



PrePodiatryStudy Case Studies



PrePodiatryStudy

Diabetic Ulcer

Case

HPI:

A 32-year-old female presents to ER with vomiting, chills, and right foot pain. Patient states her right foot has a mal odor since yesterday. ER physician has already stabilized patient and paged you to come assess the patient. Patient last ate 9 hours ago.

ROS: She denies fevers, nausea, or shortness of breath.

What do you want to know next?

Past Medical History

PMH:

- Illnesses: DM Type 2, Hypercholesteremia
- Meds: Metformin, Atorvastatin
- Allergies: NKA
- FH: DMII (father)
- SH: 1/4 PPD tobacco x 15 years, 2 alcoholic drink a week

What do you want to know next?

Physical Exam

Vital Signs

Temp: 101.2°F HR: 112 bpm

RR: 23 breaths/min

- Vascular
 - DP/PT palpable pulses
 - +2 non pitting edema of left ankle
- Dermatologic
 - Erythema to forefoot present
 - (+) Probe to bone
 - (+) mal odor
- Neurologic
 - (-) sensation with 10g SWMF
 - Gross sensation intact
- Musculoskeletal
 - Pain on palpation of 2nd toe
 - Able to move toes
 - 5/5 Strength right, Guarded left

What are the normal Vital Sign values?



Clinical Image

Read the image.

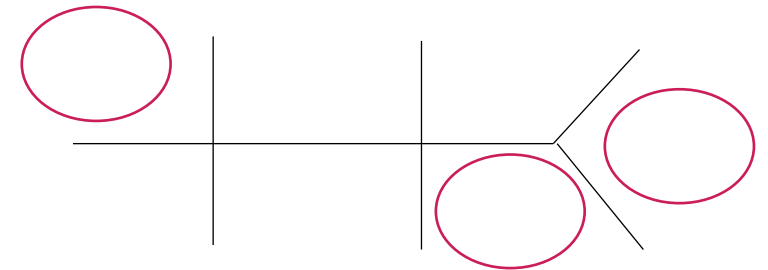
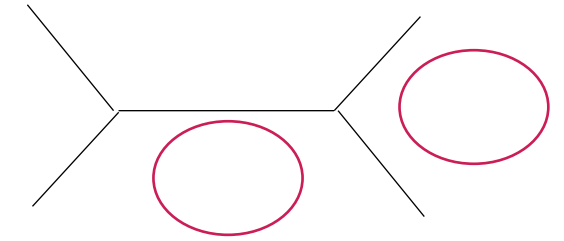
What labs would you order?



Labs?

Labs

- CBC/ BMP
- WBC: 17,000
- Nicotine & Drug screen - negative
- Pregnancy test - negative
- HgA1c – 8.9%
- **ESR** – 65 mm/hr
- CRP – 6.8 mg/L



What are the normal values of the circled labs?



Read Me This Xray



Imaging

Read the image.



Assessment & Plan?

Imaging

- Assessment
 - Gas gangrene, right foot
 - Osteomyelitis, right foot
 - Cellulitis, right foot
- Plan
 - Admit patient
 - Ensure patient is hemodynamically stable
 - Start IV antibiotics
 - Take to OR today



What's your surgical
plan, Doctor?

Plan

- Incision placement?
- What level of amputation? **Digit, TMA, BKA?**
- What kind of cultures collected? **Soft tissue, bone?**
- Would you do an Achilles tendon lengthening?
- Would you leave the amputation wound open or closed?

Plan

- Pain Meds?
- Antibiotic Meds for Staph Aureus?
- Post-Op protocol?
- When do you start weightbearing?
- When to return to regular running shoe? Or prosthetic?



Rapid Fire Questions

Rapid Fire Questions

- What does SIRS stand for?
- List SIRS criteria.
- What is Sepsis vs Severe Sepsis?
- What is Septic Shock?
- What are gas forming organisms?

Rapid Fire Questions

- FDA approved drugs diabetic foot infections?
- What is the Wagner Classification?
- How will osteomyelitis show up on MRI?
- Difference between DM type 1 vs DM type 2?
- A diabetic patient has a Penicillin allergy, what antibiotic do you give them?



Answers

Case

HPI:

A 32-year-old female presents to ER with vomiting, chills, and right foot pain. Patient states her right foot has a mal odor since yesterday. ER physician has already stabilized patient and paged you to come assess the patient. Patient last ate 9 hours ago.

ROS: She denies fevers, nausea, or shortness of breath.

