Case Studies

Fever

Gut Grief and Diarrhea

Eosinophilia
Family trip to Ghana

- Well in Ghana
- Fever onset 1-2 days after return
- Temps to 39\(^\circ\), lethargy, poor oral intake, decreased urinary input
- Saw pediatrician in office - “viral”
- Next day to walk in clinic then ER
Hospital management

- Hyperasitemia (26% to 35%)
- Consideration of exchange transfusion
- Marked anemia – Hgb 81 → 65; required transfusion
- Admitted to ICU for observation
So what can we learn?

- Prevention is key
  - Malarone (atovaquone/proguanil) – down to 5 kg
  - Mefloquine – down to 5 kg
  - Doxycycline – contraindicated
  - DEET
  - Insecticide treated bed nets/clothing
What else?

- **Early diagnosis and treatment**
  - Parents/travellers need to be advocates for their own and their children’s health
  - Fever or flu-like illness especially within 3 months of travel
    - need to seek medical attention
    - need to have blood smears to rule out malaria
  - Preferable to go to hospital where lab tests are available and reported
Fever, fatigue and eye swelling

- 26 year-old woman
- 6 months travel to rural Mexico (the state of Veracruz) with her two children in November of 2007
- Strong believer in complementary medicine
  - No medical pre-travel advice, vaccinations, or antimalarials.
- Home base was in a rural location, intermit travel to nearby cities for sightseeing.
- Sleep on the ground outside or under lean-tos, never sleeping inside structures with four walls and a floor.
- Regularly walked in bare feet, swam in the river, and had contact with ticks, dogs, cows, horses, rabbits, and parrots.
- Drank unpasteurized milk
- On occasion ate undercooked meat
- Denied any sexual contacts of any nature and did not use any intravenous drugs, get any blood transfusions, or get any tattoos.
Fever, fatigue and eye swelling

- March the onset of intermittent mild eye pain and red eye which would last for several days in one eye, then other eye
  - She wore a single contact lens in her left eye on a regular basis but none in her right

- In mid-late May (just home) she developed progressive swelling of her right eye, which was followed by some swelling in front of her right ear.

- She then developed fever, malaise, headache, and limb pains, which prompted several visits to walk-in clinics.

- On June 3, because of a significant worsening of her fever and malaise, she presented to the Emergency Department of local hospital.
Fever, fatigue and eye swelling

- **Diagnosis:** periorbital cellulitis.
  - Two blood smears showed no parasites, the complete blood count was essentially unremarkable with no leukocytosis or eosinophilia
  - Blood culture positive for *Staphylococcus aureus*.

- She did not want to be admitted to hospital so she was treated with a two-week course of intravenous ceftriaxone.
  - Her fever and malaise resolved after a couple of days of antibiotic therapy
  - Right eye swelling persisted
  - She was referred to the our clinic...
Blood samples National Parasitology Laboratory
  • Single trypomastigote visualized
  • PCR positive
  • Chaga’s serology – seroconversion
  • Electrocardiogram and Echocardiogram - normal.
Chaga’s Disease Tx Recommendations

AII recommendation to always offer therapy with acute chagas
(Bern C, JAMA 2007)

Offered benznidazole
Refused therapy
Agreed to have continued followup to monitor
  Blood - repeated PCR and serology
  Cardiac status - EKG normal
  Level of fatigue
Fever and rash

51-year-old gentleman with a rash, eschar, and fever after travel to South Africa between March 11 and 20, 2009. He apparently had a working diagnosis of zoster and a deep vein thrombosis/possible pulmonary embolism.

TRAVEL HISTORY:
Without malaria prophylaxis, he travelled to Johannesburg, South Africa, on March 13th x 9 days.
Went for conference
Most of the time, he was located in the resort destination of Bela-Bela. This is about 1/4 of the way from Johannesburg on the road to Zimbabwe.
He was able to golf near wild antelopes.
He took a 1/2 day adventure in Zululand, a war memorial, and a three-hour safari on the Bela-Bela game reserve.
While on the reserve, he went to relieve himself and remembers feeling like he was bitten by something because of 10 seconds of general body pain followed by five minutes of general throbbing.
In all instances of his travels, he wore long pants, socks, and tennis shoes.
There were no bednets and his housing was well air conditioned. He only ate luxurious foods.
Fever and rash

First ill 27th March - malaise

The next day, he had increasing sinus headache and a nonproductive cough. March 28-29th, he was sick in bed, intermittent chills, a reduced appetite, and fatigue without relief from high-dose Tylenol and Advil.

