



GANGRENE OF THE SCROTUM IN CHILDREN: A REPORT OF TWO CASES AT KLOUÉKANMÈ DISTRICT HOSPITAL IN BENIN

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Abstract: -

Introduction: Gangrene of the external genitalia is a rare form of necrotizing fasciitis affecting the external genitalia, perineum, and perianal region. It results from thrombosis of small subcutaneous vessels leading to skin gangrene. Due to its rarity and sometimes atypical presentation, diagnosis and treatment can be delayed.

Case Reports: We present two cases of scrotal gangrene in children, aged 6 and 12 years, treated at a rural hospital in Southwestern Benin. Case 1 involved a 6-year-old boy with a 15-day history of scrotal wound from a domestic accident, fever, and significant scrotal swelling with ulceration and foul odor. Case 2 involved a 12-year-old boy with 3 months of scrotal swelling without trauma, showing erythematous-purulent swelling and pus at the perineal base.

Both patients received emergency scrotal debridement and necrotizing fasciitis excision, along with a triple antibiotic regimen (Ceftriaxone, Gentamicin, and Metronidazole). They also received tetanus antitoxin and daily wound care. The first case had a favorable outcome, whereas the second required additional debridement and local ciprofloxacin treatment due to persistent necrosis, with eventual favorable recovery after three months.

Discussion: Fournier's gangrene is a rapidly progressive necrotizing fasciitis that requires early diagnosis and a multidisciplinary approach, including intensive care, broad-spectrum antibiotics, and comprehensive surgical debridement. Imaging can assist in early diagnosis, though it was not initially required in our cases. Prompt and complete debridement is critical for improving prognosis.

Conclusion: Fournier's gangrene is rare in children with high morbidity and mortality. Early clinical diagnosis and prompt, effective surgical and antibiotic management are crucial for a favorable outcome.

Keywords: Gangrene, scrotum, children.

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INTRODUCTION

Gangrene of the external genitalia is a necrotizing fasciitis affecting the external genitalia, perineum, and perianal region, caused by thrombosis of small subcutaneous vessels leading to skin gangrene [1, 2, 3]. Its rarity and sometimes atypical presentation often result in delays in diagnosis and treatment [4]. K. TAZI et al. [5] reported 51 cases of external genitalia gangrene in Morocco over a nine-year period. In Benin, HODONOU et al. reported 60

cases of penile-perineal-scrotal gangrene collected over 8 years and 8 months in 2000 [6]. We report here two cases of scrotal gangrene in children aged 6 and 12 years treated at a rural hospital in Southwestern Benin.

CLINICAL OBSERVATION

Case 1: This was a 6-year-old boy with no significant medical history, admitted to the emergency department for a scrotal wound resulting from a domestic accident evolving over 15 days. The

patient presented with fever at 39.5°C, general malaise, a pulse of 110 beats/minute, and blood pressure of 130/70 mm Hg. Physical examination revealed scrotal swelling approximately 7-8 cm in long axis, ulcerated with irregular, deep borders, containing fibrinopurulent material exposing the testicular fat, and a foul odor (Image 1). Laboratory tests showed leukocytosis at 12 G/L, inflammatory anemia with hemoglobin at 9 g/L, C-reactive protein at 96 mg/L, creatinine at 11 mg/L, and hyponatremia at 122 meq/L.

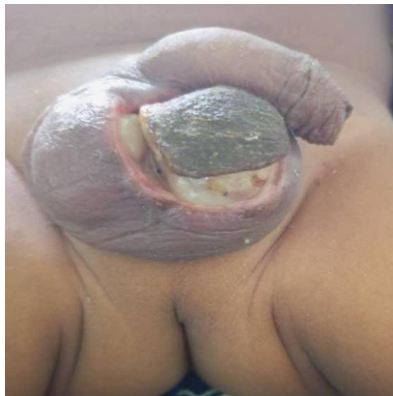


Image 1: Appearance of Gangrene of the External Genitalia

Case 2: This was a 12-year-old adolescent with no significant medical history, admitted for a wound and scrotal swelling evolving for 3 months without a history of trauma. Physical examination revealed swelling extending from the shaft of the penis to the navicular fossa, as well as scrotal swelling approximately 6-7 cm in long axis, erythematous-purulent, with local warmth and loss of scrotal folds, and pus at the perineal base. The testicles were present in the scrotum, but the left epididymis was slightly hypertrophied, making palpation difficult (Image 2).



Image 2: Penile-Perineal-Scrotal Swelling

Both patients underwent emergency scrotal debridement and necrotizing fasciitis excision. A triple antibiotic regimen consisting of Ceftriaxone, Gentamicin, and Metronidazole was initiated. They also received tetanus antitoxin and daily wound dressings. Postoperative outcomes were straightforward for the first case, with good recovery. However, for the second case, persistent necrotic areas were noted on postoperative day 5, necessitating additional debridement, followed by further procedures on day 21 with pus culture revealing *Pseudomonas* sp. sensitive to ciprofloxacin. Local ciprofloxacin treatment was administered, and recovery was favorable after three months.

DISCUSSION

Fournier's gangrene is a rapidly progressive necrotizing fasciitis, with a progression rate of 1-2 cm/hour. It often begins with a focal infection of the perineal skin that spreads along the fascias. First

described by French venereologist Jean Alfred Fournier in 1883, it is rare in children, with very few cases reported in the literature. In adults, predisposing factors such as diabetes, alcoholism, immunosuppressants, long-term corticosteroid use, HIV, and malnutrition are well recognized [7, 8]. In children, it is often associated with trauma, insect bites, circumcision, burns, or systemic infection [9, 10], which aligns with our findings.

Diagnosis of external genitalia gangrene is primarily clinical. Although some authors have used computed tomography to confirm the diagnosis [11-13], one patient in our series had imaging. Imaging is crucial for early diagnosis, as it can identify gangrene before the appearance of subcutaneous crepitus, allowing for prompt and appropriate treatment [13].

Fournier's gangrene is a true surgical emergency requiring early diagnosis and a multidisciplinary approach including intensive care, broad-spectrum antibiotics, and surgical debridement. Early debridement is critical and must be complete and repeated if necessary to improve prognosis [8]. Diverting urine and feces is often indicated to facilitate wound decontamination and healing [9, 10]. In our cases, only a transurethral bladder catheterization was needed. Secondary closure is indicated once all devitalized tissue has been excised and infection eradicated. Due to the significant tissue loss and ongoing development of the gonads, closure options include large skin grafts, axial or myocutaneous flaps, but in our cases, directed healing was performed over approximately two months.

CONCLUSION

Fournier's gangrene is rare in children and associated with high morbidity and mortality. Diagnosis remains primarily clinical and constitutes a surgical emergency. Effective management requires appropriate antibiotic therapy and prompt, comprehensive surgical intervention.

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