Lessons from Great Cases

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• No conflicts of interest
A case of mistaken identity
42 year old woman
Vietnamese immigrant, in US since teens
Painful nodules lower legs for 4 years

Sudden, unpredictable onset
Slowly resolve with hyperpigmentation
Past Treatments

• No improvement with:
  – Topical steroids
  – Antibiotics
  – Sclerotherapy (!?!)
Mixed septal and lobular panniculitis with necrosis
Mixed septal and lobular panniculitis with necrosis
Infectious stains negative
Treatment

- Presumed erythema nodosum:
  - Colchicine with dose increased to 0.6mg BID
  - Compression stockings
  - Leg elevation
  - NSAIDs

- Continued developing new lesions
2 Months Later – Repeat Biopsy
Predominantly lobular panniculitis
Suppurative and granulomatous vasculitis
Suppurative and granulomatous inflammation
Diagnosis: Erythema Induratum (Nodular Vasculitis)
Exposure History

- Born in Vietnam
- Immigrated to US in 1998 at age 14
  - Initially living in Houston TX x2 months, then California until 2013, now Cleveland
- Worked in healthcare as an optician, now stay-at-home mom
- Travel to Vietnam and Taiwan in past 2 years
- Known TB exposures
  - Sister with inactive TB in 2010
  - Dad prior latent TB not treated
- Had BCG as a child (prior PPDs negative)
Clinical Course

• Referred to Infectious Disease

• Further testing included:
  • Positive:
    • Quantiferon Gold Test - twice
    • PPD: positive (32mm)
  • Negative:
    • Tissue culture/fungal culture/AFB stain/PCR for TB: neg
    • Chest X-ray: negative

• Hepatitis panel: negative
• ASO: negative
Treatment

• Latent TB –
  – No organisms on skin biopsy, culture or PCR
  – No pulmonary or constitutional symptoms
  – CXR negative

• Isoniazid daily for 9 months

• Nodules resolved and no new lesions developed
Erythema Induratum (Nodular Vasculitis)

- Rare panniculitis
- Ernest Bazin recognized in 1861
- Ages 13-66, F>>M
- Recurrent crops of tender, violaceous nodules
  - Ulcerate, drain, scar, post-inflammatory hyperpigmentation

- The three clinical subsets of EI are:
  - TB-associated
  - Associated with other diseases or drugs
  - Idiopathic
EI vs EN

- **Clinically:**
  - EI:
    - Posterior calves
    - More chronic
    - Often ulcerates or drains
  - EN:
    - More on anterior legs
    - No ulceration
    - Associated with autoimmune disease
      - Sarcoid, RA, IBD, etc

- **Histologically:**
  - EI:
    - More granulomatous
    - Mixed lobular and septal panniculitis
    - Associated with vasculitis
  - EN:
    - Predominately septal panniculitis
What I learned

• If biopsy doesn’t fit -> keep trying!
• Take a thorough history
• EI frequently misdiagnosed as EN
When at first you don’t succeed, try, try again
Day 0
Work-Up

• Mild eosinophilia at admission -> normal range most of hospital course
• Strongyloides in gastric aspirate and stool
• BAL negative
Clinical Course

- Fatality rate 50-89%
- Cure rates 70% and 59%
- Respiratory failure
- Gram negative septicemia
- Meningitis
What I learned

• Trust your clinicians’ judgment

• Keep biopsying

• Be patient
Beware of the Lichenoid Actinic Keratosis
Beware of immunosuppressed patients – anything can happen and everything looks odd!
70 year old man
Long history of rheumatoid arthritis – low dose prednisone
History of granular cell leukemia (in remission)
Protothecosis

Localized or disseminated infection
Algae

Sporangia are thick walled spherical bodies
often in cytoplasm of giant cells

Many internal septations with endospore
-Classic morula appearance

Nonbudding
Prominent wall

Inflammation may be sparse
The Lesson

- Always biopsy!
- Tissue cultures!
Itch Crisis?
Treatment

- Methotrexate
- Azathioprine
- Prednisone
- Topical steroids
- Antihistamines
Crusted (Norwegian) Scabies

