CASE REPORT

Multifocal necrotising fasciitis: a rarer presentation of a rare disease

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SUMMARY

Necrotising fasciitis is a rare life-threatening surgical emergency in which timely diagnosis and treatment are key. We present a case in which a patient rapidly succumbed to synchronous multifocal necrotising fasciitis from a likely intra-abdominal source. The ability for the disease to present in the unusual fashion described in this case must be highlighted to all clinicians.

BACKGROUND

Necrotising fasciitis, although a rare entity, may unusually present synchronously in a multifocal manner. This may lead to diagnostic uncertainty, which could potentially delay urgent management.

CASE PRESENTATION

An 81-year-old fit and well man, with no medical or surgical history of note, presented to the surgical assessment unit having been referred in by his general practitioner. He reported of a 7-day history of vague intermittent crampy right-sided abdominal pain, but had no associated fever, change in bowel habits or vomiting. This was his first presentation and he had not been given any antibiotics prior to admission. On presentation all observations were normal, he was afebrile and no rash was present. Abdominal examination was unremarkable save for mild tenderness in the right iliac fossa.

The patient was admitted for observation and routine blood tests were requested. Within 3 h of admission the patient suddenly deteriorated spiking a temperature of 38.8°C and becoming tachycardic with a pulse rate of 140 bpm. The attending doctor noted a small area of dusky discolouration on the skin of the patient's right thigh and left forearm, which had palpable subcutaneous emphysema. This spread rapidly as the patient deteriorated and developed septic shock.

INVESTIGATIONS

Biochemistry showed a C reactive protein of 327, haematology revealed neutropenia of 2.08 and arterial blood gas analysis revealed a metabolic acidosis with a base deficit of 14 mEq and a serum lactate of 11 mmol/L. The patient was sent urgently for a CT of chest, abdomen and pelvis (figures 1–3).

It was decided to proceed to CT before considering operative intervention in view of the patient presenting with abdominal pain and then developing signs of necrotising fasciitis. Although there was a clear indication on his deterioration for soft tissue debridement of the limbs, there was no definitive indication for a laparotomy based on

clinical examination, but in view of his presentation of abdominal pain a CT was decided on to investigate a potential underlying abdominal condition.

TREATMENT

The patient was initially resuscitated with copious amounts of crystalloid and received high dose intravenous clindamycin and flucloxacillin immediately after his deterioration and on development of his skin signs.

OUTCOME AND FOLLOW-UP

CT scanning revealed multiple, non-continuous areas of subcutaneous and subfascial gas, portal venous gas and a distended caecum with intramural gas, surrounding inflammatory stranding and free intraperitoneal air. After discussion with the patient and his relatives, it was decided to pursue only a palliative approach. The patient died 3 h after CT. Blood cultures revealed Gram negative bacilli on Gram staining, however, these, unfortunately, did not grow after 5 days of incubation.

DISCUSSION

Necrotising fasciitis is a rare, life-threatening surgical emergency with a variable presentation and clinical course.¹ Classically, necrotising fasciitis spreads by direct invasion along fascial planes, leading to necrosis of the overlying tissue; however, a number of cases of multifocal necrotising fasciitis have now been reported, which tend to have much worse outcomes.^{2 3} Multifocal lesions may present synchronously as in our case, or after an interval of up to 3 days.⁴ The most likely aetiology in this case based on the CT findings is perforated ischaemic colitis, which leads to metastatic spread of gas forming organisms throughout the portal and

Figure 1 CT slice showing intramural gas in the caecum.

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Figure 2 CT slice showing gross subcutaneous gas in the thigh.

Figure 3 Coronal reconstruction showing gas in the tissue planes of both thighs.

systemic circulation. There may also have been an element of direct retroperitoneal spread along fascial planes.

This patient's presentation of vague, non-specific abdominal pain without skin signs or systemic compromise, to both his general practitioner earlier that day and to our unit, would not have predicted such serious and ultimately fatal underlying pathology. This case re-emphasises the need for repeated assessment of surgical admissions in order to make a correct diagnosis.

Learning points

- ▶ Necrotising fasciitis rapidly progresses leading to septic shock and multiorgan failure.
- ▶ Necrotising fasciitis may rarely present in a multifocal fashion.
- ▶ Prompt resuscitation with intravenous broad spectrum antibiotics, organ support and radical debridement offer the only chance of survival.

Competing interests None.

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REFERENCES

- 1 Sultan HY, Boyle AA, Sheppard N. Necrotising fasciitis. *BMJ* 2012;345:e4274.
- 2 El-khani U, Nehme J, Darwish A, *et al.* Multifocal necrotising fasciitis: an overlooked entity. *JPRAS* 2012;65:501–12.
- 3 Morrison EJ, Wei BP, Hadj AK, *et al.* Don't miss it: a rare case of multifocal necrotising fasciitis. *ANZ J Surg* 2014;84:487–9.
- 4 Tocco I, Lancerotto L, Pontini A, *et al.* "Synchronous" multifocal necrotizing fasciitis. *J Emerg Med* 2013;45:e187–91.

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