



BERNHARD NOCHT INSTITUTE FOR TROPICAL MEDICINE

# Leishmaniasis acquired by travellers to endemic regions in Europe - a EuroTravNet multi-centre study

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## INTRODUCTION

Leishmaniasis is a disease caused by protozoan parasites which belong to the genus *Leishmania*. Important clinical manifestations of leishmaniasis include cutaneous leishmaniasis (CL) and visceral leishmaniasis (VL). Currently, leishmaniasis occurs in all continents with the exception of Antarctica and is considered to be endemic in 88 countries. About 90% of cases with leishmaniasis occur in the tropics or subtropics but the disease is also endemic in the Mediterranean area including countries like Macedonia, Croatia, Greece, Italy and Southern parts of France and the Iberian peninsula, where it is transmitted by sandflies of the genera *Phlebotomus*.

It has been estimated that around 700 new cases of leishmaniasis occur in southern European countries. To date, no systematic analysis on leishmaniasis in European travellers visiting endemic areas in Europe is available. Within the European travel medicine network EuroTravNet ([www.eurotravnet.eu](http://www.eurotravnet.eu)), we performed a retrospective analysis in travellers from non-endemic countries who acquired leishmaniasis in Europe diagnosed within the years 2000 to 2012.

## RESULTS

This retrospective analysis was conducted within the sentinel surveillance network EuroTravNet. Seven centres located in Germany (Hamburg, Munich), the Netherlands (Rotterdam), Norway (Oslo), Switzerland (Zurich, Geneva) and Great Britain (Cambridge) were able to contribute cases according to the case definition.

A total of 40 cases of leishmaniasis (30 CL and 10 VL) were reported; the median duration of travel was 2 weeks (range 1 – 67). More demographic data as well as information on travel and disease history are summarized in Table 1. In the majority of cases the travel reason was tourism. Only one third (32%) was infected during the typical summer holiday period (defined as most of the travel time was spent between June 1<sup>st</sup> and September 15<sup>th</sup>).

The majority of cases of leishmaniasis (CL and VL) were acquired in Spain (n=20, 50%) followed by Malta and Italy (each n=7, 18%).

Of the 30 travellers with CL, the majority were infected in Spain (Figure 1A). 53% of the patients with CL presented with a single lesion. We could identify *L. donovani* complex in 18 cases (60%) as the responsible species. In two cases, the causative parasite was further specified into *L. infantum* and *L. tropica*. No medical therapy was administered in 16 cases of which 11 cases showed a spontaneous remission (5 patients were lost to follow-up).

Table 1: Demographic data and information on travel and disease history

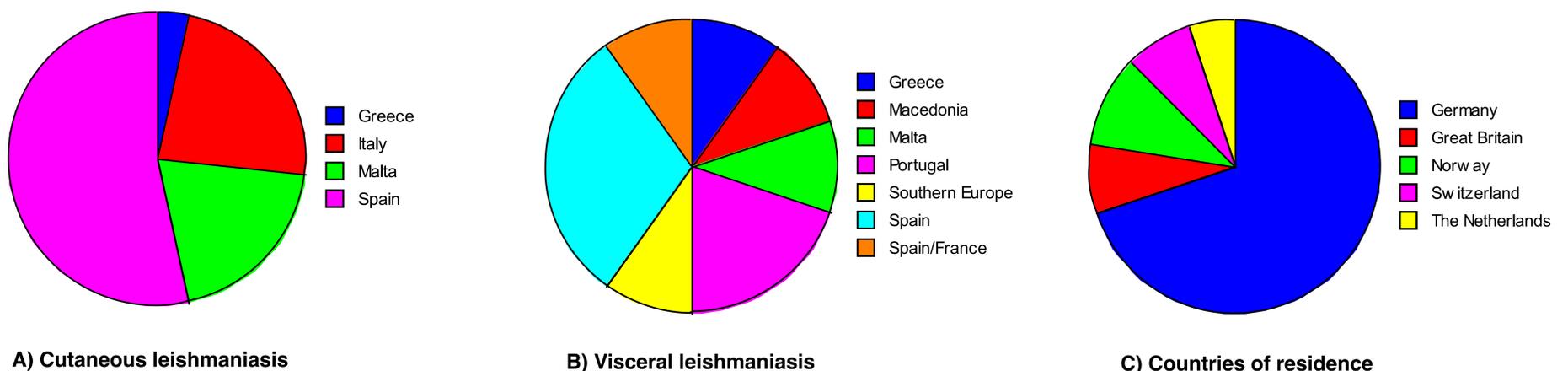
	All (n=40)	Cutaneous leishmaniasis (n=30)	Visceral leishmaniasis (n=10)	P-value*
Age, median (range)	48 (1-79)	44.5 (2-79)	67 (1-79)	0.14
Female gender (%)	19/40 (47.5)	16/30 (53.3)	3/10 (30)	0.78
Duration of travel in weeks, median (range)	2 (1-67)	2 (1-21)	2 (1-67)	<b>0.03</b>
Time exposure – diagnosis in months, median (range)	7 (1-108)	7 (2-36)	9 (1-108)	<b>0.01</b>

\*P-value for comparison between CL and VL  
 CL = cutaneous leishmaniasis; VL = visceral leishmaniasis

Of the 10 cases of VL, Figure 1B shows the countries where VL was acquired. The species was identified as *L. donovani* complex (n=8), in one case it was further specified to *L. infantum*. Four of the patients with VL received immunosuppressive medication with steroids (n=4) and additional methotrexate (n=2), one of these patients received in addition to steroids also cyclosporine A.

All patients were of Caucasian origin and were born in Europe, their countries of residence are shown in Figure 1C.

Figure 1: Countries in which leishmaniasis was acquired, separated by cutaneous (CL) and visceral leishmaniasis (VL), and countries of origin of infected tourists.



## CONCLUSION

In light of the high number of tourists to leishmaniasis-endemic countries of southern Europe the risk for travellers to acquire leishmaniasis in Europe appears to be comparatively low. In the present study, however, the risk of acquiring leishmaniasis has not been restricted to long-term travellers, in fact the median duration of travel was only two weeks.

Health professionals should include leishmaniasis in the differential diagnosis in patients returning from southern Europe with typical skin lesions (CL) or systemic alterations like fever, hepatosplenomegaly and pancytopenia (VL). Travellers visiting endemic areas should be advised about the risk of acquiring leishmania infection and measures for the prevention of sandfly bites should be recommended.