06/17/21 Morning Report with @CPSolvers

***Case Presenter**: Boris Jegorovic (@BJegorovic) **Case Discussants**: Rabih Geha (@rabihmgeha) and Nilayan Sarkar(@nilayansarkar)*

CC: 26 yo M presents to the clinic w/ fever, malaise and rash

HPI:
9 days before: fever 40°C
The next day he noticed a pustule on his R arm. In the progression of the disease similar skin changes appeared in his head. The lesions were tender and evolved into a diffuse nodular-pustular-erythematous rash

PMH:

No surgeries

Meds:
None

Fam Hx:None

Soc Hx:Moved to the capital. Lives in a small house. Has a healthy horse.

Health-Related Behaviors:
Drinks water from the well in his yard from city waterworks

Allergies:
No allergies

Vitals: **T**: **HR**: **124** **BP**: Hypotensive **RR**: **32** **SpO_2**:
Exam:
Gen: Alerted and oriented. Looks in pain.
HEENT:
CV: No murmurs. Faint heart sounds.
Pulm: Clear to auscultation.
Abd: Soft & no tenderness to palpation. Spleen not palpable
Neuro:
Extremities/Skin:
Skin looks dirty. 4-5 big nodular lesions. Pustular lesions in his arms and back of his legs. The lesions were soft, tender to touch and erythematous.

Notable Labs & Imaging:
Hematology:
WBC: 16 (75N 20L 3M) Hgb: Plt:
Chemistry:
UA: proteinuria. Bilirubin in urine negative
S. typhi - positive. S.paratyphi A positive, S. paratyphi B equivocal (+/-). B. proteus negative. Rickettsia negative.

3rd day of hospitalization: patient felt worse. New lesions appeared on face, chest and legs. Previous skin lesions broke down to form ulcers w/ greenish and malodorous secretion. RR high. In next few days the condition worsened w/ new lesions and developed AMS, nasal secretion and HF.
Gram stain of skin lesion - gram negative bacilli compatible w/ *Bacillus mallei*

Final diagnosis: Glanders

Problem Representation: Young adult carriage driver presents with fever, nodulo-pustular rash with erythematous base, and found to have abscesses. Secretions were positive for gram- bacilli

Teaching Points (Kirtan):

- **Fever + Nodulo-Pustular Rash**- Characteristic of rash is critical. Usually, nodular process is the clue to underlying systemic process like granulomatous disorders (*TB, NTM, Syphilis)*.
- **Thinking about possible diagnosis from epidemiology**- Infections related to exposure to horses like *Rhodococcus equi* or well water. Also the mode of exposure needs to be considered (inhalation vs ingestion vs cutaneous).
- **Clues from Physical examination**- Whitening of tongue points to possible immunodeficient state. Prominent skin involvement again raises the suspicion for disseminated *Cryptococcosis or Tuberculosis or Rhodococcus.*
- **Weighing the significance of lab reports** - Skin involvement in Salmonella infection is usually not so prominent or nodular. So tests may be false positive or reflecting the carrier state.
- Putting the pieces together- **Greenish secretion** and gram negative bacilli suggests possible *Pseudomonas infection*.
- **Burkholderia** species to be considered while dealing with potential granulomatous infection. Classically causes rash reminiscent for smallpox, cutaneous abscesses, and prostration out of proportion to the physical exam findings.
Burkholderia pseudomallei is the not to miss granulomatous infection.