Deadly Diagnosis with a Difficult Dispo

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Chief Complaint

- Weakness, RLE Pain and Swelling

History of Present Illness

- 65-year-old male with a history of uncontrolled diabetes mellitis presenting with weakness, right lower extremity pain, and swelling for the last ten days. Patient reports working as a long-haul truck driver, was on the road, and unable to present to the ED for evaluation.

Pertinent Physical Exam

- Vitals: BP: 137/178 HR: 101 RR: 25 O2 saturation: 98% Temp: 100.4 F
- General: Ill-appearing obese male, lying in bed, odorous
- Neuro: CN II-XII intact, no motor
- HEENT: Dry mucous membranes
- Lungs: Clear to auscultation bilaterally, no increased work of breathing
- CV: tachycardic
- Extremities: Diffuse right leg erythema with bullous lesions to medial foot, crepitus to medial knee and multiple quarter sized ulcerations

Pertinent Lab Values

- WBC: 21.5, Neutrophils: 78%
- Potassium: 3.1
- Sodium: 128
- Lactate: 1.5
- ESR: 110
- CRP: 33.20

Questions

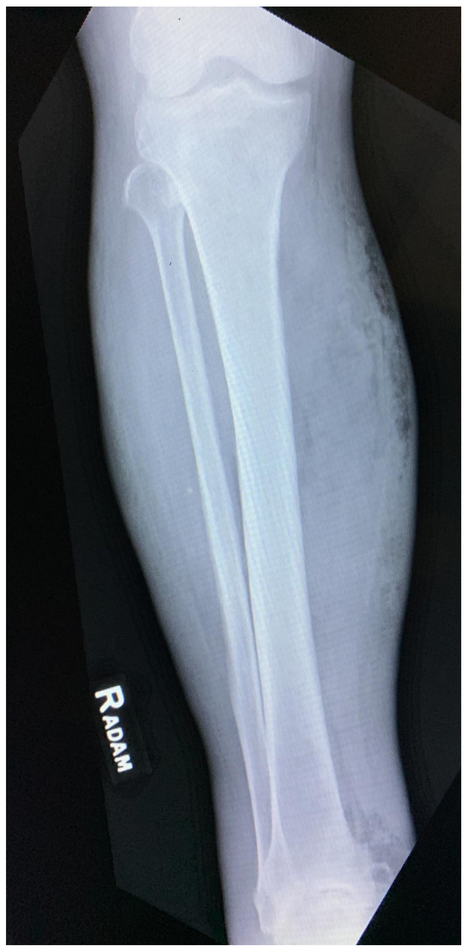
1. What are the significant findings in these x-rays?
2. What is the definitive intervention for this condition?

Answers

1. Gas to medial knee
2. Surgical debridement and removal of infected tissue

PEARLS

1. Persistent advocacy for dispositions on patient care
2. Timely re-evaluations with closed-loop communications are key
3. Individual providers are responsible for system quality improvement efforts



Discussion

The diagnosis and necessary intervention is obvious based on the plain films obtained. The patient had palpable crepitus to his right medial knee which was confirmed by the hypodensities seen on his x-rays. What made this an interesting case was the difficulty securing the patient's disposition.

Within five minutes of this patient arriving the emergency department (ED), a surgical consult was placed and the patient was started on broad spectrum antibiotics. Within fifteen minutes a general surgeon was at the bedside. After reviewing the information, reported that the consult should go to the orthopedics team because the infection was isolated to the patient's extremity. Within 20 minutes, Orthopedics arrived bedside and agreed that the case was concerning for a gas producing infection of the patient's leg. The orthopedics team attempted to calculate a LRINEC score with the initial set of resulted labs excluding a CRP. The LRINEC score at that time suggested the patient was low risk for necrotizing fasciitis. This score (though incomplete) and stable vitals reassured the orthopedics team that the patient did not need to be taken immediately to the OR and could wait for a CT scan of the patient's leg. As the emergency medicine team, we advocated to take the patient emergently to the operating room, feeling the patient would likely decompensate if source control was not quickly obtained.

One hour after arrival, the patient's CRP resulted, and ultimately gave the patient a LRINEC score of 9, HIGHLY suggestive of the suspected underlying condition of necrotizing fasciitis. Orthopedics was re-engaged, agreeing the patient needed surgical management but felt the patient would be better managed in an intensive care unit (ICU) following his surgical debridement, noting that "if the patient were to code, would you want orthopedic doctors as the primary responding team?"

For the next 5 hours the disposition was delayed while STICU, MICU, BICU and ortho deliberated over who would admit the patient for surgery. Ultimately MICU admitted the patient and ortho performed the surgical debridement and resection of the infection. As the patient's disposition was finally decided almost 6 hours after arrival, the patient began, as expected, to have down trending blood pressures, initially in the 140's systolic, now recording in the 110's after fluid resuscitation. The orthopedics team was advised of the patient's deteriorating condition and immediately transferred the patient to the OR as their next case. The patient never became truly hypotensive in the ED. After his surgical debridement, he did eventually require IV pressers for twenty-four hours following his below the knee amputation. He also required two consecutive surgical debridement's without need for further amputation.

This patient, for whom I had a disposition in my mind within five minutes of arriving in the ER, took roughly six hours before he achieved that goal of definitive surgical intervention? I learned very quickly that perseverance and strong advocation is a must when fighting opposition from consultants. I was also reminded that re-evaluations are key and passing along changing information to consulting services is necessary in rapidly evolving patients. Lastly, it is important to remember that scoring systems cannot be utilized when incomplete. In this scenario, only one part of the LRINEC scoring system was missing initially, but this missing element took our patient from low risk to high risk with its final result. Using the clinical picture instead of this scoring system could have saved our patient roughly one hour of waiting for labs in the ED, solely for the scoring system alone. In a disease process where time equals tissue, and potentially the patient's life, delaying treatment for 6 hours goes against our oath to "do no harm". This case elucidated multiple systems issues that as a provider, and more importantly as a patient advocate, I believe must be addressed to ensure delays in treatment such as these do not occur again in the future.