- All immunosuppressants stopped
- Treatment:
  - Permethrin -> x2, 1 week apart
  - Ivermectin -> x2, 2 weeks apart
Outcome

- LP Pigmentosa faded
- Itch dramatically improved

- Persistent
  - Mild scalp itch
  - Scalp dermatitis

- Repeat scalp biopsy -> LPP without scabies
Crusted Scabies on the Scalp Mimicking Seborrheic Dermatitis
(See page 844 for the Photo Quiz.)

**Figure 1.** Erythema with hyperkeratotic scales over the left temporal area and ear.

**Figure 2.** The skin scraping showed 3 scabies mites (arrows) under microscopic examination (×100).

Diagnosis: Crusted Scabies

An 85-year-old woman presented to dermatologic clinic for scalp scaling of several week’s duration. The clinical picture is shown as Figure 1. Skin scrapings showed multiple scabies mites present in crusted scabies, using skin scraping to achieve diagnosis is easier than in classic scabies. Practitioners should keep this diagnosis in mind, especially with high-risk patients. The treatment was similar to that of classic scabies, but crust and scale...
What I Learned

• Itch crisis? Think scabies
• Patients can have 2 things
• Scrape!
• Biopsy (and re-biopsy and re-biopsy) diseases that fail to respond to treatment
• 60 year old woman
• Rheumatoid arthritis
• Rheumatoid vasculitis
  – Flaring, unresponsive to increasing immunosuppression
  – Cytoxan, prednisone, azathioprine, rituximab
• Biopsy to rule out vasculitits
Disseminated Varicella Zoster
What I Learned

• Look at the whole patient

• Always think of herpes/varicella

• Beware when things get worse with immunosuppression
• 53 year old man
• Psoriatic arthritis since 2009
• 6 months ago - joint swelling and skin lesions
Multiple skin biopsies

1. Thigh: septal panniculitis c/w EN

2. Right foot - interface dermatitis

3. Right thigh - palisaded neutrophilic granulomatous dermatitis
Treatments

• Current:
  – MTX 25mg weekly SQ (previously on 35mg)
  – Prednisone 7.5 mg (previously on 10 mg)
  – Dapsone 100mg daily (past 8 weeks)

• Past:
  – Humira (was on when skin lesions appeared)
  – Enbrel
  – Simponi
Necrobiotic granulomas
- Rheumatoid nodule
- Deep granuloma annulare
- Infectious
10 days after biopsy
3 weeks later....... 

- Culture grew Mycobacterium haemophilum
3 weeks later……

- Culture grew *Mycobacterium haemophilum*
- On 100x oil
3 weeks later......

- Culture grew Mycobacterium haemophilum
- On 100x oil

- Dr Procop:
  ‘I’ve never seen M haem in skin’
Mycobacterium haemophilum

• First identified in 1978
• Skin ulcer in 51-year-old Israeli woman with Hodgkin's disease
• Organism likely not new – acid-fast bacilli in biopsies, but cultures were negative
2 high risk groups

• Most common:
  – Opportunistic infection in severely immunocompromised patients
    • Lymphomas
    • Renal transplant patients
    • HIV – now most common

• Second risk group:
  – Otherwise healthy children cervical and perihilar lymphadenitis
    • Similar to infections with M avium complex, M tuberculosis, and M scrofulaceum
    • Reported in Australia, North America, and Israel
Cutaneous *Mycobacterium haemophilum* infection in a patient receiving infliximab for psoriasis

DOI: 10.1111/j.1365-2133.2012.1116rax

Madam, a 47-year-old man with a 32-year history of chronic plaque psoriasis and psoriatic arthritis, well controlled by infusions of the tumour necrosis factor (TNF) inhibitor infliximab and *M. tuberculosis* in patients receiving TNF inhibitors. The authors identified 105 reports of non-tuberculous infection in patients receiving infliximab (70%), etanercept (24%) and adalimumab (6%). *Mycobacterium avium* was the most common pathogen, followed by *M. marinum*. There were no reports of *M. haemophilum*. These data largely pertain to rheumatoid arthritis and inflammatory bowel disease but with limited similar information in patients with psoriasis.

