Two Pediatric Cases with Cutaneous Leishmaniasis in İzmir

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Abstract

Leishmaniasis is a disease transmitted by infected sand flies, when they suck the blood of mammals. It is considered an endemic infection in many parts of world. Cutaneous leishmaniasis is endemic in the South Eastern parts of Turkey. It is a public health problem in big cities, such as İzmir, as well as in rural areas our country. Here we report the case of two siblings with cutaneous leishmaniasis, who were successfully treated with local meglumine antimoniate injection. *(J Pediatr Inf 2015; 9: 122-5)*

Keywords: Cutaneous leishmaniasis, İzmir, meglumine antimoniate

Introduction

Leishmaniasis is a comprehensive disease group caused by the *Leishmania* parasites spread by the infected sand flies when they suck blood from the skin. The most important clinical types of this disease group are visseral leishmaniasis that causes internal organ involvement leading to mortality if untreated, and cutaneous or mucocutaneous leishmaniasis that causes malformation on the skin and mucosa (1, 2). Leishmaniasis has long been seen as an endemic, hyperendemic and even as an epidemic especially with its cutaneous forms in certain regions in our country. In recent years, it continues to have been a public health problem threatening not only rural areas, but also the big cities, but causing many social negativity as well (1, 3-5).

Here in this study, we report the case of two siblings with cutaneous leishmaniasis who lived in İzmir, a non-endemic region.

Case 1

A one and half year-old female patient applied with our policlinic with the complaints of a lesion that developed as a result of an insect sting that did not heal and was scaled in time. It was learnt from the patient's history that the patient lived in İzmir for a year and previously had lived in Mardin. The patient who went to other epicenters for few times due to this complaint was given a medicine whose name the family did not remember, but she did not get better. It was not possible to identify from the history of the patient which diagnosis was made for the patient in the other epicenters. It was learnt in her family history that the patient who did not have any specificity in her own story had other siblings who had similar lesions. In her systemic examination, the patient who did not have any pathologic symptoms had a lesion 2-2.5 cm in diameter with erythremia around it on her right cheek in the dermatological examination (Figure 1). In the laboratory examination, it was found that Hb was 9.6 g/dl, leukocyte count: 13,800/mm^3, platelet count: 505.000/mm^3, erythrocyte sedimentation rate: 11 mm/hour, and C-reactive protein: 0.01 mg/L. It was found that *leishmania* amastigot form was found in the scraping samples taken from the lesion which was thought to be compatible with cutaneous leishmaniasis. As a result of clinical and laboratory investigations, the patient diagnosed with cutaneous leishmaniasis, and two doses of meglumine antimonite in a week (Glucantime® 1.5 g/5 mL ampoule) was intralesionally given, which was enough to whiten the whole lesion (nearly 1 mL/cm^2). No side

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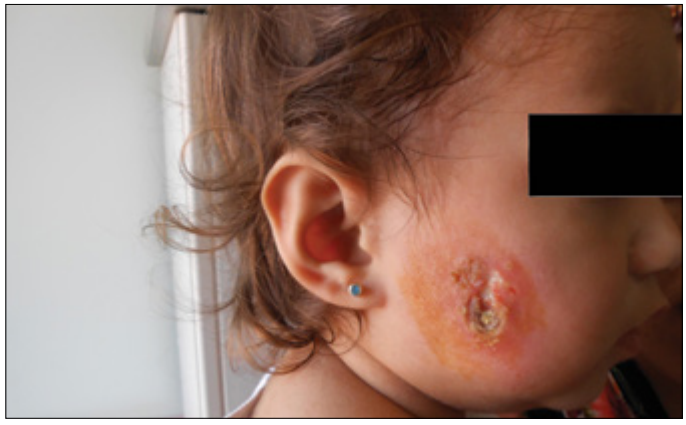

Figure 1. A lesion on the right cheek 2 cm in diameter with erythrema around it with hemorrhagic crusted lesion over it

