

An Outbreak of Cutaneous Larva Migrans at a Children's Camp

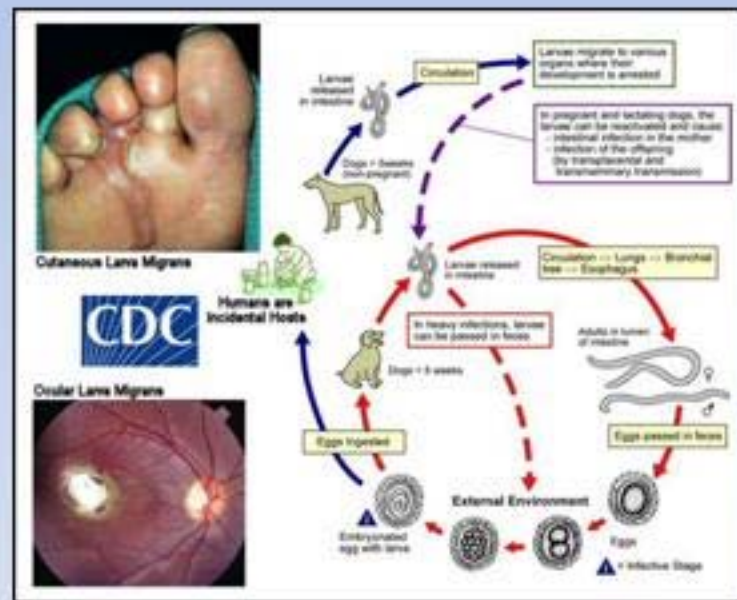
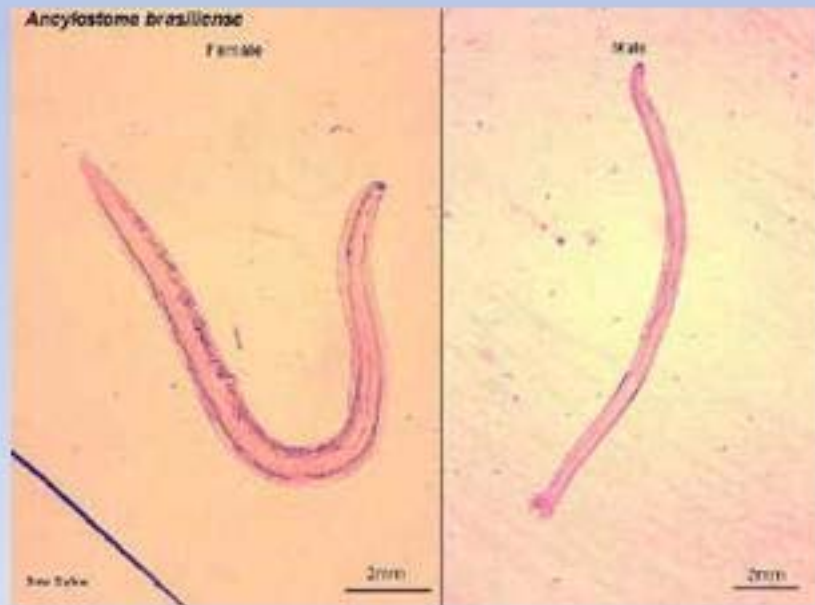
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PH 253B
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Cutaneous Larva Migrans (CLM)

- Caused by dermal contact with sand or soil contaminated with eggs that are shed in the feces of hookworm-infected animals.
- **Frequency:**
 - Rated second to pinworm among helminth infections in developed countries
- **Etiology:**
 - *Ancylostoma spp*
- **Mortality/Morbidity:**
 - Condition is benign and self-limited
- **Clinical manifestations**
 - Pruritic, erythematous, edematous papules and/or vesicles
- **Treatment and Prognosis**
 - Easily treated with antihelminthic agents
 - Excellent prognosis → self-limiting disease

Ancylostoma braziliense: Cutaneous larva migrans



Outbreak:

Aquatic Sports Day Camp - Miami, FL

July 19, 2006

- 3 cases were identified
- Miami-Dade County Health Dept notified (MDCHD)

July 19-25

- Initial data collected
- Investigation and observation of camp grounds
- Interviews with camp administrators

July 26

- Environmental health assessment of the camp grounds
- Recommendations made

July – Sept

- Descriptive study

CLM Outbreak Study

- **Descriptive study**

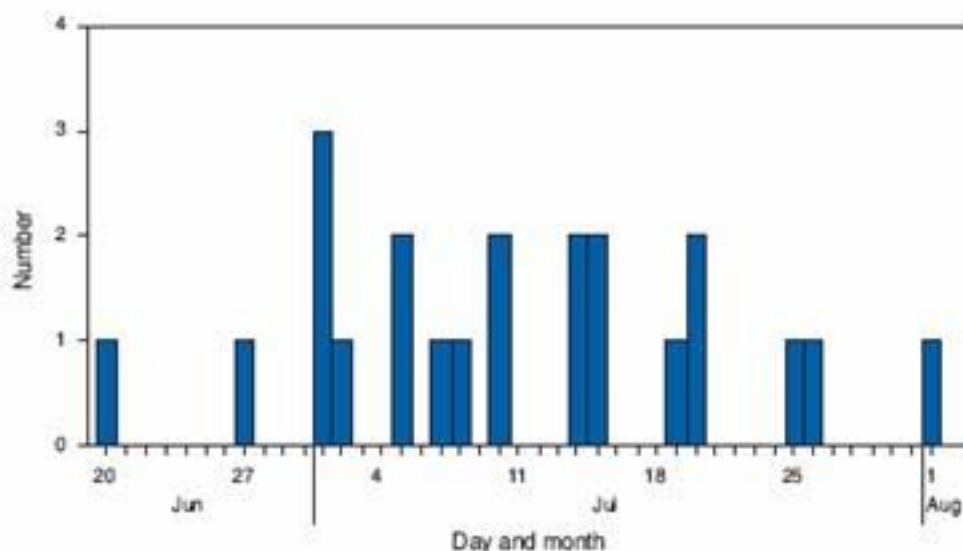
- 22 cases
 - Case definition: illness consistent with CLM in staff member or camper who attended camp at any time during June 5 – July 20 and had symptoms during June 5 – Aug 20.
 - Cases identified via telephone interviews using a 60-item questionnaire
- Illness onset occurred during June 20 – Aug 1 (Fig 1)
 - Signs and symptoms: erythema, pruritic rash, serpiginous lesions, blistering lesions
 - Patients were treated with thabendazole, mebendazole, albendazole, or ivermectin
- Median age:
 - Campers: 4
 - Staff members: 17
- All cases participated in the half-day camp for children
- All cases were exposed to sand from the sandbox
- 14/22 reported not wearing shoes in the sandbox
- 4/22 reported seeing cats near the sandbox

- **Environmental health assessment of the camp property**

- Feral cats were observed and fecal matter was found in the sandbox
- No fecal samples were collected

Number of Cases by Date of Onset

FIGURE. Number of cases of cutaneous larva migrans (N = 22) linked to day camp outbreak, by date of onset — Miami, Florida, July 2006



Conclusions

Sandbox considered to be the source of infection

Recommendations

1. Cover sandbox when not in use to prevent fecal contamination
2. Report stray animals to animal control for removal
3. Inspect the sandbox daily and remove feces to reduce the number of infective larvae

Prevention

1. Hookworm treatment for cats and dogs
2. Pet owners should take their cats and dogs to the vet for biannual screening and tx
3. Stray animals should be reported to animal control
4. Animal feces should be removed from areas of human activity