is controversial since there is insufficient experience [6].

Utili et al. administered 850 mg/day meglumine antimoniate treatment to 39 years old pregnant patient in the second trimester for 20 days intramuscularly. They did not observe any toxic effects in fetus during and after the treatment. Considering their case, they proposed meglumine antimoniate treatment could be safely administered during pregnancy [7]. In their study with rats, Paumgartten et al. determined that meglumine antimoniate treatment was embryotoxic in rats [8]. Silveira et al. reported occurrence of preterm delivery during systemic meglumine antimoniate treatment in a 24 weeks pregnant patient; the baby died on the first day [9]. This was the first pregnancy of our patient. She had not a history of abortus before. She was examined by a gynecologist. Other reasons for abortus like myoma uteri, congenital uterine anomaly, active infection, history of trauma, systemic and immunological disease were not detected in our patient. Usage of alcohol, cigarette or any drugs were absent.

In conclusion, studies related to the effect of systemic meglumine antimoniate treatment on fetus is quite limited. Our patient's pregnancy, which occurred following treatment, terminated with spontaneous abortion. It is unclear what is the role of the therapy of meglumine antimoniate in the process of this abortion. We wanted to share our clinical experience in this concept owing to the limited data about the effect of this drug on pregnancy.

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