



Fournier's gangrene in a neonate – A CASE REPORT

KEYWORDS

Neonatal Fournier's gangrene, antibiotics, surgical debridement.

Dr.Muthukumaran jagannathan

corresponding author,

Dr.Bala subramaniam

Professor, **Resident Department of Pediatric surgery,
Institute of child health and hospital for children,
Chennai, Tamil Nadu

ABSTRACT

Fournier's gangrene, an infective necrotizing fasciitis of perineal, genital or perianal region is a serious pathologic entity, primarily affects adult and very rarely in neonatal period. Here in we report a case of Fournier's gangrene, in a neonate, who presented with cellulitis of scrotum and perineal region and subsequently developed gangrene, which was treated by broad spectrum antibiotics and repeated surgical debridement. The child improved with no major complications. Polymicrobial infection was held responsible for the gangrene. Importance was given on vigorous treatment which included hemodynamic stabilization, parenteral broad spectrum antibiotics and surgical debridement. Our reported case responded well to combination of antibiotics and repeated surgical debridement

CASE PRESENTATION:

A 20-days old male child, term, delivered via naturalis, birth weight-3kg was referred to us with complaint of scrotal swelling and cellulitis of groin, perineum and thigh for 3 days. Swelling initially started as a pustule in the left hemiscrotum, suddenly increased in size and rapidly spread to adjacent tissues (Fig.1). No history of any injury. On examination, both scrotum and penis were swollen, loss of scrotal rugosity, erythematous and edema present. Bilateral testicular torsion was suspected, but ultrasonogram scrotum report came as cellulitis of scrotum; both testes showed normal vascularity. Hence, we started the child on intravenous antibiotics. Subsequently, sloughing of scrotal tissue began. Extensive surgical debridement done under general anaesthesia, all devitalised and necrotic tissues were excised up to the level of normal skin (fig.2) and wound swab taken. Pus culture grew *Escherichia coli* $>10^5$ sensitive to piperacillin and amikacin. Hence broad spectrum parenteral antibiotics and metrogyl were started based on pus culture and sensitivity report. Daily dressing & repeated wound debridement done. Complete blood count done and report showed haemoglobin-8gms%, platelet-20,000 and packed cell volume-24%. Blood urea – 50mg/dl and creatinine-0.5mg/dl. Blood group-O+ve.. Packed red blood cells, platelets and FFP transfusion done on alternate days. Daily dressing and repeated wound debridement done with betadine and saline dressing. Child recovered well and platelet count rose to 1 lakh. Cellulitis completely settled and wound started to heal well. Initially, scrotal closure surgery was planned, but surprisingly scrotal skin started to overgrow around the testis, hence secondary suturing was deferred and the wound healed completely without any skin defect.

Discussion

Fournier's gangrene is characterised by rapid spread of inflammation and infection with widespread necrosis of fascia, subcutaneous tissue and overlying skin. It is usually reported in adults with pre existing medical condition or compromised immune system. It is rare in neonates and the reported mortality is close to 50%[1]

The underlying cause of Fournier's gangrene may lie in urinary tract, colorectum or local skin and the usual offending organisms are *Escherichia Coli*, Bacterioids, Staphylococci,

Streptococci, and Clostridia etc. In our case the main organisms involved was *E Coli*. The process begins as an area of infection adjacent to the portal of entry. The infection then progresses as a spreading inflammatory reaction resulting in obliterative endarteritis causing cutaneous and subcutaneous vascular thrombosis and necrosis of the tissue [2,3]. Usually the diagnosis is made on clinical grounds. A plain X-ray of the local area may demonstrate gas in the subcutaneous and soft tissues. Ultrasound examination of scrotum distinguishes Fournier's gangrene from intrascrotal pathology.[3] Bacteriological examination reveals the responsible organisms. The management of Fournier's gangrene should be prompt and aggressive. This includes resuscitation with I. V. fluid, blood and broad spectrum parenteral antibiotics (combination of a third generation cephalosporin, gentamycin and metronidazole). Surgical debridement of necrotic tissues will control spread of infection and induce reduction of systemic toxicity. Some authors have advocated the use of hyperbaric oxygen and topical applicants [5]. Here our case responded well to antibiotics and repeated surgical debridement. The usual complications of Fournier's gangrene include scrotal, testicular and penile tissue loss. Mortality as reported by different authors ranged from 3% to 45% and was due to severe sepsis and coagulopathy [4].

Conclusion

Fournier's gangrene of scrotum is extremely rare in newborn. However, it should be considered as a differential diagnosis for acute scrotum. Aggressive management should be done with complete surgical debridement and parenteral antibiotics along with hemodynamic stabilisation.



**REFERENCE**

1. Nazir Z. Necrotizing fasciitis in neonates. *Pediatr Surg Int.* 2005;21:641–644. doi: 10.1007/s00383-005-1481-y. || | 2. Clayton MD, Fowler JE Jr, Sharifi R. Causes, presentation and survival of 57 patients with | Necrotizing fasciitis of the male genitalia. *SurgGynaecol Obstet* 1990; 170:49-55. || | 3. Smith GL, Bunker CB, Dineen MD. Fournier's Gangrene. *Br J Urol* 1998; 81:347- | 355. || | 4. Eke N-Fournier's gangrene : a review of 1726 cases . *Br J Surg* 2000;87:718-728. || | 5. Paty, R.SmithAD. Gangrene and Fournier's gangrene. *Urol clin North Am* , 1992;19:149-162. |