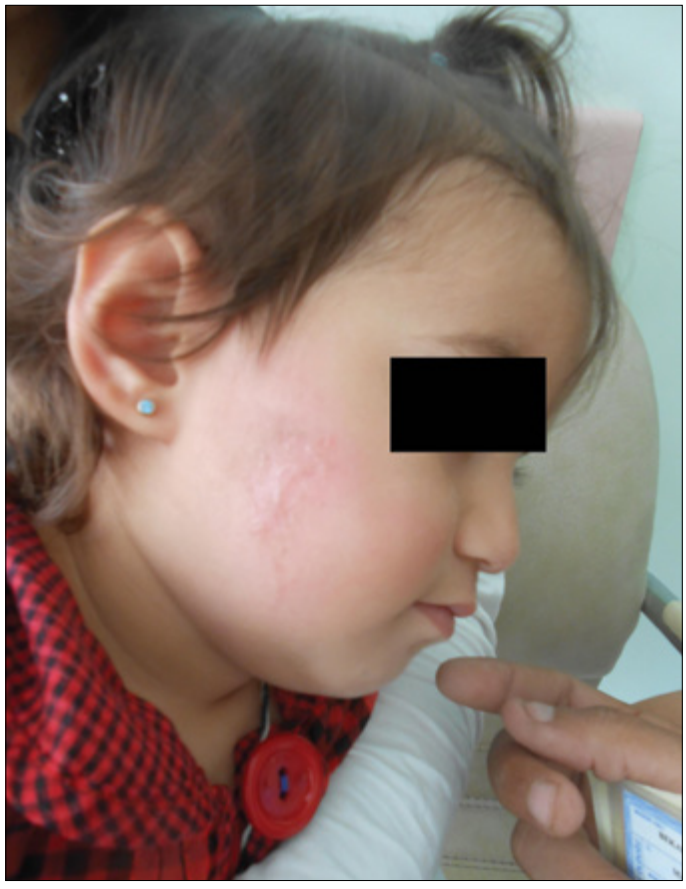

Figure 2. Noticeable recovery in the lesion on the right cheek with intra dermal treatment after the fifth injection

effect was seen in relation to the treatment. A noticeable recovery was observed in the lesions of the patient after the fifth injection (Figure 2). Treatment was discontinued and the patient was followed up in the policlinic.

Case 2

A three-year old male patient applied with our policlinic with the complaints of a lesion that developed as a result of an insect sting a year ago that did not heal and

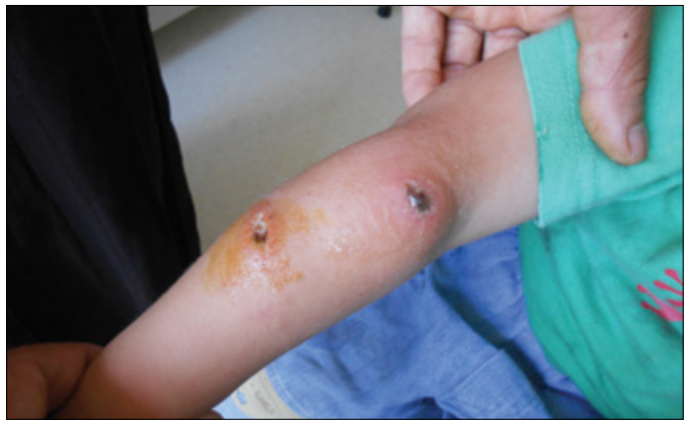

Figure 3. Two lesions on the right arm 1 cm in diameter with erythrema around it with crusted lesion over it

was scaled in time. The patient, like his sibling, went to other epicenters for few times due to this complaint. The lesions of the patient who used many medications whose names the family did not even know failed to heal. It was learnt in her family history that the patient who did not have any specificity in her own story had other siblings who had similar lesions. In the dermatological examination of the patient whose systemic examination was normal, the patient had two lesions on the right arm one on the left arm 1 cm in diameter lesion erythremia around it with scales on them (Figure 3). In the laboratory examination, it was found that Hb was 10.9 g/dL, leukocyte count: 11,700/mm^3, platelet count: 205,000/mm^3, erythrocyte sedimentation rate: 10mm/hour, and C-reactive protein: 0.01 mg/L. The patient was evaluated by the Dermatology Department and it was recommended that the smear taken from the lesion thought to be compatible with cutaneous leishmaniasis be stained by giemsa and investigated. *Leishmania* amastigot forms were found in the investigated samples. As a result of clinical and laboratory investigations, the patient diagnosed with cutaneous leishmaniasis (Glucantime®1.5 g/5 mL ampul) was intralesionally given two doses of meglumine antimonite in a week, which was enough to whiten the whole lesion (nearly 1 mL/cm^2) (Figure 4). No side effect was seen in relation to the treatment. A noticeable recovery was observed in the lesions of the patient after the fifth injection. Treatment was discontinued and the patient was followed up in the policlinic.

Discussion

Cutaneous leishmaniasis is most commonly seen in the South Eastern and Mediterranean regions of Turkey (1, 3, 6). In recent years, due to permanent and seasonal migrations, increased intercity trips as a result of improved transport facilities and environment-related changes, cutaneous leishmaniasis cases have also been reported

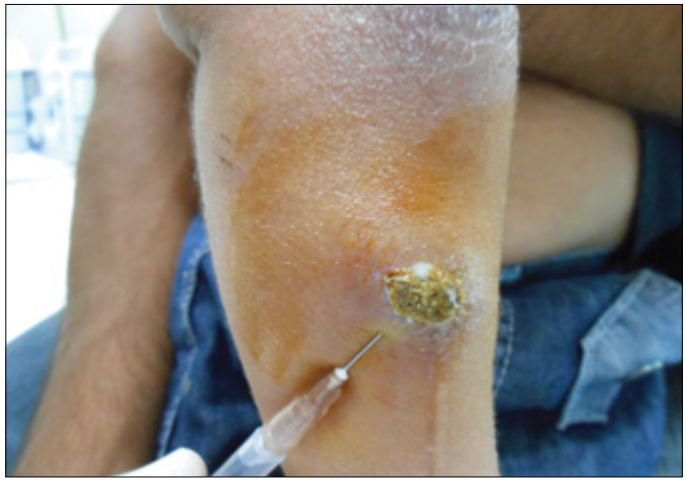

Figure 4. Whitening in the lesion during the intra dermal injection

in the non-endemic regions (1, 3-5). In recent studies, 0.4% of the cutaneous form leishmaniasis cases have come from the Aegean region (4, 7). Therefore, this disease, cutaneous leading the way, is one that all the health personnel should be very familiar with all around the country (1). Even though the two siblings in question lived in İzmir, a non-endemic region for a year, it was learnt in their family history that they had lived in Mardin previously. Just like in our cases, cutaneous leishmaniasis cases should definitely be investigated whether they travelled to or had a story of residence in the endemic regions.

