

## Images in Surgery

### Fournier's gangrene associated with lymphedema praecox in the scrotum.

Bariş Saylam, Mehmet Onur Gülseren, Mehmet Vasfi Özer, Faruk Coskun

Ankara Numune Teaching and Research Hospital, General Surgery

A 36-year-old man affected by lymphedema of both lower extremities and the bilateral genital region, presented with a 2-month history of an induration and swelling on the scrotum. There was no family history of lymphedema, neither had there been any preceding traumatic event in this area. The presentation and disease course are consistent with lymphedema praecox, which is a subtype of primary lymphedema with onset at puberty and a slowly progressive course (Fig.1). The treatment with various systemic antibiotics and anti-inflammatory drugs during the previous month was ineffective. Physical examination showed spontaneous drainage of scrotal abscess and poor hygiene in scrotal area (Fig.2). Furthermore, the scrotum was gangrenous with extensive cellulitis of the perineum and lower abdominal wall. Crepitations between the skin and fascia were palpable. His laboratory data on admission showed the following: white blood cells (WBCs)  $18,000/\text{mm}^3$ , neutrophils 83.5 percent, erythrocyte sedimentation rate 35 mm/hour, hemoglobin 10.1 g/dL, sodium 127 mmol/L, potassium 3.7 mmol/L, total protein 3.5 g/dL, and serum albumin 1.2 g/dL. Scrotal ultrasonography revealed fluid collection with internal echoes in the scrotum measuring  $15 \times 12$  cm, consistent with a scrotal abscess, which was aspirated and grew highly sensitive *Staphylococcus aureus*.



**Fig 1. Bilateral lower-limb lymphedema.**

A diagnosis of Fournier's gangrene (FG) complicating a scrotal abscess was made. The patient underwent

aggressive fluid administration and hemodynamic support. He was treated with immediate extensive surgical debridement under general anesthesia. The necrotic skin in the scrotum and the perianal region was evacuated into a wide-open drainage area, without any damage to the testicles spermatic cords, or external sphincter. In addition, a diverting ileostomy was performed. He underwent two subsequent surgical debridements. The infection gradually subsided, the gas gangrene resolved completely, and good granulation was present two weeks after surgery. The patient was finally discharged on the 38th postoperative day.



**Fig 2. Scrotal abscess with Fournier gangrene.**

Lymphedema may result from primary or secondary causes. Primary lymphedema results from a congenital defect in the lymphatic circulation and is categorized according to the age of onset as congenital (Milroy disease), praecox (Meige disease), or tarda (1,2). Lymphedema praecox (Meige disease) which is the most common form of primary Lymphedema, usually occurs in females and

develops after puberty, during pregnancy or prior to the age of 35 [1]. The classic presentation is of unilateral involvement of a lower extremity although involvement of both lower extremities and of the upper extremities is not uncommon [2].

Fournier gangrene is a necrotizing infection that involves the soft tissues of the male genitalia(3). Comorbid diseases that compromise the immune system have been implicated as necessary predisposing factors for the development of Fournier gangrene. Diabetes mellitus (present in 32–66% of all cases of FG), chronic ethanol abuse (reported in 20–60% of patients), steroid therapy, hematologic or other malignancy, chemotherapy and HIV infection, paralysis or neurologic deficit are conditions that predispose to the development of FG. Most of these conditions are related to impaired microcirculation and to immunosuppression(4). This is the first case of FG has developing in a lymphedema praecox patient. Hygiene has a role to play in almost all skin infections and Fournier's gangrene is no exception. Since this patient had poor hygiene and no obvious inciting factors were found, we have concluded that poor hygiene can be a cause of Fournier's gangrene at lymphedema praecox. Proper health education regarding good hygiene of lymphedema praecox can probably prevent Fournier's gangrene.

## References

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### Corresponding Author

**Faruk Coskun**

**Ankara Numune Hastanesi**

**3. Cerrahi Kliniği**

**Talatpaşa Bulvarı 06100**

**Altındağ /Ankara/Turkey**

**Phone: 0-0-90-312-5085075**

**Fax: 0-0-90-312-177080**

**e-mail: farukcoskun@mynet.com**