

Radiographic Disclosure of Fournier's Gangrene

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كشف شعاعي لغرغرينة فورنييه

يو هانج يه، يوجانج سو، لوشيه كونج، يوشياها سين



Figure 1: Radiography of the kidney, ureter, and bladder (KUB) shows a mottled gas pattern in the subcutaneous tissue over the right scrotal area (white arrows).

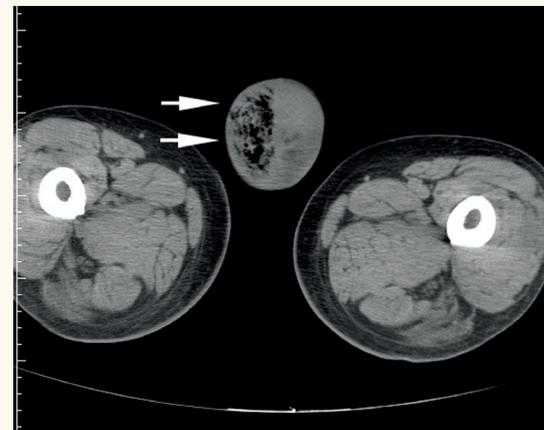


Figure 2: Computed tomography shows emphysema of the right side of the scrotum (white arrows).

FOURNIER'S GANGRENE (FG) IS A life-threatening, necrotising, soft tissue infection which affects the perineum and the perianal and genital areas. The patient rapidly progresses to a debilitated state and may also have underlying systemic diseases such as diabetes mellitus (DM), uraemia, and immunodeficiency disorders. FG is commonest in men aged ≥ 60 years.^{1,2}

Early diagnosis and aggressive surgical debridement can save the patients' lives. Computed tomography (CT) can be used to determine the cause of FG and the tissues involved, but radiographic diagnosis is a more practical approach during initial evaluation, provided the film is carefully examined. A 56-year-old man with a history of DM was admitted to the emergency department of the Mackay Memorial Hospital, Taipei, Taiwan. He had had nausea, dysuria, and progressive perianal and scrotal pain for 5 days. His vital signs at admission were as follows: body temperature, 36.5° C; pulse rate 87 beats/min; respiratory rate 20/min; and blood pressure 105/67 mmHg. The scrotum appeared swollen and palpation indicated tenderness and crepitus. Laboratory results showed leukocytosis with left

shift, and pyuria. Radiography of the kidney, ureter, and bladder (KUB) showed a mottled gas pattern in the subcutaneous tissues over the right scrotal area [Figure 1, white arrows]. The CT scan showed emphysema of the right side of the scrotum [Figure 2, white arrows]. Broad-spectrum antibiotics (piperacillin/tazobactam 4.5 g) were administered every 8 hours. Emergency surgical intervention, including debridement and local flap repair, were performed later by a proctologist, urologist, and plastic surgeon for a total of 5 surgeries. Deep wound culture yielded *Peptostreptococcus* species and *Bacteroides fragilis*. The patient was discharged after 41 days.

FG, which is one of the most important life-threatening surgical emergencies, is a type of necrotising fasciitis that progresses rapidly, and involves the perineal, perianal, and genital regions³. FG is often clinically diagnosed. The disease occurs predominantly in men (96%), and DM was found in 80% of FG patients³. The leading origin sites of infection were the scrotum (52%) and the perineum (38%)³. Both aerobic and anaerobic bacteria were found, and the most common pathogens were *Escherichia coli* and *Enterococcus faecalis* (48% and 28%, respectively).³ In 2007, a ten-year report from northern Taiwan described the most common isolated pathogens involving FG as being *E. coli*, *B. fragilis*, *Klebsiella pneumoniae*, *Enterococcus* spp., and *Proteus mirabilis*.⁴ Compared with radiography and ultrasonography, CT plays a superior role in diagnosing FG and evaluating the extent of the disease.⁵ Important CT findings include

asymmetric fascial thickening, emphysema of the soft tissue, fluid collection, and abscess formation. Broad-spectrum antibiotics and aggressive surgical debridement are essential for treatment. Although early diagnosis of FG by radiography is a practical approach, CT is important for determining the extent of the disease. It is important that emergency physicians consider the possibility of FG among other genital infections if discoloured skin, bulla-like lesions, emphysema, or swelling are noted. CT is imperative for prompt diagnosis of FG, and for effective planning of treatment.

References

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