By Olga DeTorres, PharmD, FASHP, BCPS, BCIDP

# The Medical Tourist

- 35 y.o. female presents to ED with complaints of left gluteal pain and redness
- **History of Present Illness:**
  Patient had a recent abdominoplasty & bilateral gluteal fat injections 1 month ago in Florida.
  This is second time she had this procedure done.
- About 2 weeks ago she noticed the left gluteus was not healing as well as the right one. There was redness with "skin flaking" and tenderness
- Patient reported subjective fevers. She took Acetaminophen with improvement of fevers & pain.
- Due to persistence of pain and redness for 2 weeks, she came to the ED

# ED Presentation

- Temperature 38.0 C HR 130 BP 122/84
- WBC 20,620 Neutrophils 89.9%
- Hgb/Hct 10/31.1 Platelet Count 726,000
- Serum Cr/BUN 0.53/14 Lactate 1.5
- Body mass index 30.41 kg/m²
- CT scan: Extensive stranding in the subcutaneous fat in the circumferential abdominal wall. There are macroscopic lobules of fat in the subcutaneous soft tissues around the buttocks. No calcifications. No fat fluid levels. No fluid pockets visible. Gluteal muscles are within normal limits.

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# Ultrasound

Distance measurement 1
Length: 6.5mm

TRANS LEFT BUTTOCK AREA OF TENDERNESS/ REDNESS SPOT 1 - SUP/LAT

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# Physical Exam

- Constitutional: Mild discomfort, no acute distress
- CV: Tachycardic, regular, S1-S2 present, GI:
- Abdomen- no guarding or rebound, midline vertical and low horizontal abdominoplasty incision intact.  Soft, NT, BS+, no masses
- Skin: Nearly entire left buttock and proximal lateral thigh with areas of induration, redness warmth tenderness, no fluctuance extending to gluteal cleft.  No vulvar involvement.

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# Hospital Course:

- Left gluteal cellulitis with sepsis associated with transfer of abdominal fat procedure 1 month ago
- Large area of cellulitis involving most of the left buttock
- Significantly elevated WBC
- CT scan abdomen pelvis without evidence of cellulitis or fat necrosis
- Empiric Piperacillin/Tazobactam & Vancomycin
- Follow-up blood cultures
- Screen nares for MRSA
- Monitor for clinical improvement
- Infectious Disease consult

# Infectious Disease Consult

**Day 2**

**Recommendation / Plan:**

- Continue Vancomycin, change Zosyn to Ceftriaxone

**Day 4:**

- Fever this am, patient feels about same, pain/swelling same; no chills
- Blood cultures are negative
- Still on Vancomycin & Ceftriaxone
- Febrile, leukocytosis 17,920
- Conference held regarding diagnosis, treatment, risks, & plan

**Recommendation / Plan:**

- Repeat CT scan to evaluate for an abscess
- Surgical consult
- Patient switched to Meropenem due to lack of response to antibiotics

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# Hospital Course: Continued

- Imaging studies did not identify clearly drainable collections.
- Patient experienced spontaneous drainage of pus in left buttock with some relief.
- A prominent infiltration of the deep and superficial subcutaneous soft tissues involving the abdomen and pelvis most prominently posteriorly in the gluteal regions with soft tissue nodules.
- No focal rim-enhancing collections are identified to suggest a discrete abscess at this time.
- A diffuse underlying soft tissue infection cannot be excluded and may be present.
- Patient went to the OR on Day 7 for incision & drainage and debridement of bilateral buttock abscesses

