INTRODUCTION

Fournier's Gangrene (FG) is a type of necrotizing infection or gangrene usually affecting the perineum. Penile gangrene is a rare disease because of rich collateral circulation and blood flow in the perineum and lower abdomen. We report an unusual and rare presentation of FG with isolated glans penis necrosis in a 62-year-old man. The patient underwent subtotal penectomy and closure of the wound with penile skin flap after covering the spongious tissue with dartos fascial flap enclosing the urethra. The recovery phase was uneventful and the patient had no urinating symptoms during follow-up.

CASE REPORT

A 62-year-old man applied to our outpatient clinic of urology with a painful lesion on the glans penis for 2 days. He had a past medical history of Diabetes Mellitus (DM), Chronic Renal Insufficiency (CRI) and hypertension. There was midcalf amputation history secondary to diabetes mellitus in right lower extremity and no history of trauma to penis or perineal region. Local examination revealed a scotch 5 mm in diameter on glans penis. There were no crepitus, necrosis, fluctuation, tenderness or edema. There were also no systemic signs of severe infectious condition such as fever or damaged vitals. Due to the small scotch and rich collateral circulations and blood flows of penile tissue, the patient was treated with topical pomade outpatient therapy including bacitracin and neomycin sulphate, three times a day and control examination was recommended three days later. The patient did not apply for control examination; he reapplied with deterioration of the scotch 7 days later. Second examination revealed blackish discoloration 3 cm in diameter on glans penis (Figure 1a). There were focal crepitus, fluctuation, tenderness and edema. Penile Fournier's gangrene was diagnosed with these signs. Patient had no systemic signs such as fever, damaged vitals or tachycardia. There was no another foci of infection in the genito-perineal area or abdominal wall. The prostate gland was normal on rectal examination.

Patient was hospitalized and infectious diseases consultation suggested piperacillin/tazobactam combination (2 g/0.25 g) parenterally three times a day for empirical treatment. Routine hematological examination revealed no abnormality, except the increased percentage of neutrophil (Neu%). (WBC: 6.71 x 10⁹/L, Neu %: 76.3). Random blood sugar, blood urea, serum creatinine, Blood Sedimentation Rate (BSR) and serum C-Reactive Protein (CRP) levels were elevated (BSR: 98 mm/h, CRP: 74 mg/L). The necrotic areas were debrided; there was expansive necrotic tissue in spongious tissue of glans penis below the necrotic infectious foci and cavernosal tissues were intact at emergency debridement. Subtotal penectomy including glans penis was performed (Figure 1b), and samples were collected for microbiological and pathological investigation. There was no infectious agent in microbiologic examination of the discharge and urine. The examination did not include anaerobic investigation because of the technical conditions of our state hospital. First empirical antibiotic regimen was carried on.

After repeated debridement and dressings the penile stump was healthy at postoperative fourth day. The

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ABSTRACT

Fournier's Gangrene (FG) is a type of necrotizing infection or gangrene usually affecting the perineum. Penile gangrene is a rare disease because of rich collateral circulation and blood flow in the perineum and lower abdomen. We report an unusual and rare presentation of FG with isolated glans penis necrosis in a 62-year-old man. The patient underwent subtotal penectomy and closure of the wound with penile skin flap after covering the spongious tissue with dartos fascial flap enclosing the urethra. The recovery phase was uneventful and the patient had no urinating symptoms during follow-up.

Key Words: Fournier's gangrene. Glans penis. Subtotal penectomy.
DG is a rarely seen necrotizing infection that is limited in the scrotum and penis in most cases. Occasional extension of the disease as involvement of the abdominal wall may occur. The disease is a severe condition with high morbidity and mortality. Diagnosis is based on clinical signs and physical examination. Radiological methods may help to delineate the extent of the disease. Dissemination of the disease was found to be a major determinant of patients' outcomes in previous reports. The mortality rate for it is still high (20 - 50%) in most contemporary series, despite an increased knowledge of the etiology and developments in diagnosis, treatment and intensive-care techniques. Early diagnosis, aggressive resuscitation of the patient, administration of broad-spectrum antibiotics and aggressive radical surgical debridement(s), are the key of successful treatment.5,6 Trauma, recent surgery, the presence of foreign bodies, perianal, perirectal and ischiorectal abscesses, anal fissures, colonic perforations, epididymo-orchitis or hidradenitis may lead to the disease. Poor perineal hygiene or the presence of chronically indwelling catheters, such as in paraplegic patients, poses an increased risk. Some conditions that lead to depressed cellular immunity such as diabetes mellitus (60% of cases), alcoholism, extremes of age, malignancy, chronic steroid use, cytotoxic drugs, lymphoproliferative diseases, malnutrition and human immunodeficiency virus infection may predispose development of FG.7 This patient had a predisposing factor of DM complicated with CRI. FG wound cultures revealed that it was a polymicrobial infection. Escherichia coli is the predominant aerobe, and Bacteroides species the predominant anaerobe. Other common infectious agents are Proteus, Staphylococcus, Enterococcus, aerobic and anaerobic Streptococcus, Pseudomonas, Klebsiella and Clostridium strains.7

Treatment of FG includes immediate hospitalization, broad spectrum parenteral antibiotics and timely surgical debridement.4 In some cases, orchidectomy and penis amputation may be necessary for treatment.8 Chiang et al.3 performed subtotal penectomy for 5 cases and no serious complications were seen in their one year follow-up. Two patients needed suprapubic bladder catheterization because of benign prostatic obstruction and bed dependency whereas 3 had no urinating symptoms. In this case, we also performed immediate debridement involving subtotal penectomy with administration of broad spectrum parenteral antibiotics after diagnosis.

Isolated penile FG is very rare disease that may be a cause of mortality.3 Early definitive treatment of the disease may have significant role for preventing progression of the disease and for quality of life, especially in patients with systemic severe diseases such as DM, CRI or atherosclerosis. Surgical treatment of the disease may include penectomy as our case and performing partial or total penectomy in appropriate cases can reduce mortality and progression of the disease.

REFERENCES