

1st Place: Don't Drink and Flounder: Management of a Penetrating Neck Injury by Flounder Gig

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Chief Complaint

A 42-year-old female presents via EMS as a trauma activation after being impaled in the neck with a flounder gig.

History of Present Illness

The patient was flounder fishing on a boat when a wave caused her to fall backward onto a stationary flounder gig. The gig impaled the left side of her neck. EMS found her alert, oriented, and hemodynamically stable. To facilitate extrication and transport, they cut the handle of the gig, stabilized the remaining portion with bulky dressings, and established IV access. She received 100 mcg of fentanyl intravenously for a reported pain score of 5/10. Vital signs remained stable throughout transport to the emergency department.

Pertinent Physical Exam

Vitals: BP 113/70, HR 73, RR 16, SpO₂ 98% on room air. Patient was calm, in no acute distress. A single metal prong was impaled in the left neck, entering near the sternocleidomastoid and exiting anteriorly below the mandible. No active hemorrhage, expanding hematoma, or subcutaneous emphysema was noted. Trachea midline, normal phonation, no stridor. Neurologically intact, GCS 15.

Pertinent Laboratory Data

Cervical spine X-ray: metallic pronged device within left supraclavicular soft tissues, consistent with the impaled object. No evidence of cervical fracture, dislocation, spinal canal compromise, or prevertebral soft tissue swelling.



Image 1: Radiograph showing the trajectory of the metallic foreign body entering beneath the mandible and extending posteriorly toward the paravertebral region.



Image 2: Lateral cervical radiograph demonstrating a penetrating metallic foreign body extending from the submandibular region into the cervical soft tissues, with close proximity to the airway and cervical spine.



Image 3: Clinical photograph demonstrating a penetrating neck injury with a metallic foreign body traversing the submandibular region, stabilized in place.

Clinical Questions

1. What is the primary field intervention for a patient with an impaled object?

Stabilize the object in place to prevent further injury and bleeding; never remove impaled objects in the pre-hospital or ED setting.

2. Why transfer this patient to a higher-level trauma center instead of attempting removal?

The neck contains vital vascular and airway structures; safe removal requires controlled operative conditions with surgical backup for exploration and repair.

3. What imaging is best to evaluate the trajectory and injuries from penetrating neck foreign bodies?

CT angiography is the preferred imaging study, as it delineates vascular, airway, and soft tissue structures, guiding surgical planning and minimizing unnecessary exploration.

Case Discussion

This case demonstrates the evidence-based management of a penetrating neck injury caused by a marine implement. EMS appropriately shortened and stabilized the flounder gig without attempting removal, preventing iatrogenic hemorrhage. Historically, penetrating injuries to Zone II (cricoid cartilage to angle of mandible) mandated surgical exploration due to the density of vital structures (carotid arteries, jugular veins, trachea, and esophagus). However, recent systematic reviews, multicenter prospective studies, and ACR guidelines support a “no-zone,” selective imaging strategy for stable patients, regardless of location. Multidetector CT angiography (CTA) has high sensitivity and specificity for vascular and aerodigestive injuries, reducing unnecessary explorations and morbidity. Additional studies (e.g., esophagography, endoscopy) are considered if esophageal injury is suspected. This case is further complicated by marine contamination, which carries risk for *Vibrio* and *Aeromonas* infections. The American Association for the Surgery of Trauma recommends empiric saltwater wound coverage with doxycycline plus ceftazidime or a fluoroquinolone, with cultures obtained for guidance. The most striking feature was the “anatomical luck” paradox: despite traversing a high-risk region, the trajectory spared all major vascular, airway, and spinal structures. The patient exhibited no “hard signs” (hemorrhage, hematoma, airway distress, or shock), allowing safe transfer for operative removal at a Level I trauma center. At the receiving facility, the foreign body was removed operatively, and the patient was discharged without neurological or vascular deficits. This case exemplifies how modern imaging-based algorithms, marine-specific antibiotic considerations, and recognition of anatomical variability converge to optimize outcomes.

Clinical Pearls

- Never remove an impaled object in the field or ED. It may tamponade a vascular injury; premature removal risks catastrophic exsanguination.
- Stable penetrating neck injuries are now managed selectively with CTA and adjunct diagnostics, not mandatory exploration, reflecting a major evidence-based shift in trauma care.
- Marine-associated trauma requires empiric coverage for *Vibrio* and *Aeromonas*; doxycycline plus ceftazidime or a fluoroquinolone is recommended pending cultures.

