

Swiss TPH

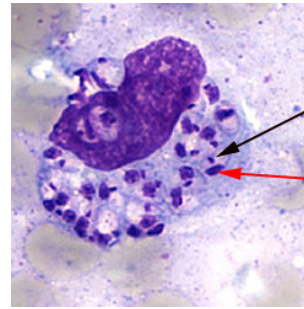
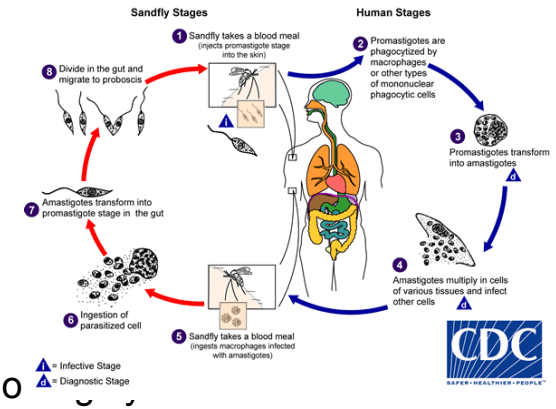


Surveillance of leishmaniasis cases from
15 European centres, 2014 to 2019: a
retrospective analysis
Annual Meeting SSTMP and SSTTM 2022

Marie-Therese Ruf

Introduction - Leishmaniasis

- Kinetoplastide parasite of the genus *Leishmania*
- Transmission: blood feeding sandfly
- Clinical presentation
 - Visceral leishmaniasis: Fever, weight loss, anaemia, hepato- and spleno
 - Cutaneous leishmaniasis: Skin lesions
 - Mucocutaneous leishmaniasis: mucous membranes of the nose, mouth and throat
- 15-20 *Leishmania* species are pathogenic
- Species identification and host factors important for treatment



European LeishMan Network

- Established 2010
- 33 centers
- clinicians and clinical laboratory scientists
- No funding
- Aim:
 - to harmonize clinical case management in Europe
 - to optimize detection and identification of parasite
 - to contribute to monitoring and surveillance of diagnosed cases in Europe
 - foster exchange



Surveillance of leishmaniasis cases from 15 European centres, 2014 to 2019: a retrospective analysis

Gert Van der Auwera¹, Leigh Davidsson², Pierre Buffet³, Marie-Thérèse Ruf^{4,5}, Marina Gramiccia⁶, Stefania Varani^{7,8}, Carmen Chicharro⁹, Aldert Bart¹⁰, Gundel Harms¹¹, Peter L. Chiodini¹², Hanne Brekke¹³, Florence Robert-Gangneux¹⁴, Sofia Cortes¹⁵, Jaco J Verweij¹⁶, Alessandra Scarabello¹⁷, Sara Karlsson Söbirk¹⁸, Romain Guéry¹⁹, Saskia van Henten¹, Trentina Di Muccio⁶, Elena Carra²⁰, Pieter van Thiel¹⁰, Martin Vandeputte¹, Valeria Gaspari⁷, Johannes Blum^{4,5}, LeishMan Surveillance network²¹



Data from 15 centers in 11 European countries

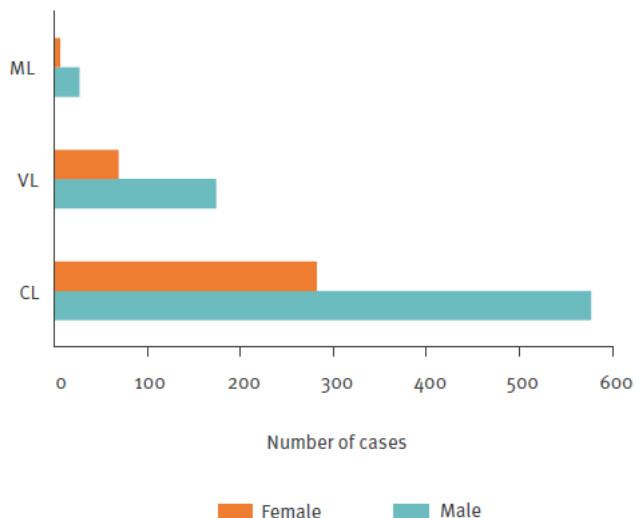
Study aim and Methods

To provide a broad perspective on autochthonous and imported leishmaniasis cases in endemic and non-endemic countries in Europe.

