

Soft-tissue images. Ecthyma gangrenosum: a deceptively benign skin lesion in febrile neutropenia

A 47-year-old patient with acute myelogenous leukemia, type M5, was admitted for Ara-C and idarubicin induction chemotherapy. On treatment day 5, febrile neutropenia developed with a leukocyte count less than $0.1 \times 10^9/L$ and a platelet count of $8 \times 10^9/L$. There was a painless reddish-purple lesion, 2 to 3 cm in dimension, on the right lower abdominal wall, diagnosed as a hemorrhagic blister from trauma.



FIG. 1.

Over the next 2 days surrounding erythema with a border of necrosis around the lesion developed (Fig. 1). Necrotizing soft-tissue infection was diagnosed and surgical excision of the area scheduled.

Intraoperatively, hemorrhagic necrosis was evident in the superficial subcutaneous fat layer above Scarpa's fascia (Fig. 2). Tissue cultures grew *Pseudomonas aeruginosa*. Ciprofloxacin and tobramycin were begun intravenously for double gram-negative coverage. Despite repeated, aggressive surgical débridement over the next 2 weeks, the erythema and



FIG. 2.

necrosis progressed to involve the patient's entire back, the buttocks and right abdominal flank. These areas were completely debrided. Eventually a superimposed candidemia developed associated with multisystem organ failure and the patient died of sepsis.

Ecthyma gangrenosum usually presents in neutropenic patients with nontender maculopapular or nodular reddish-purple lesions. Because pain is absent, the serious nature of this condition is often underestimated. It is most commonly caused by *P. aeruginosa*, although other gram-negative bacilli, such as *Escherichia coli*, *Aeromonas hydrophila* and *Xanthomonas maltophilia*, can produce a similar clinical picture. A hemorrhagic vasculitis from collagenases and elastases produced by the bacteria results in the characteristic hemorrhagic lesions and necrosis. It is important to be aware of this entity in neutropenic patients as they are initially asymptomatic. It can herald the onset of life-threatening sepsis. Thus, immediate treatment with surgical débridement and intravenously administered antibiotics is necessary. ■

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