Unusual bacterial and fungal infections (well two are not!) in travelers

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Conflict of interest statement:

NO CONFLICTS! (except Elsevier author) Also no stock in grocery stores that sell Rapini
1. Tinea nigra, palm
1. Tinea nigra

- Brown patch may resemble lentigo, macular SK, pigmented Bowen’s
- Surgery sometimes done when mistaken for melanocytic neoplasm
- Culture or KOH prep positive

Formerly Cladosporium, Exophiala, then Phaeoannellomyces
Now Hortaea werneckii
Tinea nigra
KOH prep, tinea nigra
2. Chromomycosis

• Usually adult males, esp farmers
• Black dots may be seen
• KOH may be positive
• Culture for speciation
• Excision may be curative as opposed to antifungal Rx
Rare annular form of chromomycosis

VA 82-1225
2. Chromomycosis

- Pseudocarcinomatous hyperplasia
- Intraepithelial microabscesses
- Granulomatous inflammation
- Copper pennies = Medlar bodies = sclerotic bodies, 6-12 microns, planate-dividing (cissiparity)
- Phaeohyphomycosis is different (brown hyphae instead of spores)
Chromomycosis
Dematiaceous (brown) fungi

- Phialophora verrucosa
- Fonsecaea pedrosoi
- Fonsecaea compacta
- (Hormodendrum)
- Exophiala sp
- Cladosporium carrionii
Dematiaceous fungi

• The brown pigment is indeed melanin – can do Fontana melanin stain (not needed)
Case 3
Phaeohyphomycosis

• Painful nodule on knee x 1 year: “KA vs prurigo”
Phaeohyphomycosis – hyphae
Sulfur granule from draining sinus tract of Mycetoma
4. Sporotrichosis: DP03-3123
Sporotrichosis: Asteroid bodies
Sporotrichosis: yeast and cigar bodies
Sporotrichosis
Sporotrichoid – “SLANT”

- **S** = Sporotrichosis
- **L** = Leishmaniasis
- **A** = Atypical mycobacteria
- **N** = Nocardiosis
- **T** = Tularemia
Sporotrichoid atypical mycobacteria
5. South American Blastomycosis = Paracoccidioidomycosis

• deleted
6. Lobomycosis
(deleted)
Case 7  Forearm ulcer after local trauma in Mexico
DP-88-4892
Gram stain
Nocardia asteroides
Nocardia brasiliensis

• Pulmonary, CNS, Skin
• Gram+, GMS+, AFB+
• Sulfur granules sometimes
• Grows in 2-5 days in blood agar or routine culture, but lab has to hold it longer
• Aerobic, unlike Actinomyces
Case 7 Nocardiosis

- Primary inoculation non-systemic form often resolves spontaneously
- Trimethoprim-sulfamethoxazole DS bid for 2 to 4 weeks
- F/U on this case – healed readily with above Rx
Case 8

DP93-122
Case 8. 44 year old man with two months red plaque nose

- Lived in Houston, drilling for oil in jungle in northern Guatemala
- Bitten by many flies
Case 8: DP93-122  Leishmania mexicana
Leishmania mexicana - Giemsa

Case 11a Giemsa  DP93-122
Case 9. Forearm plaque, 40-year-old woman
Sent biopsy to me for dermpath second opinion

- Dermatologist: “Probable keratoacanthoma”
- Dermatopathologist: Yes, “C/W keratoacanthoma, transected at base”

“garbage in, garbage out phenomenon”
I then asked clinician: “Has patient traveled anywhere?”

