Necrotising Fasciitis of the Abdominal Wall Complicating Caesarian Section

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ABSTRACT

A case of necrotising fasciitis of the abdominal wall following an otherwise uncomplicated caesarian section is presented. This is an unusual complication of caesarian section. Awareness of the condition with prompt recognition and surgical intervention is necessary to reduce the high mortality associated with this condition.

Necrotising fasciitis is a rapidly progressing necrotising process which affects subcutaneous tissue and fascia and is accompanied by severe systemic toxicity [1]. This condition was first described by Meleney in 1924 [2]. Although originally described as haemolytic streptococcal gangrene by Meleney there have been several other names used to describe the condition. However the term necrotising fasciitis most accurately describes the condition [3]. It can occur in a wide variety of clinical settings and many different organisms are associated with it. The condition can be recognised clinically and by its characteristic histological appearance. Early recognition is important so that prompt intervention can be instituted because it is only in this way that the 44% mortality associated with necrotising fasciitis of the abdominal wall can be reduced [4].

We present a case of necrotising fasciitis of the abdominal wall complicating caesarian section in an otherwise fit woman. This is a rare complication of caesarian section. The case demonstrates the importance of awareness of the condition so that prompt intervention can reduce the associated high mortality.

THE CASE

A 28-year-old primigravida, with no history of previous disease, underwent a caesarian section for maternal pyrexia at 30 weeks at a maternity hospital. Post-operatively she was empirically treated with Metronidazole and Cephradine for 7 days. On the 5th post-operative day she developed a pyrexia associated with rigors. The skin surrounding the wound was noted to be inflammed. By the 11th post-operative day there was an area of necrosis in the centre of the wound. The wound was then debrided. Despite this she continued to be pyrexial and an area of cellulitis developed at the edge of the wound where it had been previously excised. At that stage she was transferred to St Vincent's Hospital.

On admission she was pale and hypothermic with a core temperature of 35.5°C. Her pulse was 100 beats per minute and blood pressure was 100/65 mm Hg. Examination of her abdomen revealed an open wound which measured 25 by 25 cm extending from just above the pubic symphysis to just below the umbilicus. The edges of the wound were necrotic with erythema extending 5-10 cm all-round. The floor of the wound was the anterior rectus sheath and the aponeurosis of the external oblique covered with exudate. There was no clinical evidence of a pelvic abscess.

On investigation her haemoglobin was 9.9 g/dl with a normochromic normocytic picture. The white cell count was 21 x 10 ^{9}/l with 90% polymorphs. The ESR was 50 mm in the first hour. The serum albumin level was 23 g/l. Blood cultures were negative. CT scan of the pelvis was normal.

She was resuscitated with whole blood and plasma. Initially she was commenced on flucloxacillin, benzylpenicillin and amikacin. After adequate resuscitation, 24 hours later, the patient was submitted to surgery. A wide debridement of the wound edges was performed. The abdominal wall was resected back to healthy tissue with all areas of cellulitis being removed. The wound was dressed with saline dressings. Actinobacter antithractis, sensitive to only

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ticaricillin, was cultured from the excised tissue. Following this report the antibiotic regime was changed to ticaricillin and metronidazole. The wound was examined daily under general anaesthesia and any further areas of necrotic tissue were excised. This regime was continued for 7 days. Because of continuing ileus she was commenced on total parenteral nutrition which was necessary for one week. She remained pyrexial for 10 days. The antibiotics were then discontinued.

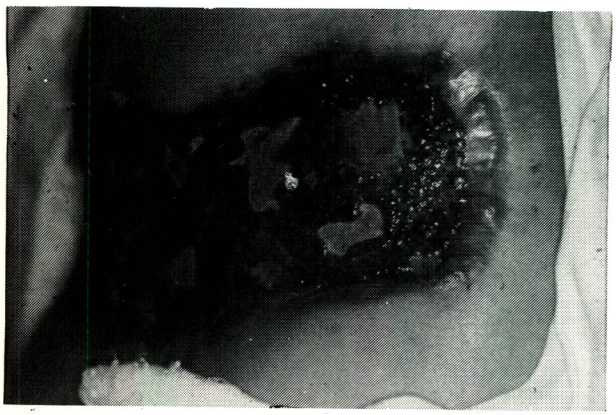

Fig. 1. *Skin defects due to necrotising fasciitis*

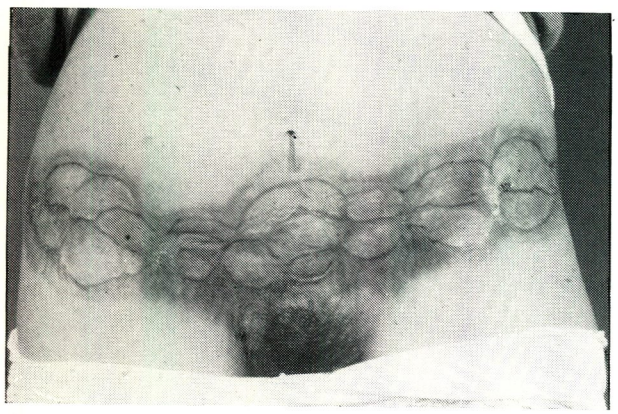

Fig 2 . *Complete epithelialisation 60 days later.*

The open wound began to granulate and on day 28 and day 35 split thickness skin grafts from the thigh were used to cover the skin defects (Fig 1). By day 60 the wound was fully epithelialised (Fig 2). Histology of the resected tissue showed dermal suppurative necrosis with a neutrophilic infiltrate extending along the superficial fascia. Blood vessels showed thrombosis and fibrinoid necrosis. The histological appearances were reported to resemble the clinical entity known as necrotising fasciitis.

DISCUSSION

There are several features of importance in this case. Necrotising fasciitis following caesarian section is extremely rare. Also unusually, the patient had no predisposing condition such as diabetes mellitus. Actinobacter anthractis was the only organism cultured but it seems likely that it was not the primary organism causing the condition. It is an organism of low virulence and is normally a skin commensal. The culture in vitro of the organisms causing the condition was inhibited by the initial antibiotic regime.

The case illustrates the main points in the recognition and management of the condition. The early manifestations are oedemå, cellulitis and local anaesthesia. The systemic upset appears out of proportion to the clinical findings. Later the characteristic appearances of rapidly progressing necrosis with undermining of the skin and sparing of the muscle are found. It has been suggested that the use of frozen-section histology allows a definitive diagnosis of the condition in the early stage [4]. Prompt wide excision of all involved tissue is the most important part of the treatment. Active resuscitation and nutritional support are also important. Antibiotics are indicated, initially covering both aerobic and anaerobic organisms until cultures of the exudate and excised tissues are available. Antibiotics are however no substitute for adequate surgical debridement. After the initial debribement the wound must be carefully inspected on a daily basis so that any extension of the process can be dealt with early. There is no evidence that hyperbaric oxygen is of value in the treatment [5]. When the process has run its course the open wound can be skin grafted.

CONCLUSION

A case of necrotising fasciitis was presented, which was treated successfully with antibiotic and surgical debridement.

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