

Leishmaniasis

Clinical Tropical Medicine

FACTM (Clinical) Pt 1

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Leishmaniasis

LEISH 1 Clinical Tropical Medicine

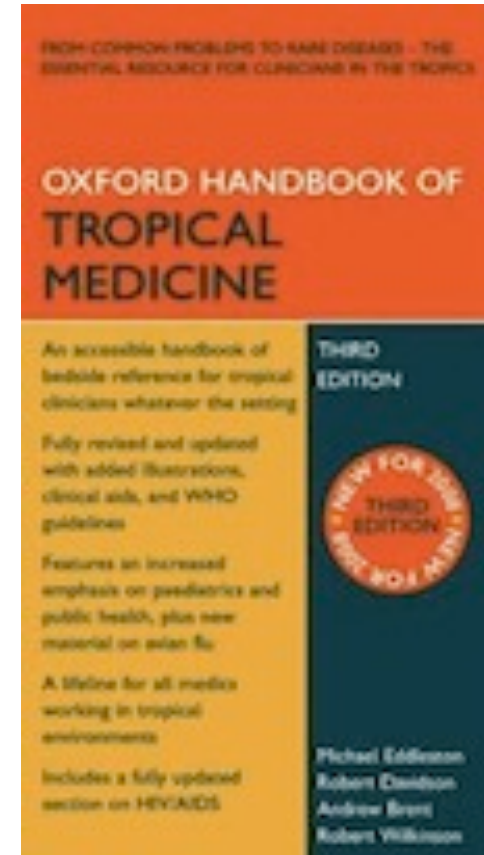
LEISH 2 Clinical Parasitology

Reading

Oxford Handbook of Tropical Medicine.
3rd edn. Eddleston et al. OUP, 2008.

Manson's Tropical Diseases.

Cook GC et al. 22nd edn. Ch 77, Leishmaniasis
ISBN 978-1-4160-4470-3



Outline

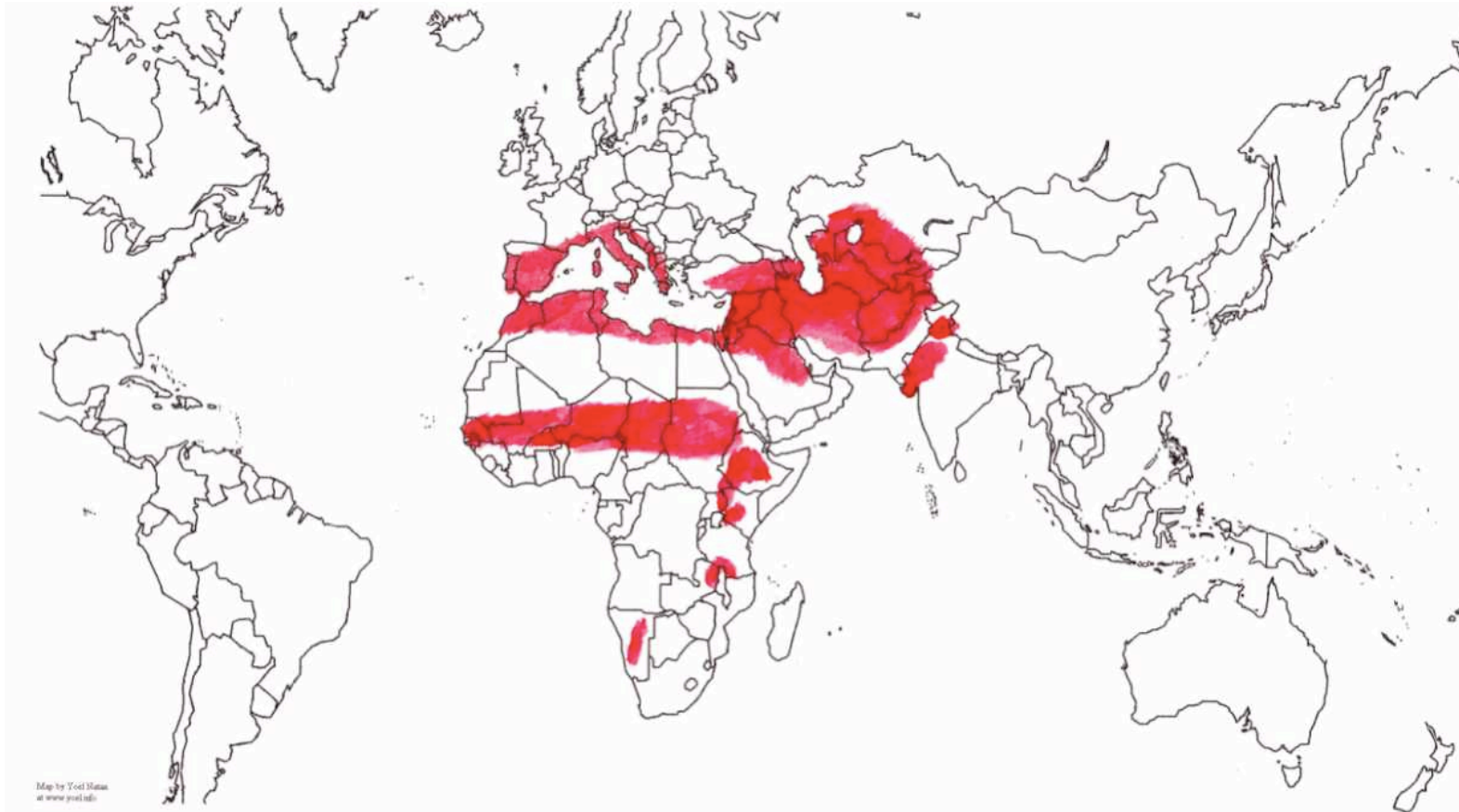
- Origins – CL known since early history
- Classical presentation
 - Cutaneous: CL - oriental sore, Aleppo boil, chiclero ulcer
 - Mucocutaneous: MCL – espundia
 - Visceral: VL - kala azar, dumdum fever
 - Others: PKDL, DCL, LR
- Setting
 - history of travel or previous residence overseas