What do you want to know next? Medications, allergies, Surgical history, is the patient pregnant? Last time she ate to plan for surgery.

Physical Exam

Vital Signs

Temp: 101.2°F HR: 112 bpm

RR: 23 breaths/min

- Vascular
 - DP/PT palpable pulses
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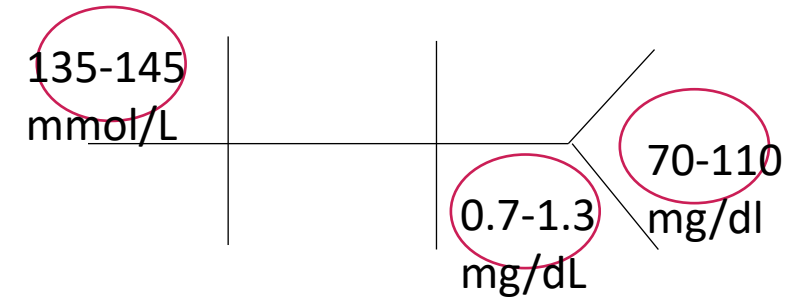
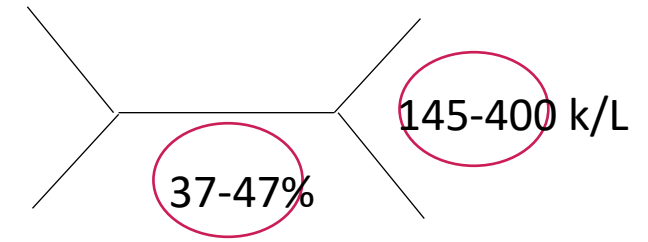
What are the normal Vital Sign values?

Temp (97.8-99.1F), Pulse 60-100 beats/min, RR 12-18 b/min, BP 120/80

Labs

- CBC/ BMP
- WBC: 17,000
- Nicotine & Drug screen - negative
- Pregnancy test - negative
- HgA1c – 8.9%
- **ESR** – 65 mm/hr
- CRP – 6.8 mg/L

$$\text{ESR: } < \frac{\text{Age} + 10 \text{ (if female)}}{2}$$



What are the normal values of the circled labs?



Imaging

Read the image.

“This is a non-weightbearing radiograph of the right foot Later View with arrows showing increase in soft tissue volume and density and emphysema on the dorsal and plantar aspect of the midfoot. My impression is...”

Plan

- Incision placement? A fish-mouth incision with a long plantar flap.
- What level of amputation? Trans metatarsal amputation (TMA)
- What kind of cultures collected? Both Soft tissue and bone biopsy
- Would you do an Achilles tendon lengthening?
 - Not at this time, I would like to treat the infection first to get the patient stable, decrease inflammatory markers, and proceed with sepsis protocol
- Would you leave the amputation wound open or closed? I would leave open to allow any abscess to drain out and await bone cultures.

Rapid Fire Questions

- What does SIRS stand for?
 - Systemic Inflammatory Response Syndrome
- List SIRS criteria.
- What is Sepsis vs Severe Sepsis?
 - Sepsis = SIRS + source of infection
 - Severe Sepsis = Sepsis + organ dysfunction (Lactate >2mmol/L)
- What is Septic Shock? Severe sepsis + hypotension DESPITE fluids given
- What are gas forming organisms?
 - Gram (+) – Clostridium perfringes, Staph, Strpet, Peptostrep.
 - Gram (-) – E.Coli, Klebsiella, Serratia

SIRS Criteria (2 of the following)
HR >90,
Temp >100.4°F (>38°C),
RR >20 or PaCO <32mmHg,
WBC >12,000/mm or <4,000

Rapid Fire Questions

- FDA approved drugs diabetic foot infections?
 - Zosyn, Zyvox, Invaz
- What is the Wagner Classification?
- How will osteomyelitis show up on MRI?
 - Decreased signal of bone in T1, increased in T2
- Difference between DM type 1 vs DM type 2?
 - DM 1 – juvenile DM, pancreas fail to produce insulin from loss beta cells
 - DM 2 – insulin resistance, cells fail to respond to normal insulin levels
- A diabetic patient has a Penicillin allergy, what antibiotic do you give them? Clindamycin

Wagner Classification

0 – pre ulcer lesion

1 – superficial ulcer

2 – ulcer to bone/capsule

3 – ulcer w/infection

4 – local gangrene

5 – gangrene of entire foot



PrePodiatryStudy
Thank You