Summary of Cases & Epidemiology Aspects of Leishmaniasis in Thailand

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Leishmaniasis

- Vector-borne disease
- *Leishmania* spp.
- Phlebotomine Sandflies
- Reservoirs: vertebrate animals
- 5 most important diseases worldwide as defined by the WHO
Objective

- To describe the situation of visceral leishmaniasis in Thailand
Geographic distribution

Major epidemic of VL; Bangladesh, Brazil, India, Nepal, and Sudan
Co-infection with HIV

- Emerging as an important opportunistic infection
- Reported from 31 countries
- Most of the cases from southern Europe
- 25-70% of adult patients with VL are co-infected with HIV
- 1.5-9% of patients with AIDS develop leishmaniasis
## Causative *Leishmania* species

<table>
<thead>
<tr>
<th>Cutaneous Leishmaniasis</th>
<th>Mucocutaneous Leishmaniasis</th>
<th>Visceral Leishmaniasis</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>L. tropica</em></td>
<td><em>L. [V] braziliensis</em></td>
<td><em>L. donovani</em> complex;</td>
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<td><em>L. major</em></td>
<td><em>L. amazonensis</em></td>
<td>• <em>L. donovani</em></td>
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<td><em>L. aethiopica</em></td>
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<td>• <em>L. infantum</em> * in Mediterranean*</td>
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<td><em>L. donovani</em></td>
<td></td>
<td>• <em>L. chagasi</em> (new world) in America</td>
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<td><em>L. Infantum</em></td>
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<td><em>L. mexicana</em> complex;</td>
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<td>• <em>L. mexicana,</em></td>
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<td>• <em>L. amazonensis</em></td>
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<td>• <em>L. venezuelensis</em></td>
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</tbody>
</table>

**Viannia subgenus;**
• *L. [V] braziliensis.*
• *L. [V] panamensis,*
• *L. [V] guyanensis,*
• *L. [V] peruviana*
Previous reported VL cases in Thailand, 1960-1986

- 1960; an imported Pakistani case
- 1977; an imported Indian case
- 1984; an imported Bangladesh case
- 1985-1986; 5 Thai-worker cases, who came back from the Middle East
Reported Autochthonous VL cases in Thailand, 1996-2007

1. Suratthani, 1996
2. Nan, 2005
3. Phangnga, 2006
5. Songkhla, 2007
Suratthani case, 1996

- A 3-year-old girl
- Onset; Nov 1995
- Dx; Feb 1996
- *Leishmania donovani* complex
- Animal; negative result of IFT
- Sandfly; 
  - *P. stantoni*
  - *S. perturbans*
Nan case, 2005

- A 40-year-old man, construction worker
- Onset; Nov 2002
- Dx; Jul 2005
- Drug abuse (opium, alcohol)
- *Leishmania donovani*
- Animal; 3 cows & 1 cat with positive DAT
- Sandfly;  
  - *S. gemmea*
  - *S. barraudi*
  - *P. stantoni*
2nd case
A 54-year-old male, rubber plantation
Onset; May 2003
Dx; Feb 2006
*Leishmania siamensis* (sp.nov.)
Animal; 9 Cats with positive DAT
Sandfly;  
- *S. gemmea, S. barraudi*
- *S. indica* with blood contained (negative PCR)
3rd case
Nakorn Sri Thammarat case, 2007

- A 44-year-old man, rubber plantation
- Onset; Jan 2007
- Dx; Jun 2007
- Type 2 DM & blindness
- *Leishmania donovani* complex
- Animal; 1 Cow & 1 cat with positive PCR
- Sandfly;
  - *P. argentipes*,
  - *S. gemmea, S. barraudi*,
  - *S. iyengari, S. perturbans*
Songkhla case, 2007

- A 81-year-old man,
- Onset: 2005
- Dx: Aug 2007
- HIV/AIDS patient
- Visiting Malaysia for many times
- *Leishmania donovani* complex
- No evidence of active case finding & sandfly trapping
Bangkok case, 2007

- A 66-year-old man, Lumber truck driver
- Onset; Jan 2007
- Dx; Jun 2007
- Type 2 DM, HT
- *Leishmania infantum*
- Animal; negative result of DAT
- Sandfly; trapping wasn’t successfully done due to raining
11 VL cases were reported in Thailand.

The first reported Leishmania infection in Thailand was an imported case with *L. donovani* from Middle East Asia in 1985.

5 of 11 VL cases in Thailand were considered to be autochthonous.

1 case had co-infection with HIV.
Discussion & Conclusion (2)

- High risk area is in southern Thailand.
- Potential newly identified species of *Leishmania* was found in one case.
- *Leishmania infantum* was reported for the first time in Thailand.
• No new human cases were found in all case investigations.
• Domestic animals including cows and cats were considered as the major reservoirs in Thailand.
• Some species of Phlebotomine sandflies might act as the vector of leishmaniasis in Thailand.
Recommendations

• Systematic research is needed to expand the knowledge of leishmaniasis in Thailand;
  − Retrospective review of BM slides in medical schools or regional hospitals.
  − Seroprevalance survey of *Leishmania* infection among population at risk.
  − Experimental inoculation of native sandflies to determine their potential vectors.
Acknowledgement

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- Bureau of Vector-borne Disease Control, Department of Control Disease, Ministry of Public Health - Thailand