My Most Egregious Error
(that I know of)

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Clinical history

51 y.o. female with a history of NSHD presented with a 2.0 cm erythematous plaque on the back of her right hand. The lesion was tender and centrally crusted. The patient had no systemic symptoms. The clinical impression was foreign body reaction vs. keratoacanthoma vs. follicular abscess.
Histologic Diagnosis

- diffuse neutrophilic dermatitis without vasculitis
- PAS-D and gram negative
Differential Diagnosis

- Sweet’s syndrome
- Sweet’s-like dermatitis
- pyoderma gangrenosum
- erysipelas/ necrotizing fasciitis
- cellulitis
- deep fungal infection
- ruptured cyst/ ruptured folliculitis
- bowel-associated dermatosis-arthritis syndrome

- rheumatoid neutrophilic dermatitis
- erythema elevatum diutinum
- urticarial vasculitis/ solar urticaria
- granuloma faciale
- cutaneous reaction to cytokines
- early mycobacterial infection
Differential diagnosis

- Sweet’s - possible, unusual presentation
- Erysipelas/ cellulitis/fungus - negative stains
- Ruptured cyst - too diffuse, not granulomatus enough, no keratin
Differential diagnosis

- Pyoderma gangrenosum - unusual clinical presentation:
  - Usually ulcerated lesions on legs
- Bowel assoc. dermatoses/ rheumatoid arthritis related - no good history
  - In some cases these lesions may be peri-orificial (though not always)
Differential diagnosis

• Erythema elevatum diutinum - possible, no lesions on elbows
  – No fibrosis or extracellular cholesterol deposition that is frequently seen – elements of chronicity
• Urticarial vasculitis - too intense inflammation – characterized by changes that resemble LCV “lite”
• Granuloma faciale - unusual body site – usually on face or neck
Differential diagnosis

- Cytokine reaction - more extensive than most, no histiocytes – usually a relatively mild, superficial infiltrate
- Mycobacterial infection - no granulomas or caseation
Our Initial Diagnosis

- **Dx:** c/w Sweet’s syndrome or Sweet’s-like dermatitis
- **Comment:** correlation with culture results suggested
Clinical Course

- Patient was treated with local injections of corticosteroids by outside dermatologist
- The lesion significantly enlarged and ulcerated
- Primary dermatologist referred patient to medical center
- A second biopsy was performed
Diagnosis 2\textsuperscript{nd} Biopsy

- granulomatous dermatitis with areas of suppuration, highly suspicious for infectious process
- all special stains (AFB, Fite, gram, PAS-D), negative (even with “retrospectoscopy”)
- correlation with culture results necessary
Meanwhile . . . . . . . . .

- Culture results of 2nd biopsy grew *Mycobacterium marinum*

- A fite stain was performed on the initial biopsy
  - This had not been done originally given the diffuse neutrophilic inflammatory infiltrate without evidence of granulomas or caseating necrosis
Final Diagnosis

• Cutaneous *Mycobacterium marinum* infection
Cutaneous Infection with *M. marinum*

- grows in swimming pools and fish tanks
- typical presentation: single nodule or pustule at site of trauma
  - hands, feet, elbows, knees
- nodules may ulcerate
- sporotrichoid spread possible
- grows best in culture media at low temperatures (25-32°C)
Histopathology of M. marinum infection

- depends on age of lesion
- early: diffuse neutrophilic dermatitis
- late: variably well formed granulomata
- variable degree of overlying acanthosis
- organisms easier to find in early lesions
Don’t forget cutaneous infection with mycobacteria in differential diagnosis of diffuse neutrophilic dermatitis
References