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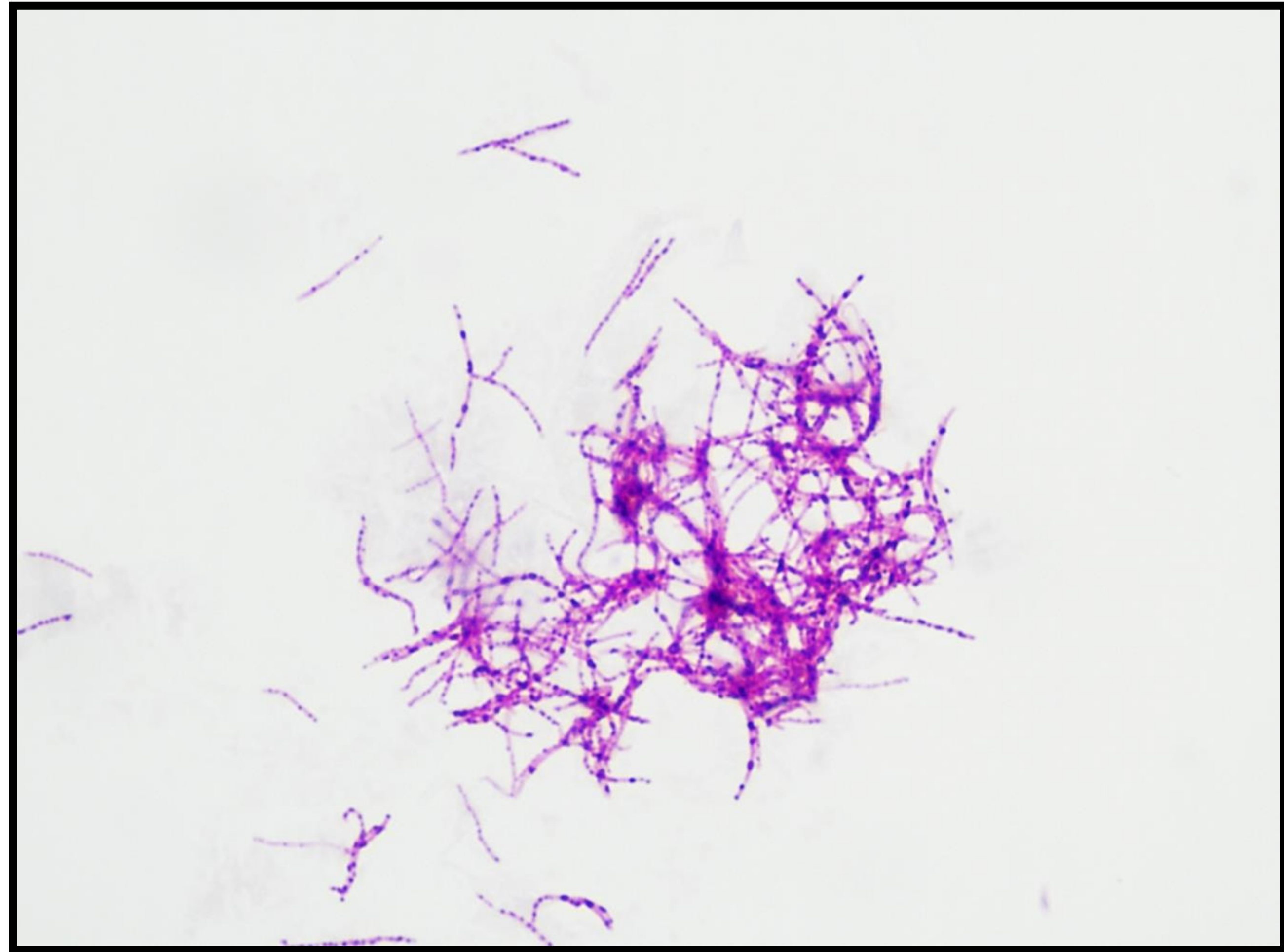
# Gram Stain



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# What is the diagnosis?

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# Microbiology Report

**Gram Stain:**

Light growth Mycobacterium species isolated

**Culture Results:**

- Culture positive by AFB/Kinyoun stain Abnormal
- Mycobacterium rapid grower

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# Antimicrobial Therapy

While awaiting bacterial susceptibility results antimicrobials were changed multiple times due to patient tolerability:

- Meropenem was discontinued
- Zosyn was started & given for 1 day
- Followed by Clarithromycin & Levofloxacin for 1 day
- Followed by a 4 - antimicrobial regimen:
  - Amikacin (high dose) x 3 days
  - Imipenem/Cilastatin, Linezolid, & Azithromycin x 7 days

