Case report

Ecthyma gangraenosum – a trap for the unwary

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Neutropaenic patients are at particular risk of developing a pseudomonal fasciitis known as ecthyma gangraenosum.\textsuperscript{1,2} Despite the similarities with necrotising fasciitis, Fournier’s gangrene has a very different aetiology and management.

A 3-year-old boy undergoing treatment for acute lymphoblastic leukaemia became profoundly neutropaenic 10 days after his chemotherapy began. He became shocked, with a high temperature and a hot erythematous penis and scrotum with areas of necrosis (Fig. 1). A provisional diagnosis was made at his local hospital of Fournier’s gangrene and he was transferred to the regional paediatric centre for further treatment. Blood cultures and swabs of the area grew \textit{Pseudomonas aeruginosa}. We made a clinical diagnosis of ecthyma gangraenosum and he was aggressively treated with intravenous fluid resuscitation, antibiotics and granulocyte colony stimulating factor (GCSF). He recovered fully after 5 days when his neutrophil count started to rise. The area of necrosis of his scrotum healed completely with only a small residual scar (Fig. 2); part of his foreskin did not recover and he required a partial circumcision at 2 months to tidy the scar.

Discussion

Neutropaenic patients are at particular risk of developing a pseudomonal fasciitis known as ecthyma gangraenosum.\textsuperscript{1,2} The patient develops black necrotic ulcers on the buttocks and perineal region; these are initially small but, without treatment, will spread and coalesce. Despite the similarities with necrotising fasciitis and Fournier’s gangrene in terms of the spreading cellulitis and obvious necrosis of the skin and fascia of the perineum and the profound sepsis evidenced by the patient’s clinical appearance, this condition has a very
different aetiology and management. Necrotising fasciitis is caused by a β-haemolytic Streptococcus spp., while Fournier’s gangrene is usually caused by the synergistic action of a Gram-negative Bacillus spp. and an anaerobe. Though these patients require high dose benzylpenicillin and clindamycin antibiotics with fluid resuscitation, the treatment is primarily radical – often mutilating, surgical debridement. Late closure of defects using skin grafts and tissue flaps may be required.

Ecthyma gangraenosum, however, occurs in neutropaenic patients being treated with chemotherapy for malignant haematological disease and is caused by P. aeruginosa. The classic early appearance is of discreet black ulcers on the buttocks and perineum; however, these rapidly coalesce and develop into a Fournier’s-type picture. Diagnosis is based on demonstration that the patient is profoundly neutropaenic together with blood cultures and skin swabs positive for Pseudomonas spp. Treatment is primarily medical with an antibiotic regimen including aminoglycoside with an antipseudomonal cephalosporin or penicillin; granulocyte colony stimulating factor has also been described to help to revive the neutrophil count. Close observation and aggressive fluid management is essential to control the septicemia process. An improvement in clinical condition is usually only seen when the neutrophil count starts to rise. In view of the profound neutropaenia, the patient is unlikely to survive early surgical debridement.

Surgeons should be aware that necrotising fasciitis of the perineum can be caused by P. aeruginosa and that surgical debridement should be avoided if the patient is severely immunocompromised.

Acknowledgement

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References