

Insidious Fournier Gangrene: When the Radiologist Shows the Way to the Surgeon

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Image Article

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Abstract

Fournier's gangrene is a rare and fulminant necrotizing fasciitis of the urogenital and perineal areas, most of the time from a polymicrobial origin. This condition needs immediate surgical drainage as well as broad-spectrum antibiotics. We present here a patient with Fournier's gangrene that required intensive care management. Then, we describe the role of medical imaging for the diagnosis and the staging of this life threatening disease.

Keywords: Fournier Gangrene; Urogenital Infections; Life Threatening Disease

Abbreviations: CT: Computed Tomography.

Case Report

A 40-year-old man was addressed to the emergency department for acute dyspnea and fever. His vital parameters were altered including tachycardia, tachypnea and low blood pressure. Abdominal and cardiorespiratory examinations were of no interest. Laboratory tests showed hyperleukocytosis, altered ionogram, elevation of D-dimer, acidosis and rhabdomyolysis. Transthoracic echocardiography, urinary analysis and lower-limbs venous Doppler were all banal. Computed tomography pulmonary angiography was performed and confirmed bilateral sub-segmental pulmonary embolisms (not shown). The patient was therefore managed in the Intensive Care Unit. Due to the increase of the biological inflammatory markers and the discovery of an indurated collection in the perineal region with purulent discharge, a contrast-enhanced abdominal CT was required. Gas dissection of the peri-anal, scrotal and pre-sacral spaces led to the diagnosis of Fournier gangrene (Figures 1 & 2). There was a horseshoe-shaped perianal abscess (Figure

3). The management consisted in urgent surgical drainage and debridement of the collections, parenteral broad-spectrum antibiotherapy (microbiologic samples identified a *Streptococcus anginosus*) and supportive cares. The patient got out of the hospital after a month. Resorption of the collections was on the way to completion at abdominal CT performed 6 weeks later.



Figure 1 : Scout view of abdominal CT showing scrotal tumefaction with gas bubbles in scrotal and pelvic projection.

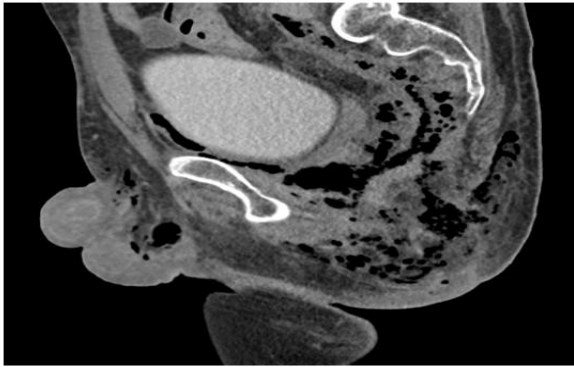


Figure 2: Sagittal views of pelvic CT with contrast at excretory phase confirms gas bubbles dissecting inside and outside the pelvis.



Figure 3: Axial CT with contrast at the level of the distal third of the rectum showing horseshoe perianal abscess and gas bubbles.

Discussion

Fournier gangrene is a rare surgical emergency. Nothing should delay the surgical management if the

diagnosis is clinically proved. Progression of this necrotizing fasciitis is very fast (several centimeters per hour). As in this case report, imaging is essential to ascertain the diagnosis and to assess the anatomical extent.

Abdomen radiography can be useful to spot - often before clinical evidence - the presence of soft tissue gas in the perineal or the scrotal regions, which occur in 90% of the patient. It could also detect scrotal soft tissue swelling.

Ultrasonography can show an edematous and thickened scrotal wall containing hyperechoic foci that generate a "dirty shadowing" appearance. That is caused by the presence of gas in the scrotal wall. US is also able to confirm good testicular vascularization and to exclude other diagnosis like acute epididymitis, testicular torsion or inguino-scrotal strangulated hernia.

Abdominal CT is the more reliable and more specific imaging test in this pathology. Its features in Fournier's gangrene include soft tissue and fascia thickening (mostly asymmetric), fat stranding, subcutaneous emphysema and delimitation of pus collections. Sometimes, CT may also be able to find an underlying cause to fasciitis (perianal abscess, colonic perforation, tubo-ovarian abscess...). There is a strong correlation between the extent of fascial thickening and fat stranding seen on CT and the involved tissue during surgery. CT is also used for follow-up of this condition.

Fournier gangrene is rare but associated with high mortality and morbidity rates and very fast progression. Radiologist should be aware of its modus operandi to precise the diagnosis, define the extension of the disease and call the surgeon without further delay.

Reference

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