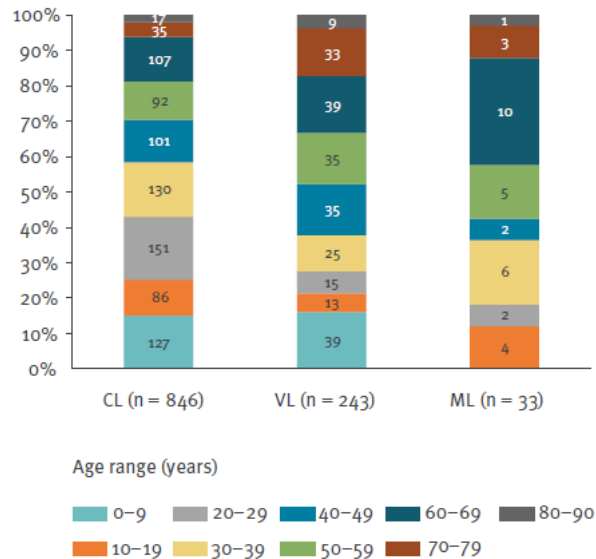
- retrospectively collected records from cutaneous, mucosal and visceral leishmaniasis
- 1142 patients diagnosed between 2014 and 2019
- Imported and autochthonous cases (infection occurred in the same country as diagnosis)

Sex and age distribution

A. Cases by sex and disease type (n = 1,135)



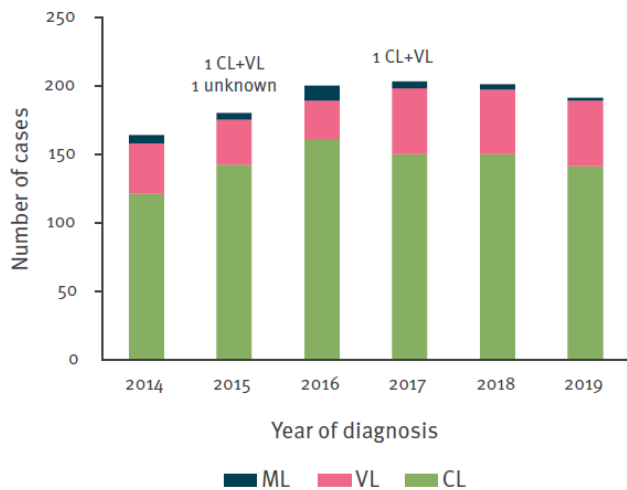
B. Age distribution at diagnosis by disease type (n = 1,122)



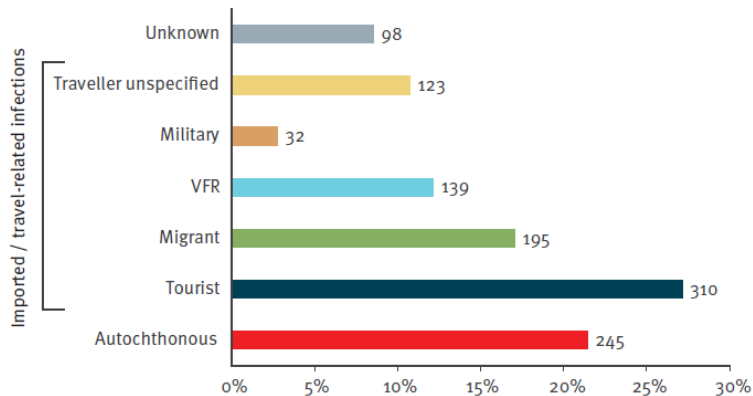
- 1142 cases recorded
- 68% male, 32% female
- Median Age: 37

Clinical presentation

C. Annual distribution by disease type (n = 1,142)



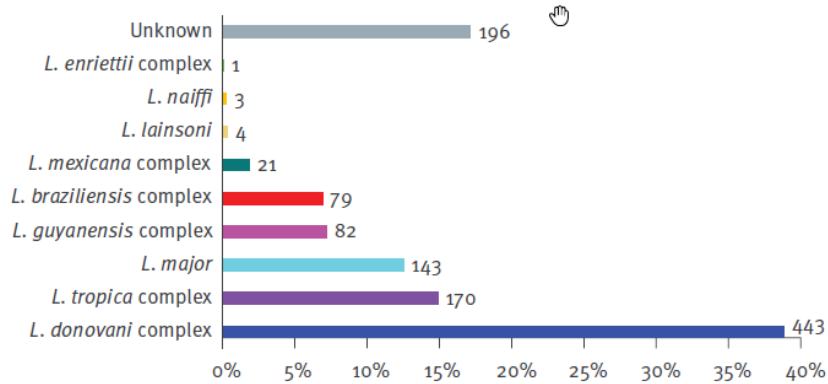
D. Reason for staying in endemic area (n = 1,142)



