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Isolated penile Gas gangrene in spinal cord injury secondary to priapism: A case Report

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ABSTRACT

Priapism as such is rare in spinal cord injury. It can be ischemic or non ischemic Priapism. The ischemic variety is painful and spontaneous while non ischemic is painless making diagnosis delayed. Penile gas gangrene in spinal cord injury is rare, but could be initiated in patients with ischemic Priapism as a triggering factor. Mortatility can be reduced by awaring care givers, general practitioners and paramedical staff about absence of penile pain in Priapism underlying spinal cord injury , which needs early recognition and appropriate management.

Key words: spinal cord injury(SCI), Priapism, Necrotizing infections.

Introduction

Genital skin has a higher incidence of bacterial colonization following spinal cord injury patients compared to normal individuals. Many neurologic conditions including spinal cord injury, sacral tumors, transeverse myelitis, transurethral surgery and spinal anaesthesia acts as a risk factor for priapism .Disturbances in the neuroregulation of penile erection at central or peripheral nervous system forms probable basis for priapism.

Case Report

A 38 yrs old patient married, having 3 children had spinal cord trauma with multiple fractures of lumbo dorsal vertebrae about 8 months back. The patient was paraplegic, bed ridden and was on indwelling catheter. Patient attendants noticed painless erection which was followed by swelling of phallus and subsequently developed swelling and ulceration of phallus. (Figure3)Patient was referred to our centre with extensive crepitus in phallus with foul smelling discharge. All his blood examinations including peripheral blood smear for hematologic malignancies were normal excluding raised total leucocyte count only .As there was delayed referral, no blood gas analysis from corporal was possible because of severe necrotizing fasciitis. NCCT phallus (Figure1,2)was done which revealed edema and extensive gas formation in all three corpeal bodies. NCCT pelvis shows gas in only corporeal bodies which was unique in this patient. No such Case is mentioned in literature. Informed consent was taken. Patient was put on broad spectrum antibiotics and serial debridement of penile tissues was performed. As the clinical course progressed, Subsequently patient underwent total penectomy with perineal urethrostomy(Figure 4) . Histopathology examination showed features of gas gangrene with multiple microabscess formation.

Patient was discharged on the tenth post operative period in stable condition with special emphasis on perineal hygiene and caretakers were instructed to do continuous intermittent catheterization through perineal urethrostomy.

Discussion

Genital skin has a greater incidence of bacterial colonization following spinal cord injury patients as compared to normal individuals. Certain infections progress rapidly with severe soft tissue destruction and are referred as necrotizing fasciitis. In 1883,Fournier termed a specific necrotizing infection involving the perineum.1 Polymicrobial infections tends to complicate the flora in necrotizing infections than a single organism. 2 A variety of neurologic conditions may serve as risk conditions for priapism such as syphilis, brain tumors, brain and spinal cord injury. In ischemic priapism(low –flow) the blood remains in phallus for unusually long periods of time, the blood becomes deprived of oxygen with resultant damage and superadded infection with disfigurement of the phallus . In high-flow priapism the penis is usually painless; blood sampled from the corpus is arterial, in appearance on blood gas analysis. Aspirated Blood gas analysis from corpora and penile ultrasonography with Doppler helps in diagnosis3.Priapism in acute traumatic spinal cord injury is a short – lasting phenomenon,which must be distinguished from recurrent or refractory priapism that occur in patients with chronic spinal cord injury.4 It is assumed that the mechanism of priapism in most patients with SCI is that abrupt loss of sympathetic input to the pelvic vasculature leads to increased parasympathetic input and uncontrolled arterial inflow directly into the penile sinusoidal spaces. As our patient was paraplegic post SCI 8 months, priapism must has occurred with superadded genital infections in presence of indwelling catheter and what was unique in our case, only three corporeal bodies were involved evident on NCCT phallus (fig 1 and 2) and no other spreading necrotising fasciitis. with this finding we want to highlighted that possibility of ischemic priapism (low flow) in chronic SCI ,which usually occurs in haematological disorders such as leukemia, sickle cell disorders, drugs or pelvic malignancy. Following acute traumatic SCI, priapism settles rapidly. In Gordon et al's5 six patients with post-SCI priapism, four were treated conservatively and the erection settled spontaneously within 5 h in all cases. The author has seen one case of persistent priapism 24 h after complete SCI, which resolved without specific treatment. Patients with spinal cord injury have impaired sensation and need early recognition of the Priapism so that the consequences of infection are taken care of before hand. With priapism the thermodynamics of perineum changes and predisposes infection to blow up. Deadly organism like gas forming takes the lead.

CONCLUSIONS

Priapism was unnoticed in this patient due to absence of pain which progressed to ischemic injury to endothelial lining of corporas with superadded genital infections. It proved to be organ limiting in the above patient. If neglected could have been fatal in this patient. Henceforth it is advised that attendents of such patients should be counseled to anticipate erections and take timely medical advice. Another highlight of this presentation to sensitize treating doctors to early detect perennial infections in spinal cord injury patients. These patients have tendency to ignore perineum due many factors like modesty, lack of sensation and difficult approach.

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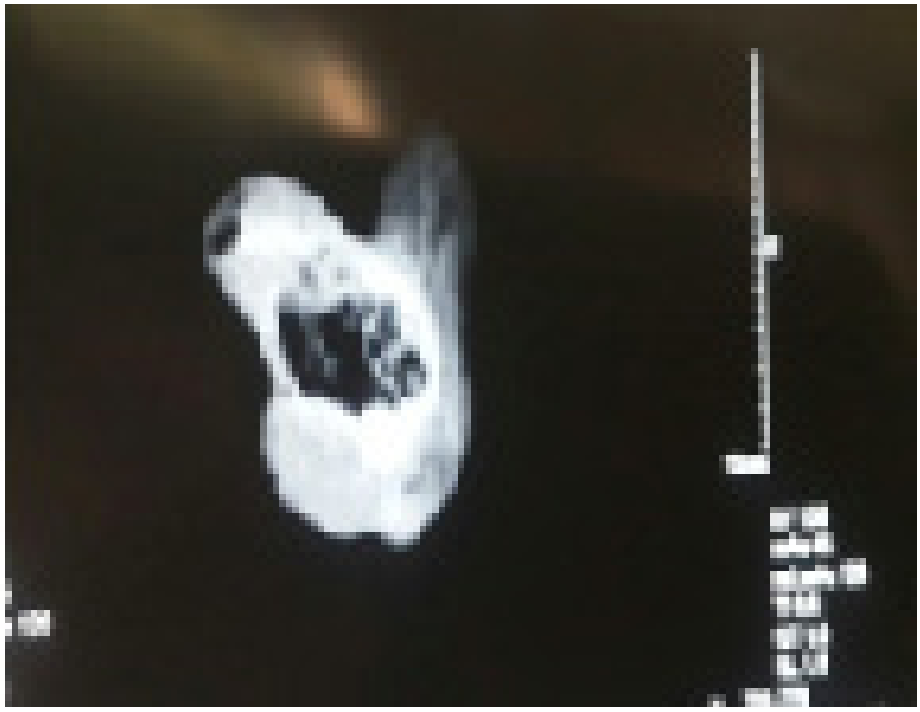

Fig 1: NCCT showing gas in all three corporeal bodies

Fig 2: NCCT showing gas in all three corporeal bodies with cathter in situ.

Fig 3: Extensive necrosed tissue of corporeal bodies.

Fig 4: Total penectomy specimen.