2nd Place: A Hidden Threat: Paralysis Masking the Early Signs of Fournier's Gangrene

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Chief Complaint

One week of scrotal swelling

History of Present Illness

A 60yM with a past medical history of paraplegia due to a gunshot wound, HTN, HLD, DM2, peripheral arterial disease status post right above the knee amputation presented to the Emergency Department for scrotal swelling. A week earlier, he states that he sat on his scrotum, which he believes triggered these symptoms. Since then, he has experienced a progressive swelling of his testicles and penis. Due to his paraplegia, he is unable to feel pain over this area and he was initially unaware of the worsening symptoms. Yesterday, he noted a wound with purulent discharge prompting his arrival to the Emergency Department. He denies fever, chills, nausea, vomiting, abdominal pain, dysuria, or hematuria.

Pertinent Physical Exam

Vitals: HR 110 BP 96/50 RR 18 Temp 98.7 SpO2 97% RA General: NAD, AAOx4 Cardiac: Tachycardia Lungs: CTA BL Abdomen: soft and non-tender, no rebound or guarding Genital: penile and scrotal swelling with erythematous and dusky appearance to the skin, crepitus noted, multiple large blisters noted with purulent foul smelling discharge Extremity: Right above the knee amputation Neurological: weakness to the bilateral lower extremities, minimal sensation over the bilateral lower extremities

Pertinent Laboratory Data

WBC 26 increased from previous value of 8 Lactic acid 1.6 Creatinine 1.95 increased from baseline of 0.75

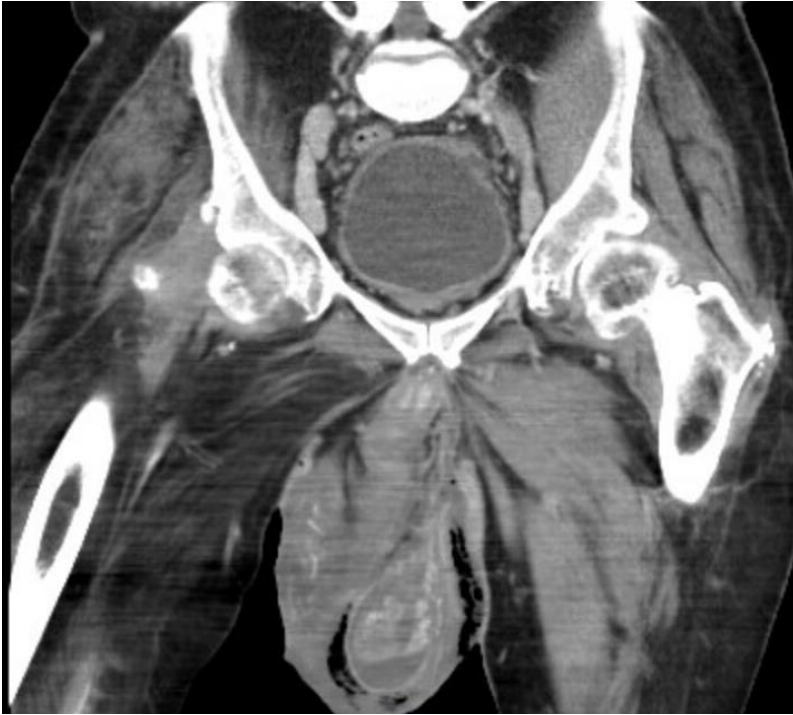


Image 1: Fournier's gangrene noted on CT imaging



Image 2: Scrotum with ulcerations and skin changes concerning for Fournier's gangrene

Clinical Questions

1. What steps should a clinician take if they suspect a necrotizing skin infection?

Emergent surgical consultation with the appropriate specialists and broad-spectrum antibiotics.

2. What scoring tools can be used in cases of Fournier's gangrene?

LRINEC score is used for risk calculation. The FGSI and UFGSI can be used to determine the severity and prognosis of patients.

Case Discussion

This case was highly suspicious for Fournier's gangrene. The patient was started on broad-spectrum antibiotics consisting of Vancomycin, Zosyn, and Clindamycin based on physical examination. Urology was consulted emergently prior to imaging. A CT scan of the abdomen and pelvis was obtained to assess the extent of the infection. The patient was scheduled for emergent debridement with Urology, but was delayed 10 hours due to a multi-vehicle trauma alert. The patient did well, and was discharged home after two debridements. Fournier's gangrene is a necrotizing skin and soft tissue infection (NSTI) that involves the groin, perineum, or genital region. Risk factors include obesity, diabetes, immunocompromise, renal disease, recent genitourinary procedures, use of sodium-glucose transporter-2 inhibitors, and spinal cord injury. The most common infection is polymicrobial and causative organisms include *S. aureus*, Group A Streptococcus (GAS), and *C. perfringens*. Antibiotic therapy is started empirically and directed towards these organisms. Clindamycin, which binds the bacterial ribosome 50S subunit preventing toxin production, is recommended for additional coverage. Bacterial toxins, including Streptolysin O and M protein, impede the body's immune cells. Penicillin-binding proteins, which reduce the effectiveness of beta-lactate, make treatment more difficult. Linezolid can be used in place of Vancomycin and Clindamycin. The mainstay of treatment is surgical intervention and debridement. High index of clinical suspicion needs to be maintained, especially when a patient presents with pain out of proportion to their examination as not all necrotizing infections are gas-forming. Delay in operative intervention is associated with significant morbidity and mortality. When surgery is delayed by 24 hours, mortality increases ninefold. Antibiotics without debridement are associated with a mortality rate approaching 100%. Adjunct treatments include IVIG, which has shown benefit specifically in patients with invasive GAS with toxic shock. Hyperbaric oxygen has been used but has not shown consistent benefits.

