

CLINICAL IMAGE

Fournier gangrene: a rare case of necrotizing fasciitis of the entire right hemi-pelvis in a diabetic female

Gregory M. Taylor* and David V. Hess

Department of Emergency Medicine, Beaumont Hospital, Teaching Hospital of Michigan State University, Farmington Hills, MI, USA

*Correspondence address: Department of Emergency Medicine, Beaumont Hospital, Teaching Hospital of Michigan State University, Farmington Hills, MI, USA. E-mail: Gregory.taylor@Beaumont.org

Abstract

Fournier's gangrene, a rare polymicrobial infection that affects the genitals and perineum, can present as an insidious onset to a rapid and fulminant course. Early recognition, diagnosis, initiation of broad-spectrum antibiotics and prompt surgical treatment remain the foundation of management. If treatment is not initiated aggressively, the patient will likely rapidly deteriorate, leading to organ failure and death. We present the case of a 58-year-old diabetic female presenting febrile, hypoxic, with severe respiratory distress and evidence of septic shock, found to have necrotizing fasciitis of the entire right hemi-pelvis. Despite rapid recognition, IV antibiotics and operative management, the patient went to the intensive-care unit on multiple pressors and died 24 h later.

A 58-year-old female with a significant past medical history of type 1 diabetes presented to the emergency department (ED) via EMS for severe respiratory distress. The review of systems was limited secondary to the acuity of patient. Vitals on ED arrival: 101.1°F, blood pressure of 86/52 mmHg, heart rate of 116 beats/min, pulse oximetry of 77% on room air, respirations 36 breaths/min and a weight of 68 kg. On physical exam she appeared ill, was in obvious distress, cyanotic, with mottled upper and lower extremities and she was emergently intubated. Cardiopulmonary exam demonstrated sinus tachycardia and coarse breath sounds bilaterally. Genital-urinary exam revealed an erythematous and indurated right labia, with no evidence of crepitus. Sepsis protocol was followed and broad-spectrum antibiotics were initiated. Chest X-ray showed hazy opacities bilaterally consistent with a likely infectious etiology. Subsequent pelvic X-ray showed extensive soft tissue subcutaneous emphysema (Fig. 1). Laboratory values were significant for a leukocytosis of 26.5, lactic acid of 4.2, C-reactive protein

of 436 mg/l, hemoglobin of 11.3 (g/dl), hyponatremia of 127, creatinine of 1.1 and glucose of 55 mg/dl. Computed tomography abdomen/pelvis without contrast showed subcutaneous emphysema extending from the labia to the perineum back to the posterior right gluteus. Findings were consistent with necrotizing fasciitis involving the entire right hemi-pelvis (Fig. 2). The patient was taken to the operating room by general surgery and obstetrics/gynecology for a partial left vulvectomy, right vulvectomy, and excision of perineum, fat, fascia and muscle. Multiple large fluid collections of malodorous purulent material were found. A total of 800 cm² of tissue was removed. Anaerobic cultures grew *Bacteroides fragilis*, *Clostridium ramosum* and gram + cocci.

DISCUSSION

Fournier's gangrene, a polymicrobial necrotizing fasciitis, is a rare, life threatening, severe-flesh eating soft tissue infection

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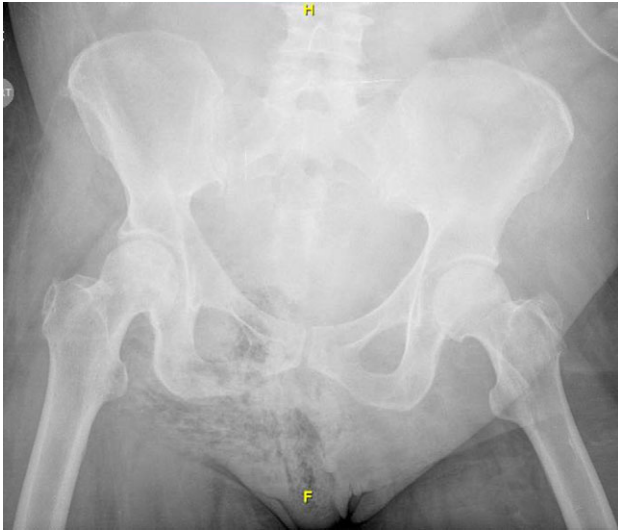


Figure 1: Pelvis (AP View): Extensive soft tissue subcutaneous emphysema involving the right hemi-pelvis.

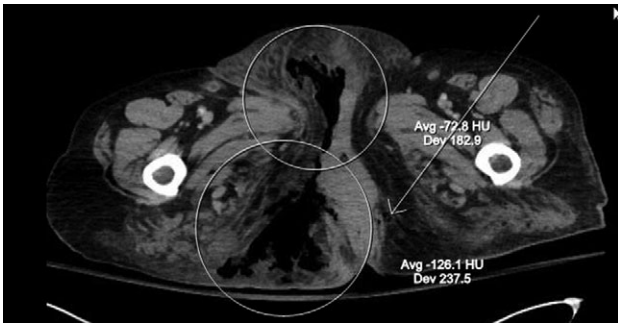


Figure 2: CT abdomen and pelvis without contrast: Subcutaneous emphysema and extensive inflammatory stranding within the right ischiorectal fossa extending anteriorly and posteriorly involving the entire right perineum. The right-sided posterior subcutaneous air extends posteriorly and superior to the level of the gluteus muscle. The right-sided anterior collection extends superiorly and laterally to approximately the right ASIS. Additional pockets of air are appreciated within the left posterior rectal soft tissues and within the deep fascial tissues within the right lower pelvis.

affecting the genitals and perineum that carries with it a high-mortality rate. The incidence varies with multiple studies showing 1.6–3 cases per 100 000 people with a 10:1 male to female predominance [1]. This polymicrobial infection results in a rapidly progressive infection with occasional extension into the abdominal wall. Most patients will have an underlying systemic disease process such as diabetes mellitus, alcoholism, obesity, peripheral vascular disease, peri-anal disease, urethral stricture, local trauma and immunosuppression that increases the susceptibility to this polymicrobial necrotizing fasciitis [2].

Necrotizing fasciitis is divided into three types: Type 1 is considered polymicrobial and caused by anaerobic and aerobic

bacteria. Type 2 is generally caused by *Streptococci* and/or *Staphylococci*. Type 3 is caused by *Vibrio* species [3]. In our patient, anaerobic cultures grew *B. fragilis*, *C. ramosum* and gram + cocci. The synergistic effect of the polymicrobial bacteria results in fulminate gangrene, multi-system organ failure and even death. Even with broad-spectrum antibiotics and wide excision debridement, the mortality rate is about 25% for necrotizing fasciitis in other regions of the body aside from the perineum, and up to 45% for Fournier's gangrene. However, some reported studies include mortality rates approaching 75% when the infection extends cephalad into the pelvis and abdominal wall [4].

We present the case of a 58-year-old diabetic female not only diagnosed with Fournier's gangrene but with a necrotizing fasciitis of the entire right hemi-pelvis. For the clinician, having a high index of clinical suspicion, prompt recognition, early antibiotics and immediate surgical consultation are of paramount importance in potentially saving a life. Despite rapid recognition and maximal intervention, our patient continued to rapidly deteriorate. She went to the ICU on multiple pressors and died 24 h later.

CONFLICT OF INTEREST STATEMENT

None declared.

FUNDING

No financial support was received for this study.

ETHICAL APPROVAL

No approval is required.

CONSENT

Consent could not be obtained from the patient. The patient was also estranged from her family and they were not contactable.

GUARANTOR

G.T. is a guarantor of this study.

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