Ankara Üniv Vet Fak Derg, **60**, 177-178, 2013

Leishmania sp. in Cutaneous Leishmaniasis suspected patients is Kayseri

Suleyman YAZAR, Salih KUK, Ulfet CETINKAYA, Izzet SAHIN

Erciyes Üniversitesi, Tıp Fakültesi, Parazitoloji Anabilim Dalı, Kayseri.

Summary: Leishmaniasis is widely seen in tropical and subtropical regions of the world. It is caused by obliged intracellular protozoa of the genus *Leishmania* and is responsible for three clinical manifestations: cutaneous leishmaniasis (CL), visceral leishmaniasis (VL) and mucocutaneous leishmaniasis (ML). CL is a skin infection and is the most common form of leishmaniasis. Cl is rarely fatal but it may lead to permanent scars. CL is endemic in the western and southeastern parts of Turkey. This study was aim to investigate the presence of Leishmania amastigotes in CL suspected patients who applied to Erciyes University Medical Faculty Department of Parasitology, in Kayseri, central Anatolia of Turkey, between January 1995 and August 2012. Scraping of the ulcer samples obtained from 53 (47.7%) males and 58 (52.3%) females making a total of 111 CL suspected patients were examined by Giemsa stain. Microscopic examination showed Leishmania amastigotes in 43 (38.7%) patients. 36 patients from Kayseri, 4 patients from Niğde, one patient from Nevşehir, one patient from the Netherlands and one patient from Afghanistan a total 43 patients with CL, were admitted to our hospital. 14 out of 36 patients from Kayseri admitted to our hospital resides in Yahyalı. As a result, CL is still an important health problem in Kayseri, particularly in the district of Yahyalı.

Key words: Cutaneous leishmaniasis, Kayseri.

Kayseri'de Kutanöz Leishmaniasis şüpheli hastalarda *Leishmania* sp.

Özet: Leishmaniasis dünyanın tropikal ve subtropikal bölgelerde yaygın olarak görülmektedir. Bu enfeksiyona Leishmania cinsinde yer alan zorunlu hücre içi bir protozoon sebep olmaktadır ve üç klinik formdan sorumludur: Kutanöz leishmaniasis (KL), Visseral leishmaniasis (VL) ve mukokutanöz leishmaniasis (ML). KL bir deri enfeksiyonudur ve en yaygın görülen formdur. Çok nadir olarak ölümlere sebep olmaktadır, fakat kalıcı izlere neden olmaktadır. KL Türkiye'nin batı ve güneydoğu bölgelerinde endemiktir. Bu çalışmada, Ocak 1995 ve Ağustos 2012 tarihleri arasında Türkiye'nin İç Anadolu bölgesinde yer alan Erciyes Üniversitesi Tıp Fakültesi Parazitoloji Anabilim Dalı'na KL şüphesi ile başvuran hastalarda Leishmania amastigotlarının varlığının araştırılması amaçlanmıştır. 53 (%47,7)'ü erkek ve 58 (%52,3)'i kadın toplam 111 KL şüpheli hastadan elde edilen ülser kazıntı örnekleri Giemsa boyası ile boyanarak incelenmiştir. Mikroskopik incelemede 43 (%38,7) hastada Leishmania amastigotları gösterilmiştir. Amastigotları saptanan 43 hastanın 36'sı Kayseri'de, 4'ü Niğde'de, birer hasta ise Nevşehir, Hollanda ve Afganistan'da ikamet etmekte idi. Kayseri'de ikamet eden 36 hastanın 14'ü Yahyalı ilçesinde yaşamaktaydı. Sonuç olarak, KL halen Kayseri'de, özellikle de Yahyalı ilçesinde önemli bir sağlık sorunudur.

Anahtar sözcükler: Kayseri, Kutanöz leishmaniasis.

Introduction

Leishmaniasis is widely seen in tropical and subtropical regions of the world. It can be caused by several *Leishmania* spp and is transmitted to human beings and animals by phlebotomine sandflies. Leishmaniasis is divided into clinical syndromes according to what part of the body is affected most; visceral leishmaniasis (VL), cutaneous leishmaniasis (CL), and mucocutaneous leishmaniasis (ML). CL is a skin infection and is the most common form of leishmaniasis. CL is endemic in the western and southeastern parts of Turkey. It is estimated that more than 1.5 million new CL cases occur throughout the world every year (1, 2, 5, 6). The major risk factor for leishmaniasis is being exposed to infected sand flies. The disease becomes manifest over several weeks. There may be only one lesion, or multiple lesions may appear over time. Diagnosis is often made clinically and microscopic examination of lesion biopsy smears to visually confirm leishmania parasites as the cause (1, 2, 5, 6). This study was aim to investigate the presence of Leishmania amastigotes in CL suspected patients who applied to Erciyes University Medical Faculty Department of Parasitology, in Kayseri, central Anatolia of Turkey, between January 1995 and August 2012.

Materials and Methods

Scraping of the ulcer samples obtained from 53 (47.7%) males and 58 (52.3%) females making a total of 111 CL suspected patients between January 1995 and

August 2012 were examined by Giemsa stain. Briefly, scraping of the ulcer samples were taken on a slide. The slides of scraping materials were air dried, fixed with methanol, and stained with Giemsa. The slides were analyzed with a 100X immersion objective and examined.

Results

Microscopic examination showed Leishmania amastigotes in 43 (38.7%) patients (Figure 1). 18 (41.9%) out of 43 infected patients were men while 25 (58.1%) were females.17 (39.5%) out of 43 infected patients were in pediatric patients.

