Fournier Gangrene in a Patient with Treatment-naive Long-term Nonprogressor HIV

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Introduction

- Fournier gangrene (FG) is a rapidly progressive, polymicrobial necrotizing fasciitis involving the perineum or genitalia with high morbidity and mortality if left untreated.1
- Overall incidence rate is 1.6 cases per 100,000.2
- Risk factors are diabetes (most common), HIV, chronic alcohol intake, renal failure, and chemotherapy.1,3,6
- There is a strong association in male patients with advanced age and comorbidities that affects the immune system function.1
- Source of infection can begin with a perianal abscess or postoperative abscess.5,6
- Clinical manifestations are commonly perianal swelling followed by pain, fever, and ulceration.6
- The sites commonly involved are the scrotum, penis, or groin. Only 6.8% of patients experience a more extensive disease which involves the lower abdominal wall.6
- FG is often made clinically but CT scan can be performed in cases in which the diagnosis or the extent of disease is difficult to discern.6,7
- Treatment includes surgical debridement of necrotic tissue, empiric broad spectrum antibiotics, and promotion of hemodynamic stability.6
- A systematic review of definitions of HIV subtypes, defined long-term nonprogressor (LTNP) HIV as asymptomatic with a stable or high CD4 count and antiretroviral therapy (ART) naïve for 10 years or more without progression to AIDS.8
- LTNP accounts for <5% of the total HIV population.9

Case Description

- A 51-year-old African American male with uncontrolled diabetes and 11 years of treatment-naive HIV.
- 07/19/19: He presented to the ED with febrile leakage, fever, leukocytosis, and a tender to palpation left femoral induration with central 2cm glutedal wound without crepitus which was treated as an abscess and discharged the next day.
- 07/28/19: He returned to the ED eight days later complaining of worsening pain and fever.
- MRI gunshot wound, treatment naïve HIV (1988), Type 2 Diabetes Mellitus
- No known drug allergies
- Medications: Novolog, Lantus, Lisinopril, Naproxen, Zantac, Rosuvastatin, Singulair
- Family history: diabetes and kidney failure
- Social: Denies alcohol and drug use, Rrosuvastatin

Physical Exam

- ED triage vital signs:
  - Oral Temperature – 99.8°F
  - Heart Rate – 105bpm
  - Blood Pressure – 120/70 mmHg
  - Respiratory Rate – 20 bpm
  - SpO2 – 96% on room air
- General: well-appearing, not in acute distress
- Lungs: non labored breathing, clear to auscultation bilaterally
- Heart: regular rate and rhythm, S1 and S2 appreciated, no murmur, rubs or gallops appreciated
- Abdomen: normoactive bowel sounds, soft and non-distended; erythema with crepitus inferior to the lower abdominal wall which was tender to palpation
- Perineum: erythematous, crepitus with murky foul smelling discharge originating from the abscess
- Musculoskeletal: extremities are warm and well perfused, no edema
- Reminder of the exam was within normal limits

Diagnostic Results

- 07/28/19 CT scan post I&D to determine the presence of FG.
- Lungs: non labored breathing, clear to auscultation bilaterally
- Heart: regular rate and rhythm, S1 and S2 appreciated, no murmur, rubs or gallops appreciated
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Case Outcome

- A final diagnosis of Fournier gangrene was made by the development of inflammatory changes and subcutaneous gas found on 07/28 CT imaging.
- Figure 2 shows progression of FG prior to STSG surgery.
- Two week post-op follow-up visit since the reconstructive surgery showed the perineum and genital area healed appropriately with no signs and symptoms of infection. Patient continues to refuse ART initiation however states compliance with diabetes medications. (Figure 3)

Conclusion

- The diagnosis of FG is based on clinical features. In patients with predisposing conditions, this disease should be considered and the perineum inspected for the typical findings.
- In this patient case, CT could have been performed prior to I&D to determine the presence of FG.
- Although LTNP HIV patients can have an intact immune system, studies show that overtime patients can lose their LTNP status so it is essential initiate ART.

Differential Diagnosis

- Perineal abscess
- Bartholin abscess
- Cellulitis
- Pyoderma gangrenosum
- Complicated inguinal hernia

Patient Management

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<thead>
<tr>
<th>Day 1-24</th>
<th>Day 25</th>
<th>Day 31</th>
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<tbody>
<tr>
<td>Empiric antibiotics</td>
<td>Sequential Debridement</td>
<td>Split thickness skin graft (STSG)</td>
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<td>Insulin glargine</td>
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<td>ART (patient refused)</td>
<td>Discharged to short term rehab</td>
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References