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CLINICAL IMAGE

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Ecthyma gangrenosum mimicking cellulitis

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Abstract

This report has strong implications for carefully examining the common skin signs of cancer patients receiving chemotherapy. These signs can warn clinicians of the potential for severe infections such as fatal sepsis.

KEYWORDS

cellulitis, ecthyma gangrenosum, febrile neutropenia, sepsis

1 | CASE

Ecthyma gangrenosum (EG) is a skin infection associated with fulminant bacteremia, usually in immunocompromised hosts. Specific and dynamically changing skin lesions are indicative of the condition and useful for diagnosis. The early manifestation of EG should be carefully observed as it mimics common cellulitis.

A 77-year-old Japanese woman with fever and shock was emergently transferred to our hospital. She had been

FIGURE 1 Progression of ecthyma gangrenosum. A, Initial presentation with painless erythema mimicking cellulitis. The blackish macula at the center of the erythema is the original melanocytic nevus (mole). B, The purpura-like change appeared on Day 2. C, A hemorrhagic pustule appeared on Day 5. D, A gangrenous ulcer with black eschar appeared on Day 17

diagnosed with endometrial carcinoma and underwent surgical removal of the uterus and ovaries 2 months ago, and paclitaxel–carboplatin chemotherapy was initiated 9 days ago. Physical examination revealed painless erythema over the right lower abdomen (Figure 1A), and laboratory investigations revealed a white blood cell count of 300/μL with no neutrophils and a C-reactive protein level of 48.18 mg/dL. With a suspected diagnosis of febrile neutropenia and cellulitis with septic shock, the patient was treated with piperacillin/tazobactam. However, the erythema progressed into a purpura-like lesion (Figure 1B), hemorrhagic pustule (Figure 1C), and a gangrenous ulcer (Figure 1D) by days 2, 5, and 17, respectively. The growth of *Pseudomonas aeruginosa* (*P aeruginosa*) was observed on blood cultures on day 5; the patient underwent surgical debridement, and *P aeruginosa* was found on wound culture. She was diagnosed with ecthyma gangrenosum (EG), and her general condition gradually improved.

The differential diagnosis of EG is pyoderma gangrenosum or necrotizing fasciitis. However, in this patient, pyoderma gangrenosum was excluded due to the detection of *P aeruginosa*, and necrotizing fasciitis was excluded by surgical examination findings. EG is a skin infection induced by *P aeruginosa* that mainly occurs in immunocompromised individuals.[1,2] Typical appearance of the skin lesions facilitates the diagnosis of EG. However, the early appearance of EG is nonspecific and mimics common cellulitis. Common skin lesions in immunocompromised patients must be examined carefully as warning signs of impending sepsis.

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CONFLICT OF INTEREST

None declared.

AUTHOR CONTRIBUTIONS

TI: treated this patient, obtained informed consent, and wrote the report. HO: involved in the final approval of the report.

ETHICAL APPROVAL

Informed consent has been obtained for the publication of this clinical image. This study also conforms to the Helsinki Declaration.

DATA AVAILABILITY STATEMENT

Information related to this article is available from the corresponding author upon reasonable request.

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