Clinical Pearls

- Fournier's gangrene has a mortality of 20%
- The most common cause of mortality is sepsis
- Fournier's gangrene affects males more commonly than females in a 10:1 ratio

3rd Place: Not Just a Rash: Spotting AIDS-related Kaposi Sarcoma in an African American Male

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Chief Complaint
Rash

History of Present Illness

A 29-year-old African-American male with no past medical history presents for bilateral lower extremity pain, edema, and rash which originated on bilateral feet with spread cranially, worsening over the past 9 months, now with difficulty walking due to pain. No fever, chills, cough, shortness of breath, abdominal pain, diarrhea, or weeping/purulent drainage from rash. He was seen at an outside emergency department 2 months prior with negative venous doppler ultrasound, CTA with retroperitoneal and inguinal lymphadenopathy, and positive RPR titer that was left untreated. He was treated for tinea at that time with Clotrimazole cream, oral Fluconazole, and oral Augmentin which he completed with no improvement in symptoms.

Pertinent Physical Exam

Physical exam was significant for well-appearing, obese male with several indurated and non-blanchable lesions over his bilateral lower extremities with 2+ pitting edema up to his knees.

Pertinent Laboratory Data

Labs significant for mildly elevated CRP and ESR of 2.24 mg/L and 37 mm/hr, respectively, and positive HIV antibody/antigen.



Image 1: Black, irregularly shaped patch on sole of right foot.



Image 2: Multiple black macules on the medial aspect of right lower leg.



Image 3: Large, black, macular and nodular lesion on medial aspect of upper left thigh.

Clinical Questions:

1. How does visceral Kaposi Sarcoma commonly present and which organ systems are most frequently involved?

GI tract with presentations of bleeding, abdominal pain, diarrhea, and weight loss. Pulmonary with presentations of cough, dyspnea, hemoptysis, or nodules seen on imaging.

2. What are the first line systemic treatments for advanced disseminated KS?

Liposomal anthracyclines are first line. Paclitaxel is second line. ART should always be continued.

3. What opportunistic infections or malignancies can mimic KS lesions, and how are they differentiated?

Bacillary angiomatosis: vascular lesions, friable, systemic symptoms, antibiotic responsive. Non-Hodgkin lymphoma: skin or visceral lesions, more aggressive and systemic. Benign pyogenic granulomas, angiomas, and dermatofibromas.

Case Discussion

Kaposi Sarcoma (KS) is a multifocal systemic tumor of endothelial cell origin linked with infection by human herpes virus-8 (HHV-8). There are 4 different clinical variants: Classic KS, Endemic African KS, Immunosuppressive therapy-related KS, and HIV/AIDS-related KS. HIV/AIDS-associated KS occurs in individuals infected with HIV and is more aggressive in those with AIDS. At initial diagnosis, 1 in 6 with HIV-associated KS will have a CD4+ T-cell count $\leq 500/\mu\text{L}$. Initial presentations may have several different manifestations including mucocutaneous, pulmonary, gastrointestinal, or urogenital lesions. Cutaneous lesions may be varied in appearance including macules, patches, papules, plaques, nodules, or tumors with coloring including violaceous, red, pink, tan, purple-brown, or black. Mucocutaneous lesions are also usually asymptomatic, however, may ulcerate or bleed easily. Larger lesions on the palms or soles may impede function and those on lower extremities may cause significant edema or pain. Diagnosis is confirmed by lesional biopsy and prognosis differs depending on the variant. This patient had several large lesions on his lower legs that caused edema and were impacting his mobility due to pain. They are described as black patches/macules and non-blanchable. This patient was then sent to dermatology clinic where he had biopsy confirming KS with an initial CD4+ count was 29. He was then started on antiretroviral treatment and chemotherapy.

Clinical Pearls

- Cutaneous lesions in KS may be varied in appearance including macules, patches, papules, plaques, nodules, or tumors with coloring including violaceous, red, pink, tan, purple-brown, or black. The appearance of cutaneous lesions may also differ significantly depending on race or ethnicity.
- Diagnosis is confirmed by lesional biopsy and prognosis differs depending on the variant. Treatment may involve cryosurgery, laser surgery, photodynamic therapy, excisional surgery, intralesional cytotoxic chemotherapy, or systemic chemotherapy using single vs combination agents of chemotherapy and anti-retroviral therapy.

References and Acknowledgements

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