CASE REPORT

Gangrene of the Penis

M Lwin, FRCS*
M A H Abdullah, MBBS**
* *Department of Surgery, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan*
** *Department of Orthopaedics, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan*

Summary

A case of gangrene of the penis, rarely seen at our University Hospital is reported. Urolithiasis, urinary tract infection, infected piles and anaemia were found to be associated with the condition. Because of rapid spread of the gangrene, partial amputation was required in this reported case.

Key Words: Gangrene, Penis, Amputation

Introduction

Although Fournier's gangrene or necrotising fasciitis which affect the male external genitalia, perineum and perianal region is not uncommon, isolated gangrene of the penis is a rare occurrence. Even for Fournier's gangrene, only 386 cases were reported in the English language literature, between 1763 and 1978, and an additional 11 cases recorded between 1979 and 1988[1]. The most commonly reported aetiologies were colorectal and genitourinary. Various management trends were followed with the hope of preventing amputation of the penis but failed in most cases. We report a case of penile gangrene and discuss the possible causes and treatment.

Case Report

A 76-year-old Malay farmer presented with a three-day history of persistent sharp pain in the penis. There was no preceding history of injury or animal bite. He also denied any history of diabetes mellitus, priapism, heart disease or urinary tract infection. On the following day, he noticed blackish discoloration of the tip of the penis and offensive foul smell. On examination he was anaemic, mildly dehydrated and was in pain. He looked apprehensive and uncomfortable because of the smell. His general condition was satisfactory. The vital signs were normal. There were no features of septicaemia. His cardiovascular, respiratory and neurological examinations were normal. Pedal pulses were present. Examination of the external genitalia showed that the glans penis and distal penile shaft were gangrenous, exuding offensive odour but no crepitations. The proximal penile shaft was indurated, hyperaesthetic and tender. The base of the penis, symphysis pubis and inguinal areas were also tender, indicating impending gangrene. The inguinal lymph nodes were not palpable. The scrotum, testes and spermatic cords were normal. Prostate gland was enlarged on per rectal digital examination and there was prolapsed and infected piles. Laboratory investigations revealed haemoglobin 8.5 gm%, total white count 11.2×10^9/cu mm, with neutrophil 93.5% and lymphocytes 5%. Blood urea and serum electrolytes were normal. Random and fasting blood sugar levels were 7.2 mmol/L and 5.6 mmol/L respectively. Urine examination showed numerous pus cells, with a heavy growth of Escherichia coli on culture, sensitive to cefotaxime and gentamicin. Plain abdominal X-ray revealed a rounded, radio-opaque shadow in the suprapubic area suggestive of vesical stone. Ultrasound examination of the urological

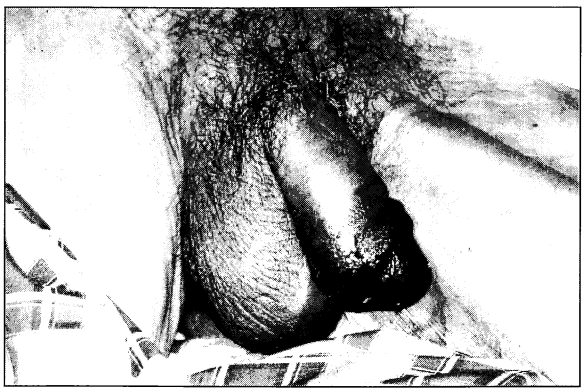

Fig. 1: Gangrene of the glans and distal shaft of the penis

system revealed enlarged prostate with a single, 3.5cm x 2.5cm stone in the urinary bladder. There was bilateral hydronephrosis and hydroureters with a very thin left renal cortex. Intravenous urogram showed nonfunctioning left kidney confirmed by radioisotope renal scan. Urodynamic studies were not done because of patient's unwillingness to have the test.

He was treated by parenteral cefotaxime and metronidazole. His anaemia and dehydration were corrected. The infected piles was treated conservatively. Because the gangrene was spreading, emergency partial amputation of the penis was performed. Cultures were taken from the site of gangrene during operation. They revealed heavy growth of Escherichia coli which was also sensitive to cefotaxime and gentamycin. He made an uneventful postoperative recovery and removal of bladder stone, transurethral prostatic resection and left nephrectomy were due in three weeks' time. The histopathology of the amputated penis confirmed that it was gangrenous with a stone impacted in the navicular fossa.

Discussion

Gangrene of the penis results from compromised blood supply with or without concomittant infection. It is known to be associated with extravasation of urine, priapism, pressure dressing or tight bands around the penis, Wegener's granulomatosis, septic embolism from intravenous drug abuse, penile prosthetic implantation, perivascular invasion of the penis by the tumour and uncontrolled, insulin-dependent diabetes mellitus[2]. Other factors like local infection, urinary tract infections, urethral calculi, urethritis with phlegma, urethral catheters, colorectal diseases, immunodeficiency states and lymphoproliferative diseases may also be contributory. In this case report, the most probable underlying and contributory factors were infected piles, urethral calculi, anaemia and old age with probable underlying vascular insufficiency. The probability of forgotten local minor injury with superadded infection also needs to be considered.

The basic principles in the management of gangrene of the genitals include treatment of the underlying conditions like urinary stones, urinary extravasation and infected piles as encountered in this case. In the presence of obstruction, urinary diversion by suprapubic catheterisation may be necessary. Pre- and intraoperative cultures are useful and intravenous broad spectrum antibiotics are required including coverage of anaerobes. Hyperbaric oxygen and topical application of unprocessed honey[3] were claimed to offer better outcome in its management, in terms of morbidity and mortality, thus obviating the need for mutilating amputation. Prompt surgical drainage or debridement is required for local management. In cases of late presentation with spreading gangrene, penile amputation cannot be avoided, as illustrated by this case report. In spite of diligent care, amputation becomes inevitable.

References

1. Stephens BJ, Lathrop JC, Rice WT, Gruenberg JC. Fournier's gangrene: historic (1764-1978) versus contemporary (1979-1988): differences in aetiology and clinical importance. Am Surg 1993;59(3) : 149-54.

2. Bejany DE, Perito PE, Lustgasten M, Rhamy RK. Gangrene of the penis after implantation of penile prosthesis: case reports, treatment recommendations and review of the literature. J Urol 1993;150 : 190-2.

3. Efen SE. Recent advances in the management of the Fournier's gangrene: preliminary observation. Surgery 1993;113(2) : 234.