Imported gnathostomiasis manifesting as cutaneous larva migrans and Löeffler’s syndrome

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Patient ML

• 32 year old male
• Rash on left foot started while on holiday in Cambodia
• Transient episode of fever + diarrhoea just before rash started
• No other systemic symptoms
• Normally fit and well
• Describe the lesions
• More history?
• Differential?
• Investigations?
• Treatment?
Detailed travel history

Day 1: Left UK
Kuala Lumpur for 2 days
Phnom Penh
Siem Reap for ~1 week
Koh Rong for ~1 week
Day 22: return to UK
Kuala Lumpur

Notices Left foot rash
2-day acute diarrhoeal illness
~Day 24:
L foot rash is serpiginous
Day 27: First seen in ACU
Investigations

• U&E – NAD
• FBC – NAD
  • WCC 8.4
• CRP – 26.6

• Urine dip – NAD
• Malaria RDT – Negative

• Later Ix:
  • Enteric pathogens – None detected
    • No stool sample sent for OCP initially
  • HIV, syphilis, CMV, EBV – Negative
  • Alphavirus, flavivirus, phlebovirus, Rickettsia and Leptospira – All negative
Cutaneous Larva Migrans: Lost worms

Zoonotic hookworms:
- *Ancylostoma braziliense*
- *Ancylostoma caninum*

- Soil/ sand exposure
- Exposure to dogs & cats
- Tropical climate
Larva currens

• Transdermal migration of *Strongyloides stercoralis*
• Moves fast!
• “It was possible actually to see advancement of the lesion within a matter of 10 minutes. After a period of hours the lesion would cease moving, only to resume movement at an unpredictable time the following day”
  - Authur *et al*., 1958
Cutaneous larval migrans (CLM) vs larva currens (LC)

- Both due to infective larvae moving through the skin

- CLM – cat hookworm
- CLM – moves slowly (1-2 cm/day)
- CLM – more defined

- LC – autoinfective larvae of *Strongyloides stercoralis*
- LC – moves fast
- LC – more urticarial
• Discharged home with single dose 200 micrograms/Kg ivermectin

• But then...

• Night after discharge he developed fever, night sweats, chest pain, cough, green sputum
• Saw GP who gave a course of antibiotics
• Left foot lesions resolved, but he developed multiple new lesions over his right calf and behind his knee, which he described as shifting positions over the course of a single day
Rising eosinophilia

• Eosinophil counts:
  • Day 32: $0.7 \times 10^9 / \text{L}$  8%
  • Day 35: $1.4 \times 10^9 / \text{L}$  12.3%
  • Day 74: $1.1 \times 10^9 / \text{L}$  81.9%
Differential

• Larva currens (*Strongyloides*)
• CLM + pulmonary manifestations (unusual)
• Visceral larva migrans
• Toxacariasis
• Gnathostomiasis

• Treated empirically with two more ivermectin doses taken 24 hours apart, plus a seven-day course of albendazole 400mg BD
Löffler’s syndrome

• Transient pulmonary infiltrates
• Respiratory symptoms
• Peripheral eosinophilia

• Associated with invasive anthropophilic helminths such as *Ascaris*
• Pulmonary migration phases in their life cycles.
~1 month later.... Results from Bangkok: *Gnathostoma* immunoblot DETECTD
Treatment

~15% relapse rates despite treatment

Relapses mainly cutaneous

Key learning points

• Case of an unusual condition masquerading as something common
• Gnathostomiasis can cause CLM-like cutaneous manifestations + more typical migratory swellings
• Löffler’s Syndrome is triad of peripheral eosinophilia, respiratory symptoms and transient pulmonary infiltrates
• Consider gnathostomiasis in patients with eosinophilia, migratory cutaneous lesions and travel history
• Tendency to relapse despite treatment
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• Questions?