• **Answer:** Costa Rica and Missouri
Leishmania – call CDC for N,N,N media (Nicolle-Novy-MacNeal)

• Ship to you free of charge
• Speciation done using electrophoresis rather than DNA molecular studies
Giemsa stain not always helpful, unlike the books (usually can see it with H&E)

- Nucleus
- Paranucleus (rod-shaped kinetoplast)
<table>
<thead>
<tr>
<th>Disease</th>
<th>Key features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhinoscleroma</td>
<td>Russell bodies; Mikulicz cell (large histiocyte-containing organisms)</td>
</tr>
<tr>
<td>Granuloma inguinale</td>
<td>‘Donovanosis’; Donovan bodies (vacuoles containing bacilli with macrophages)</td>
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<tr>
<td>Histoplasmosis</td>
<td>Spores within cytoplasm of macrophages; surrounded by clean halo</td>
</tr>
<tr>
<td>Leishmaniasis</td>
<td>Non-encapsulated organism; contains nucleus and paranucleus (kinetoplast)</td>
</tr>
<tr>
<td><em>P. marneffei</em> infection</td>
<td>Small bodies within macrophage; resembles histoplasmosis</td>
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Two weeks post-excision: very happy (like most of my patients)
Rx recommended by CDC

• Ketoconazole 200 mg t.i.d for one month

(many other anecdotal treatments have been used: itraconazole, allopurinol, topical antimony, cryotherapy, etc)
After one month ketoconazole
Sporotrichoid Leishmania panamensis
Time to refer to infectious disease service for IV Pentostam (antimony) – CDC ships free of charge

- Antimony causes EKG abnormalities – patient found to have cardiomyopathy
- So… was treated with good result with IV pentamidine
Leishmaniasis sp.

- **L. tropica** = oriental sore, Middle East, self-healing
- **L. mexicana** = Central and South America, self-healing
- **L. braziliensis** = Central and South America, aggressive course with risk mucocutaneous spread

This patient grew **L. panamensis**, related to braziliensis
L. guyanensis - Equador
L. guyanensis - Ecuador
L. guyanensis - Equador
L. guyanensis – Equador – sporotrichoid!
10. Diffuse bluish plaques of Hansen’s disease on clofazimine
Histology leprosy tips

- Sparse plasma cells useful clue
- Fite stain – not Ziehl-Neelson
Diff Dx lepromatous Hansen’s

• Other foamy diseases:
  a. Xanthomas – look for cell walls
  b. Granular cell tumors – solitary, PAS-pos granules, pustulo-ovoid bodies

• Other granulomatous diseases
Lepromatous Hansen’s disease

- More clinical lesions
- Diffuse smooth plaques, less scale
- Poor immunity
- More foamy
- More bugs
- Grenz zone
Tuberculoid Hansen’s disease

- Fewer clinical lesions
- Scaly often annular plaques
- Good immunity
- Less foamy
- Rare bugs
- No Grenz zone
- More LINEAR along nerves
Hansen’s disease associated with armadillos in Texas and Louisiana
Case 11 complaint of worms/fibers – jungle of Peru
I gave a talk at AAD in 2007 on Morgellons disease when it was “new” – one of the biggest mistakes of my life.

Now the dermatologists in Houston send them all to me, or eventually the patients find me, as they go from doc to doc, and I average one of these per week.
History of Morgellons disease

- pronounced mor-GELL-uns
- Named in 2002 by Mary Leitao.
- Woman with B.S. in Biology who says her son suffers from the condition, founded the Morgellon’s Research Foundation
History of Morgellons disease

- Sir Thomas Browne in 1674: “children of Languedock, called the Morgellons,” wherein they break out with “harsh Hairs on their Backs”

- Described in 1544 by Faventinus as an intercutaneous worm of children that “protrude their little heads”
Morgellons Research Foundation
http://www.morgellons.org/

- 9045 registered households in Feb 2007
- #1 California, #2 Texas
- #1 Nurses, #2 Teachers
2012: The Morgellons Research Foundation (MRF) is no longer an active organization and is not accepting registrations or donations. The MRF donated remaining funds to the Oklahoma State University Foundation to support their Morgellons disease research.
Charles Holman Morgellons Disease Foundation
Named for husband of affected patient (an RN)