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# Antimicrobial Susceptibilities

- Specimen was sent to ARUP for susceptibility testing
- ***16 days later*** susceptibility results were reported
- *Mycobacterium fortuitum* susceptibilities:

| Antimicrobial | MIC | Susceptibility |
|---|---|---|
| Amikacin | < 1 | S |
| Cefoxitin | 32 | I |
| Ciprofloxacin | < 0.12 | S |
| Doxycycline | 0.25 | S |
| Imipenem | 2 | S |
| Linezolid | 4 | S |
| Moxifloxacin | < 0.16 | S |
| Tigecycline | 0.25 | S |

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# Hospital Course

- Two days later patient went to OR for a 2nd I & D and debridement procedure
- ID Specialist contacted surgeon in Florida
  - They have had two other cases of *Mycobacterium* infections at their surgical center
- Patient discharged after a 15-day hospital stay
- Discharge antimicrobials:

  Ciprofloxacin & Doxycycline x 6 weeks

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# Hospital Course

- Patient was to see general surgeon for follow-up care
- At the 4-week office visit surgeon noted a worsening infection and sent patient to the ED
- Patient was admitted to the hospital
- Had a repeat I & D procedure
- Started on Vancomycin IV for Coagulase (-) Staphylococcus growing in the wound
- Home antibiotics (Ciprofloxacin & Doxycycline) were continued
- Patient was discharged 3 days later

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# Medical Tourism

- Medical tourism is becoming increasing common as patients travel abroad to receive medical care
- Cosmetic surgery patients are more likely to seek surgery abroad to defray costs
  - They are referred to as “lipotourists”
- Not all procedures performed abroad adhere to strict hygienic regulations
- Not uncommon for patients to return home with difficult to treat post-operative infections

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# Medical Tourism

- Increasing reports of rapid growing mycobacterial infections among medical tourists caused by:
  - *Mycobacterium abscessus*
  - *Mycobacterium chelonae*
  - *Mycobacterium fortuitum*
- Most common causes of infection among medical tourists
- Often diagnosed late because of low clinical suspicion
- Patients experience a prolonged clinical course with multiple operations & antimicrobials

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- 98% of reported infections occur in females
- Ages 19-69 years old
- Most frequent procedures:
  - Abdominoplasty 33%
  - Mammoplasty 27%
  - Liposuction 24%
- Common complications include:
  - Wound dehiscence
  - Pain & discomfort
  - Implant rupture
  - Wound contracture

# Clinical Presentation

- Median time to onset of symptoms is 5 weeks (range 1-20 weeks)
- Symptoms: local erythema, induration, micro-abscesses & discharge from sinuses
- Fever, chills, and systemic manifestations are rare

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# Mycobacterial Infections

- Rapid growing mycobacteria are difficult to eradicate with common decontamination methods
- They are resistant to disinfectants, e.g., chlorine, povidone-iodine, formaldehyde, organomercurials, & alkaline glutaraldehydes
- This enables them to grow in water distribution systems, soil, dust, and aerosol samples
- They have a lipid-rich cell wall that facilitates the formation of biofilms on solid surfaces such as water pipes, catheters, breast implants, & tissue expanders

# Antimicrobial Therapy

- Combination antimicrobial therapy:
  2 to 3 antimicrobials that have activity against the organism
- Agents active against *M. fortuitum:*
  - Amikacin 100%
  - Cefoxitin 50%
  - Ciprofloxacin 100%
  - Clarithromycin 80%
  - Doxycycline 50%
  - Imipenem 100%
  - Linezolid
  - Trimethoprim-Sulfamethoxazole 100%
  - Moxifloxacin 100%
- Duration of therapy: 4-6 months

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# Conclusion

- Suspect a rapid growing mycobacteria when your patient has been a medical tourist & their surgical site infection fails to respond to first-line antibiotics.

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# Acknowledgements


- Michael Nguyen, MD
  Department of Pathology
  O'Connor Hospital
- Emma Durant

  Microbiologist

  Valley Medical Center

For their assistance in providing copies of the ultrasound and Gram stain


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