Although Fournier's gangrene is primarily a disease of adults, it has been rarely described in children. This is a report of our experience with the management of 2 patients aged 14 and 36 days. The predisposing factors were omphalitis and in one it followed circumcision. Both patients had debridement and the wounds healed by secondary intention. They were discharged and are alive and well. The outcome of treatment of Fournier's gangrene in children is good.

Introduction

Fournier's gangrene (FG) was initially described as a disease of young adults of unknown cause by Alfred Fournier in 1883. [1] The disease is now recognized as necrotizing fasciitis of infective origin with a definite source of infecting organisms which may be so trivial as to be undetected. There are also few reports of FG in children. [2],[3],[4],[5] This is a report of our experience with the management of this uncommon problem in childhood.

Case History

Case 1
A 14 day old male newborn with a wound observed on the scrotum 5 days prior to presentation. The pregnancy and labour were unsupervised and the mother delivered at home. The child was noticed to have umbilical discharge associated with progressive abdominal distension. Examination revealed a sick neonate, febrile (temperature - 39.4 °C) and very pale. He was uncircumcised and had an ulcer on the anterior aspect of the scrotum [Figure 1]. The blood count revealed anaemia (pcv-15%) and wound culture yielded Escherichia coli and Staphylococcus aureus. He was resuscitated with intravenous fluids and blood transfusion. He was placed on parenteral broad spectrum antibiotics gentamicin, ampclox and metronidazole. He was also given antitetanus serum. All necrotic tissue was debrided and his wound healed by secondary intention and he was discharged from hospital 20 days after admission.

Case 2

A 36 day old infant presented with fever and pain over the perineum. This followed circumcision 7 days earlier. Examination revealed necrotic tissue over the distal parts of the penis, anterior aspect of the scrotum and over the left thigh. There were also areas of hyperaemia and swelling [Figure 2]. He was resuscitated and broad spectrum antibiotics administered (gentamicin, ampclox and metronidazole). He had debridement of all devitalised tissue. He did well and his wound healed by secondary intention with wound dressing. He was discharged after 23 days on admission.

Discussion

FG is primarily a disease of adults. However, it is uncommonly described in children.
[2],[3],[4],[5] Our description of the problem in a neonate and an infant will be an addition to the literature on FG in children. The original description characterized the condition as of sudden onset in a healthy young male with a rapid progression to gangrene and the absence of a definite cause. [1] However, it is now recognized as an infective necrotising fasciitis.

The source of infection may be urogenital (45%), anorectal(33%), or cutaneous (21%). [6] The predisposing factors for FG include abscesses, omphalitis, diaper rash, surgery like circumcision and herniorrhaphy, burns, insect bites, anorectal trauma, nephritic syndrome. [2],[3],[4],[5],[7] Others include systemic disorders like immunocompromised states, haematologic malignancies. [6] Omphalitis and circumcision were the predisposing factors in our patients. However, we did not screen any of the patients for human immunodeficiency virus infection (HIV). In adults systemic disorders like diabetes, alcoholism, malnutrition and HIV play important role in the development of FG. [8]

One of our patients presented with severe neonatal sepsis and anaemia. An aggressive resuscitation with intravenous fluids, parenteral broad spectrum antibiotics and including blood transfusion should be instituted. Surgical debridement in the above case was carried out by the bedside.

Infection is frequently polymicrobial gram negative organisms, gram positive organisms and even anaerobes. In one of our patients the culture grew Escherichia coli and Staphylococcus aureus. We treated both patients with debridement and allowed the wound to heal by secondary intention. This was associated with a longer hospital stay. Some authors advocate for closure once the wounds are clean as this will reduce the length of hospital stay. [5] When the source of infection is from the anorectal region or when urinary extravasation or peri-urethra inflammation is present, urinary or faecal diversion is indicated to reduce contamination and allow wound healing to take place. [9] We did not have to divert the urine or faeces in any of our patients.
The prognosis of FG is more favorable in children [2],[3],[4] than adults. Eke, [10] has also found the prognosis to be better in his Nigerian series of adults. This is probably because of the predominance of skin source of infection which is associated with a better outcome than when the source is from the anorectal region [11] and also the low incidence of premorbid systemic disorders in these group of patients.

Figures
A report of 2 cases: Fournier's gangrene in children
Sunday, 22 May 2011 10:35 - Last Updated Sunday, 22 May 2011 11:00
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