36 patients from Kayseri, 4 patients from Niğde, one patient from Nevşehir, one patient from the Netherlands and one patient from Afghanistan a total 43 patients with CL, were admitted to our hospital. 14 out of 36 patients from Kayseri that were admitted to our hospital resides in Yahyalı, 6 of them residens in Tomarza, 5 of them residens in İncesu, 4 of them residens in Develi, 4 of them residens in Melikgazi, 2 of them residens in Pınarbaşı and another one of them residens in Akkışla (Figure 2).

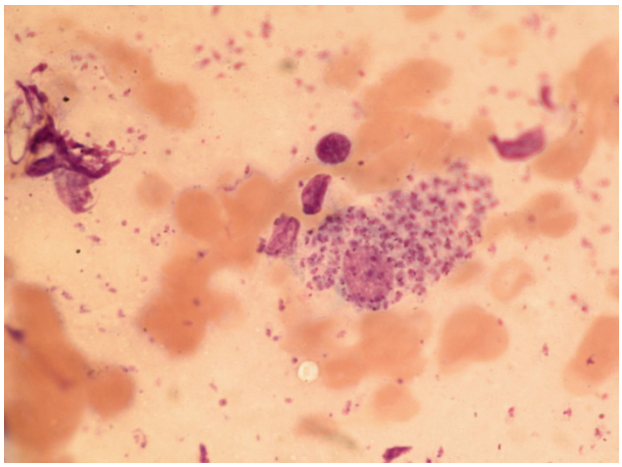

Figure 1: *Leishmania* sp. within reticulo-endothelial macrophage (Original, Giemsa x1000).
Şekil 1: Retiküloendotel makrofajlar içerisinde *Leishmania* sp. (Orijinal, Giemsa x1000).

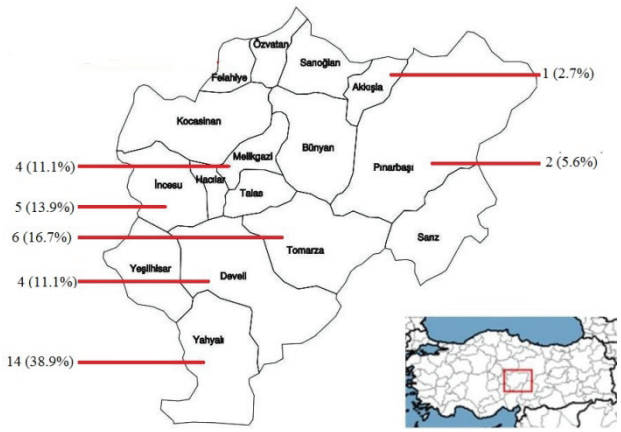

Figure 2: Total number and percentage of patients with cutaneous leishmaniasis according to region.
Şekil 2: Bölgelere gore kutanöz leishmaniasisli hasta sayı ve yüzdeleri.

Discussion and Conclusion

Leishmaniasis is vector transmitted zoonoses caused by more than 25 obligatory intracellular protozoans belonging to Leishmania species. Depending upon the species involved visceral, cutaneous and mucosal lesions are induced by involvement of macrophages in various organs and systems. CL is a skin infection and is the most common form of leishmaniasis. CL is endemic in the western and southeastern parts of Turkey. It is estimated that more than 1.5 million new CL cases occur throughout the world every year (1, 2, 5, 6). As CL can be seen in all age groups, it is seen more commonly in the pediatric age group (3, 4, 7). In this study, we determined that 17 (39.5%) out of 43 infected patients were in pediatric patients. In endemic areas, CL is seen more commonly in females. Suçaklı and Saka (**7**) reported that CL levels were 55.5% in females and Çulha and Akçalı (**3**) reported that CL levels were 67.5% in females. Ertem and coworker reported that 57.7% in females (**4**). CL levels 58.1% in our infected patients were females.

As a result, CL is still an important health problem in Kayseri, particularly in the district of Yahyalı and the fight against CL must be supported by special programs.

Acknowledgement

This article was presented at 1st National Symposium on Vectors and Vector-Borne with International Participation, 9-10 September, 2012, Avanos, Cappadocia, Nevsehir, Turkey.

References

1. **Belazzoug S** (1992): *Leishmaniasis in Mediterranean countries.* Vet Parasitol, **44,** 15-19.
2. **Berman JD** (1997): *Human Leishmaniasis: clinical, diagnostic, and chemotherapeutic developments in the last 10 years*. Clin Infect Dis, **24,** 684-703.
3. **Çulha G, Akçalı C** (2006): *Hatay ve Çevresinde Saptanan Kutanöz Leishmaniasis Olguları.* Turkiye Parazitol Derg, **30(4),** 267-271.
4. **Ertem M, Aytekin S, Acemoğlu H, Akpolat N, Aytekin N** (2004): *Diyarbakır Dicle İlçesi Dedeköy ve Durabeyli'de Kutanöz Leishmaniasis Olgularının İncelenmesi.* Turkiye Parazitol Derg, **28(2),** 65-68.
5. **Ok UZ, Balcioglu IC, Taylan Ozkan A, Ozensoy S, Ozbel Y** (2002): *Leishmaniasis in Turkey*. Acta Trop, **84,** 43-48.
6. **Reithinger R, Dujardin J, Louzir H, Pirmez C, Alexander B, Brooker S** (2007): *Cutaneous leishmaniasis.* Lancet Infect Dis, **7,** 581-96.
7. **Sucaklı MB, Saka G** (2007): *Diyarbakır'da Şark Çıbanı Epidemiyolojisi.* Turkiye Parazitol Derg, **31(3),** 165-169.

Geliş tarihi: 23.01.2013 / Kabul tarihi: 26.03.2013

Address for correspondence:
Prof. Dr. Süleyman Yazar
Erciyes University, Medical Faculty
Department of Parasitology,
38039 Kayseri-Turkey