Cutaneous leishmaniasis is a skin disease, known as oriental sore in our country that is most common in children causing malformation and/or the development of cicatrix when left to heal on its own (1). The most important agents for cutaneous leishmaniasis in Turkey are *Leishmania tropica* and *Leishmania major* (1) and it has been reported that *L. infantum* may cause cutaneous leishmaniasis in some regions as well (4, 8). The dry type cutaneous leishmaniasis caused by *L. tropica* (urban leishmaniasis) is the most common form of cutaneous that can emerge in different forms (1). Dry type cutaneous leishmaniasis start to appear in people infected being bitten by sand flies in summer months after the incubation period of 2-8 months. The infection that starts due to this period emerges at the end of winter or spring season. Wet type cutaneous leishmaniasis, on the other hand, is a clinic type with a fast course that is less common than the dry type and whose incubation period is shorter than the dry type (generally not longer than 2 months) (1). In our case, it was considered to be compatible with the dry type cutaneous leishmaniasis since the complaint started due to insect bite one year ago and a slow course. In a previous study, it was reported that the diagnosis period of the disease varied between 1-36 months, the patient was found to have 63% positive family history and therefore, the immediate family members of the patient had to be scrutinized for the risk of cutaneous leishmaniasis (9). The presence of two siblings in our case also justifies this particular view.

Traumatic ulcer lesion, foreign body reactions, infected insect bites, myiasis, impetigo, fungal, bacterial and mycobacterial infections, sarcoidosis and skin tumors are among the differential diagnosis of leishmaniasisin (1, 2).

It is not difficult to make diagnosis of the cutaneous leishmaniasis in people living in the endemic regions. The symptoms that back up the diagnosis are living in the endemic region and/or having a previous story of travel to such regions, having been bitten by sand flies in weeks or months period before the emergence of lesion, the presence of non-healing chronic, painless papule, nodule an ulcer that never heals in at least 4-6 weeks, the occurrence of the lesions in the regions not protected by the clothes, and the existence of similar lesion in more than one person in the family (1). All of these factors were existent in our cases as well.

Detection of the parasite in confirming the diagnosis as a laboratory is important. Detecting the amastigotes also called *leishmanial* particles in the smears prepared from the lesions and stained by giemsa is also the most frequently used method. Besides, histopathological examination, growing the paramastigots in a culture environment, leishmanial skin test and detecting the DNA of leishmanial through the Polymerase Chain Reaction are the other methods used (1). In an attempt to confirm the diagnosis in both of our cases, amastigotes in the smears prepared from the lesions and stained by giemsa were observed. When the story was evaluated together with clinical and laboratory findings, the cases of the two siblings were considered compatible with cutaneous leishmaniasis.

90% of the cutaneous leishmaniasis lesions heal by leaving a cicatrix dent on site. The period of recovery varies between 6-16 months. The treatment indications include many factors such as the existence of non-cosmetic lesions as was the case with our first case, the occurrence of lesions lasting for more than six months as was the case in both of our cases, the existence of between 2-5 cm in diameter and inflammatory lesions, a story of immunosuppression, the lesion being in such a site to cause malfunction and malformation, the presence of mucosa involvement, and expediting the treatment. Among the options of the treatment of leishmaniasis are azole derivative antifungals, amphotericin B, allopurinol, dapsone, pentamidin, zinc sulfate, miltefosin, aminosidin, cryotherapy, thermotherapy and surgery (1). However, the most preferred effective agents in treatment are quinquevalent antimony compounds and anti-infective ones with less recurrence rates and can produce successful cosmetic results, (1, 2). In both cases in our study, we

applied the meglumine antimonite treatment, the most preferred quinquevalent antimony compounds twice in a week. A noticeable recovery was observed after the fifth infection.

Conclusion

Leishmaniasis, cutaneous leading the way, is a disease that all the health personnel should be very familiar with all around the country. Cutaneous leishmaniasis should be considered in the patients living in the endemic region and/or having a previous story of travel to such regions, those having been bitten by sand flies in weeks or months before the emergence of lesion, the presence of non-healing chronic, painless papule, nodule an ulcer that never heals in at least 4-6 weeks, the occurrence of the lesions in the regions not protected by the clothes, and the existence of similar lesion in more than one person in the family. It continues to be a public health problem not limited Southeast Anatolia and rural areas, but in big cities as well that are known to be non-endemic in the western part of the country.

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