*Mycobacterium haemophilum* was first identified and reported in 1978 in an Israeli patient with Hodgkin disease who presented with pulmonary, choroidal, meningeal, and cutaneous lesions.
• 16 culture positive cases:
  – Initial review: AFB + in 6 cases
  – 2nd review: AFB + in 5 more

  – 9/16 – Low bacterial index 1 or 2 bacilli/50 oil immersion fields

  – 3/16 – organism found only after AFB stain repeated

  – 2/16 – bacilli were numerous, with more than 50 organisms per 50 oil immersion fields

Variable Histologic Findings

- Suppurative and granulomatous inflammation
- Suppurative panniculitis
- Necrotizing vasculitis
- Interface dermatitis
- Epithelioid granulomas – necrotizing and non-necrotizing

Mycobacterium haemophilum

• Unique growth requirements:
  1. Iron-containing media
  2. Optimally grows at 30–32 C vs 37 C for most other pathogenic mycobacteria

• Diagnosis often delayed........
How did we culture it?

• Luck?
• Protocol?
How did we culture it?

- Luck - NEVER
- Protocol?
How did we culture it?

• Luck - NEVER
• Protocol – YES
  – All mycobacterial cultures from extremities:
    • Incubated at 32 and 37
    • Heme strip added
What I learned

• M haem has special culture requirements

• Do special stains!

• Recommend tissue cultures
Beware of Misleading History
• 16 yo girl
• Rash for 3 months
• A little itchy, a little painful
• No response to topical steroids
• Worse with sun exposure
Clinical Differential Diagnosis

- Family very concerned
- Lupus
- Allergic contact dermatitis
A case of mistaken identity – why you should ALWAYS do bug stains
• 30 year-old-man
• Several month h/o oral ulcers
• Weight loss
• Felt unwell
• Unable to eat due to pain
History

- Prior outside biopsy showed acute and chronic granulomatous infiltrate
- Working dx: Wegener’s
- Treated with high dose prednisone (40-60 mg daily)
Work-up - Positives

• Leukopenia
• Anemia
• T-cell deficiency
• Hypoalbuminemia
• Endoscopy – superficial esophageal erosions
Work-up - Normal

- HIV negative – multiple times
- Blood cultures – negative
- CXR – normal
- Imaging – showed ulcers, but no lesions outside oral/nasal cavity
- Renal function - normal
Organisms surrounded by clear space
In histiocytes
2 to 5 μm in diameter
Thick cell wall
GMS + and PAS +
Further Work-up

- Bone marrow biopsy
  - Histoplasmosis
- Esophageal biopsy
  - Histoplasmosis
- Tissue culture
  - Histoplasmosis capsulatum
Treatment

- Amphotericin B
- Intraconazole
Histoplasmosis

- Airborne pathogen
- Inhalation of spores
- Soil contaminated with bat or bird excrement
- Farmers, gardeners, construction workers, HVAC, cave explorers
- Ohio River Valley: OH, IN, MO, MS (+ skin tests in 80% of population)
3 Forms

• Acute or primary:
  – Flu-like symptoms
  – Most recover without treatment
  – Many unaware of infection

• Chronic:
  – Pulmonary
  – Can be fatal

• Disseminated:
  – Extra-pulmonary involvement
  – Often fatal
Histoplasmosis

- Calcified lung nodules, similar to TB
- Fibrosing mediastinitis
- Ocular involvement:
  - Scarring of retina
  - Subretinal hemorrhage
  - Leads to blindness (like macular degeneration)
What I learned

• Histoplasmosis often causes oral ulcers

• Do special stains!

• Recommend tissue cultures
Thank You

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