9th Annual Conference on Morgellon’s Disease
April 30-May 1, 2016,
Austin, Texas
Telling The Truth You Were Never Supposed To Know

http://www.morgellonsexposed.com/

“People who suffer from Morgellons disease are NOT delusional no matter what the CDC or the mainstream press would have you believe.”
Morgellons disease: a chemical and light microscopy study

“This study puts the final nail in the coffin of delusional disease that these patients have been labeled with,” stated Dr. Stricker. “It proves that Morgellons disease is a physiologic illness.”
Morgellons Research Foundation
Case Definition (CDC also investigated)

1. Skin lesions
2. Crawling sensations
3. Fatigue
4. Cognitive difficulties ("brain fog")
5. Behavioral effects ("labeled as delusional parasitosis")
6. Fibers (usually white, also blue, green, red, black, fluoresce with Wood’s lamp)
Morgellon’s disease online

- Google search:
  15,400 hits as of 2007
  1,270,000 results in Aug 2012
  727,000 results Mar 2014
- A “disease caused by the internet?” or “mass hysteria” vs a bonafide unidentified fiber or organism
“Morgellon’s is biowarfare”

- www.rense.com
- “...may be a logical reason for our advanced high-tech medical system to drag its feet”
CDC creeps formally call Morgellon an hallucination
The CDC and NIH knew and know
Clinical, Epidemiologic, Histopathologic and Molecular Features of an Unexplained Dermopathy
Michele L. Pearson1, Joseph V. Selby2, Kenneth A. Katz3, Virginia Cantrell2, Christopher R. Braden4, Monica E. Parise5, Christopher D. Paddock6, Michael R. Lewin-Smith7, Victor F. Kalasinsky8, Felicia C. Goldstein9, Allen W. Hightower5, Arthur Papier10,
Usefulness of term Morgellon’s

• “A rapport-enhancing term” but “should not validate a condition” and doc should clarify “not infectious agent” per Drs Murase, Wu, Koo. JAAD 2006

• Better than putting “Delusions of parasitosis” on path requisition: patients often ask for copy of path report

• Use term R/O “acariasis” instead
Morgellon’s disease treatment – my non-expert approach (don’t want to be labeled as an expert)

My approach: Serious look for bugs by scraping or biopsy, give antiparasite treatment along with SSRI or other psych drug for the “stress” – be gentle and empathetic - they won’t go to psych and many get angry
A thrip (Thysanoptera): sucks plant juices
Morgellon’s disease treatment – off-label drugs to gain rapport (to add to “stress treatment”)

- Topical permethrin, lindane
- Topical crotamiton is also antipruritic
- Topical sulfur products (rosacea products)
- Oral ivermectin
Morgellon’s disease off-label treatment – treat the stress AND the ?parasites

- **pimozide**: no prolonged Q-T problems or tardive dyskinesia if less than 10 mg/day. Start 1 mg/day, increase by 1 mg/day every 4 – 7 days. Most patients effective at 4 – 6 mg/day. Claimed to be antipruritic. Treat extrapyramidal effects with benztropine myselate 1 – 4 mg IM or diphenhydramine 25 mg q.i.d
Morgellon’s disease off-label treatment – treat the stress AND the parasites

- **olanzapine**: start 5 – 10 mg/day, effective dose 10 – 15 mg/day: weight gain, hyperlipidemia, diabetes, less extrapyramidal
- **risperidone**: for bipolar or schizophrenic disorders
- **quetiapine**: for psychosis
Other drugs off label (I am not expert – better to use with psychiatrist if you can get patient to agree to it)

- SSRI: citalopram
- SSRI: escitalopram
- SSRI: paroxetine
- SSRI: sertraline
- SSRI: fluvoxamine
- Antidepressant: duloxetine
Alternative approach (not favored by me)

• **Confront** these patients and tell them you think they are delusional and that they need psych drugs

• Tell them they can continue to be frustrated and go from derm to derm until they finally have the insight to take the psych drugs
I think that these patients at least need to be taken seriously and a sincere look for parasites ought to be undertaken on the first visit.