Epidemiology

- **Where**
 - Old & New World, inter-tropical region, temperate S America, S Europe, Asia
 - Locations where parasite, mammalian host & sand flies co-exist
- **Who**
 - former residents & visitors to endemic areas
- **When**
 - following sand fly bite





CL, Old World





CL, New World





VL



Pathogenesis

- Parasite (promastigote) inoculated during sand fly bite
- Ingestion by macrophage
- Conversion to amastigote stage
- Incorporation in parasitophorous vacuole
- Rupture of macrophage, ingestion of contents by another macrophage
- CL: Development of skin lesion
- VL: dissemination via lymphatics, further ingestion by cells of RES



CMx: assess

- **Key questions**
 - Has the patient travelled or lived outside Australia?
 - Has the patient been exposed to biting insects?
- **Examination**
 - Skin lesion: ulceration, heaped edge, exudate, pain
 - Regional lymph nodes, nose & mouth
 - Liver & spleen, visible abdominal distension
 - Anaemia, bleeding tendency, wasting



CMx: investigate

- **Key issues**

- Skin lesion: does the patient CL or MCL?
- Systemic infection: could the patient have VL?

- **Biopsy:** spleen, bone marrow, nodes, blood
- **Culture:** NNN medium
- **PCR assays:** rapid, specific but limited availability
- **Immunodiagnostic tests:** immunoblot, UAT



CMx: decide

- Active or conservative Mx?
- Which antiparasitic agent?
- Is there a secondary bacterial infection?
- What kind of follow-up



CMx: act

| Leishmaniasis | Preferred Rx | Alternative Rx | Comment |
|---------------------|---|--|--|
| Cutaneous (CL) | Conservative if single, small lesion | Sodium stibogluconate x 20d | Local infiltration, imidazoles |
| Mucocutaneous (MCL) | Sodium stibogluconate | | |
| Visceral (VL) | Liposomal amphotericin, short course: 5d & dose at 10 th d | Sodium stibogluconate x 28d; Meglumine antimoniate x 28d | Meltifosine may be useful in S Asia. Follow up prophylaxis |



Vaccines

Progress? None licensed.

Recombinant parasite & virus candidates, synthetic peptide.

Crude prep for dog vaccination

Other approaches to control

reservoir forest clearance, dog culls, rodent elimination, treatment programmes

insect vectors clothing, bed nets, repellent, insecticide



Emerging issues

- **Imported disease** – refugees, military personnel
- **Antiparasitic agent resistance** – pentavalent antimonials
- **Risk of relapse in VL after Rx completion, PKDL**
- **Co-infection with HIV/AIDS, S Europe**