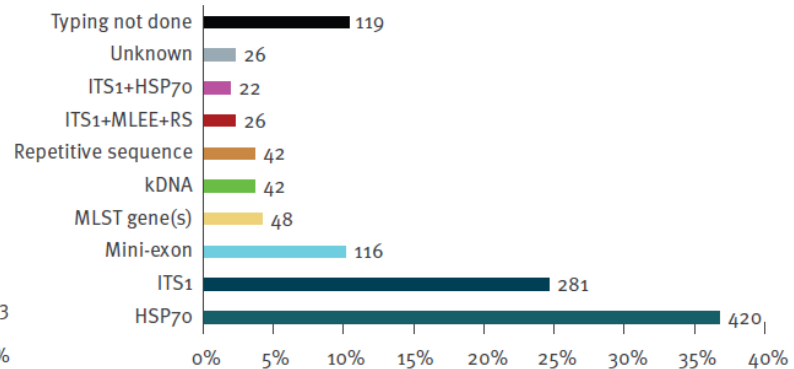
- 76% CL, 21% VL
- Majority tourists

Species and diagnostic target

E. Species complexes (n = 1,142)



F. Targets used for typing (n = 1,142)



Taxonomy of the *Leishmania* genus

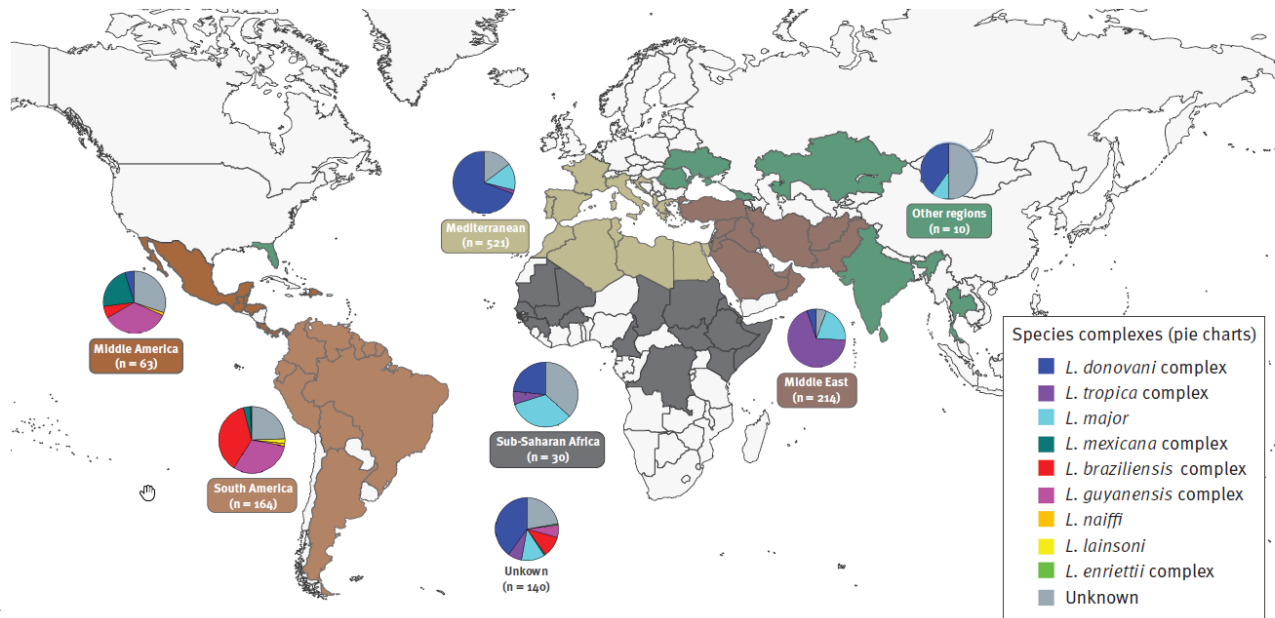
| Genus | Subgenus | Complex | Species |
|-------------------|------------------------|------------------------|--|
| <i>Leishmania</i> | <i>L. (Leishmania)</i> | <i>L. donovani</i> | <i>L. donovani</i> |
| | | | <i>L. infantum</i> (syn. <i>L. chagasi</i> in New World) |
| | | <i>L. major</i> | <i>L. major</i> |
| | | <i>L. mexicana</i> | <i>L. amazonensis</i> (syn. <i>L. garnhami</i>) |
| | | | <i>L. mexicana</i> |
| | | <i>L. tropica</i> | <i>L. aethiopicum</i> |
| | <i>L. (Viannia)</i> | <i>L. braziliensis</i> | <i>L. braziliensis</i> |
| | | | <i>L. peruviana</i> |
| | | <i>L. guyanensis</i> | <i>L. guyanensis</i> |
| | | | <i>L. panamensis</i> |
| | | <i>L. lainsoni</i> | <i>L. lainsoni</i> |
| | | <i>L. naiffi</i> | <i>L. naiffi</i> |
| | | | <i>L. naiffi</i> |
| | <i>L. (Enriettii)</i> | <i>L. enriettii</i> | <i>L. siamensis</i> / <i>L. martiniquensis</i> |