His undocumented intermittent fever started on March 31st and was accompanied by myalgias, night sweats, and chills.

On April 1st, he was coughing considerably and developed right upper quadrant chest pain (near the site of a previous thoracic surgery for persistent pneumothorax). He also developed right thigh tenderness.

He sought medical attention on April 2nd and had a normal chest X-ray, blood work, and ECG. He was treated with Flonase and Tylenol.

On April 3rd, his chest pain felt better but the right leg increased in throbbing and actually felt a touch numb.

He developed rash with spots on his nose, neck, right forearm, and elbow that were itchy except for the lesion on his nose.

While under workup for a deep vein thrombosis, the ultrasound tech noticed...
African Tick Typhus

- One of the tick-borne rickettsial diseases
- Tick-borne rickettsial diseases are most common in temperate and subtropical regions
- Numerous types
- Peak transmission spring and summer months

- Risk activities
  - outdoor activities in grassy or wooded areas (e.g., trekking, camping, or going on safari)
African tickbite fever

- *R. africæ*
- Signs and symptoms
  - Fever
  - Eschar(s)
  - Regional adenopathy
  - Maculopapular or vesicular rash
    - subtle or absent
- Animal Reservoir - Rodents
- Occurs in Sub-Saharan Africa
Eosinophilia and GI bleed

63-year-old gentleman with multiple myeloma diagnosed in September 2008. He came to Canada from Philippines more than 20 years ago.

He underwent his first round of chemotherapy in early November. Admitted to hospital on November 20th with febrile neutropenia and a pulmonary embolism.

Bacteremia with *Staphylococcus aureus* and *Citrobacter*, along with *Escherichia coli* in his urine.

On November 26th, acute lower gastrointestinal (GI) bleed. Colonoscopy and surprisingly a biopsy showed the presence of *Strongyloides*. In retrospect - he had eosinophilia up to 5000.

Treated with Ivermectin - 200 mcg/kg per day for 2 days and repeated in 2 weeks. During his admission, there was no clinical evidence of meningitis due to *Strongyloides* hyperinfection.

Ongoing suppressive treatment - q 4-6 weeks.
Strongyloidiasis - Clinical

Chronic infection

- asymptomatic in most
- abdominal pain, diarrhea, pruritis ani, rashes and urticaria (24-48 hrs, waste and buttocks)

LARVA CURRENS (30 - 84%)
**Strongyloidiasis - Clinical**

- **Disseminated infection**
  - Immunosuppressed
  - Association HTLV 1 infection
  - Severe abdominal pain, distention, fever, sepsis
  - Massive migration of larvae
  - Eosinophilia resolves
  - Often complicated by Gram negative sepsis
  - High mortality
Strongyloidiasis

- *Strongyloides stercoralis*
- **Millions infected**
  - 0-4% US
  - 40-80% tropical Africa and S Am
How little exposure do you need?

- 18 month history
- Caribbean cruise
  - Day trips to Mexico
  - Day trip to Belize
- Seen by Derm
  - Repeated biopsies
  - Dapsone
  - Prednisone
  - Cellcept
Lives and plays in Panama
House in city and house in country
Recurrent lesions over 1 year
Repeated treatment with antimony
3rd treatment dose - out of supply
So “home” to Canada
Kayaking in Costa Rica – roommates at eco lodge
Another Costa Rican Traveller
Our Peruvian Guide...
Is this the same thing?
If not - why not?
What is different about this lesion?
After 10 days of Clindamycin
Take home messages - CL

- Seeing increasing numbers in travellers
  - How little exposure do you really need?

- Ecotourist lodges may actually be built on sandfly homes...

- Early diagnosis, accurate diagnosis important
  - Particularly in Americas with risk of brazilienses
Injuries and stings – not to be forgotten
“There is nowhere in the world from which we are remote and no one from whom we are disconnected”