Sir,

Periocular necrotising soft tissue infections—three cases of mistaken identity

We read the article by Mutamba *et al*[1] on the medical management of necrotising fasciitis with great interest. As plastic surgeons we manage a range of soft tissue infections including soft tissue abscesses, cellulitis, and necrotising fasciitis, and are always interested to hear new management strategies for such a high morbidity and high mortality condition. However, from reading the cases described the authors appear to have mistakenly characterised all soft tissue infections with necrotic skin as necrotising fasciitis, leading to false conclusions about the success of medical treatment.

Cellulitis is known to cause skin necrosis in selected cases, and can be successfully treated with antibiotics followed by delayed management of the area of tissue loss. The necrosis found is limited to the cutaneous tissue and the patient is only occasionally systemically unwell.[2] Systemic sepsis, as in the first case reported, can still occur from cellulitis or when in association with a toxic shock syndrome.[3] In contrast, necrotising fasciitis patients have full-thickness necrosis extending down to the fascia, and have little or no response to antibiotic treatment. Although the diagnosis of necrotising fasciitis is initially made clinically, this is purely to determine the need for theatre. Confirmation of the diagnosis is then made intra-operatively where unhealthy skin and fat are found with turbid ‘dishwater’ fluid spreading in the fascial plane. When there is diagnostic uncertainty, an exploratory incision should be performed in search of the above findings.[4] In cellulitis the underlying fat will be healthy, there will be no turbid fluid and the soft tissue connections in the fascial plane will be intact.

It is important that clinicians involved in the management of soft tissue infections understand the difference between cutaneous and subcutaneous necrosis, and the vastly different management required. The gold standard treatment for suspected necrotising fasciitis remains early surgical exploration with tissue debridement as required. Any trial of medical management of true necrotising fasciitis may result in delayed treatment with fatal consequences. Given the difficulty in diagnosing the condition, we would recommend utilising the experience of your local plastic surgery team early in the patients care.

Conflict of interest

The authors declare no conflict of interest.

References

1 Mutamba A, Verity DH, Rose GE. ‘Stalled’ periocular necrotising fasciitis: early effective treatment or host genetic determinants? *Eye* 2013; **27**: 432–437.
2 Cuscheri A, Gilles HM. Specific infections of surgical importance. In: Cuschieri A, Giles GR, Moossa AR (eds) *Essential Surgical Practice*. Wright: Essex, UK, 1988, pp 72–92.
3 Hung JAZ, Rajeev P. Streptococcal toxic shock syndrome following total throidectomy. *Ann R Coll Surg Engl* 2013; **95**: 457–460.
4 Hasham S, Matteucci P, Stanley PRW, Hart NB. Necrotising fasciitis. *BMJ* 2005; **330**: 830–833.

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