- Dominant species: *L. donovani* complex
- Target: HsP70 in 74%

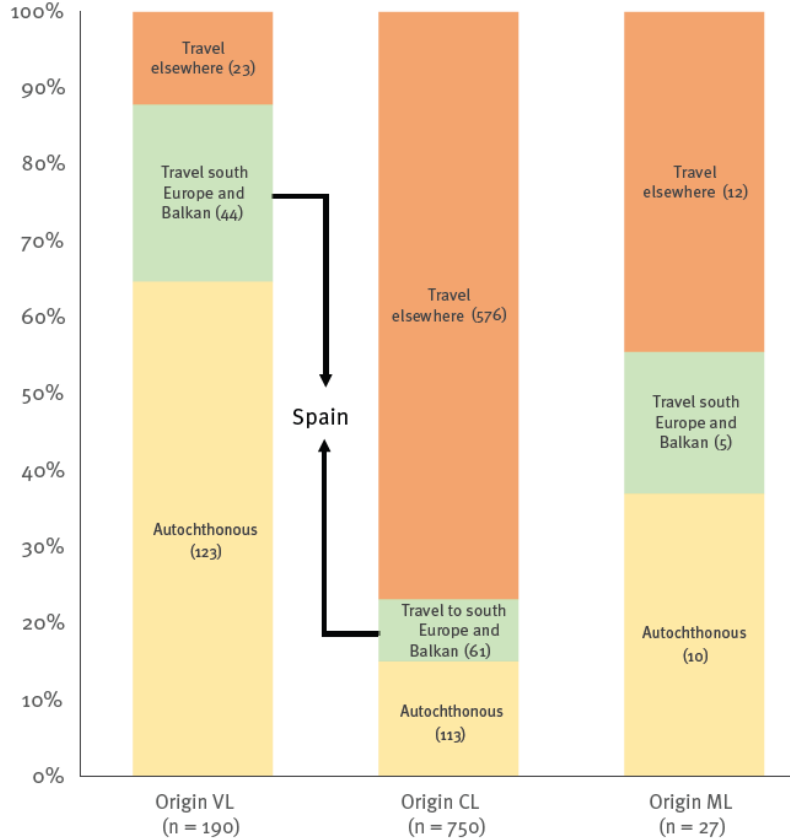
➤ Country of infection determined for 83% of all cases

FIGURE 2

Probable region of infection and *Leishmania* species complex of leishmaniasis cases identified by 15 European centres, 2014–2019 (n = 1,142)

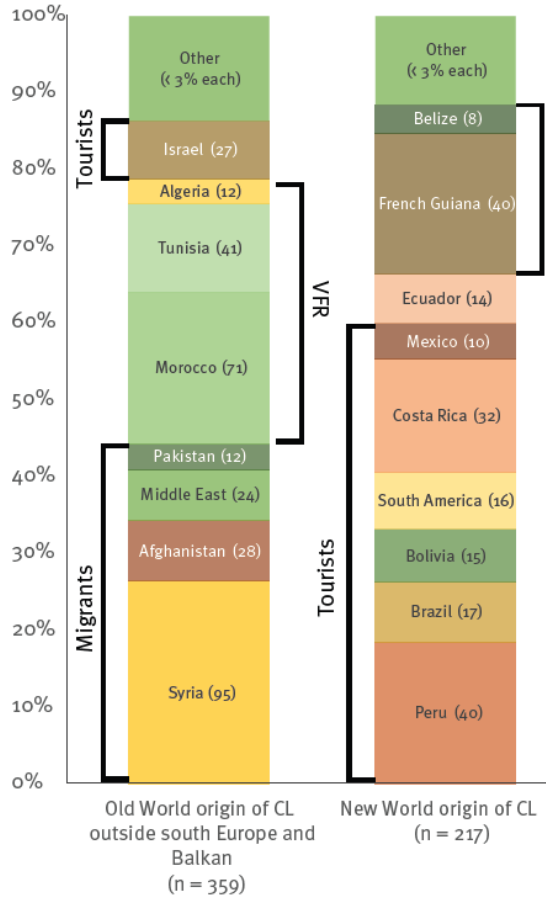


A. Disease types according to populations



- VL mainly acquired in European countries
- CL mainly from travel abroad

C. Import into Europe



- High numbers of imported cases from some countries in the old world, respectively new world
- Old world: mainly migrants and VFR
- New world: mainly Tourists and Military

Discussion

- trends in autochthonous and imported leishmaniasis cases
 - More male than female in CL and VL
 - Young age in CL cases- mainly imported by tourists from new world
 - VL- autochthonous disease
 - *L. infantum* only cause of VL
 - Most CL-cases imported from outside Europe (tourists)
- Limitations:
 - representative for all European countries?
 - autochthonous cases are quite likely underrepresented



Thank you for your attention