



Evaluation of Acute Necrotic Skin Lesions: A Case of Atypical Presentation of Drug-Induced Lupus Erythematosus

Emily Lin, MS, Shirley Jiang, MD, Zekun Feng, MD, Edward Ha, MD

University of California, Los Angeles Department of Medicine

David Geffen School of Medicine at University of California, Los Angeles; Los Angeles, California



Introduction

Acute necrotic skin lesions can manifest in many disparate diseases and can represent a diagnostic dilemma. As internists, keeping a wide differential with early diagnosis of acute necrotic lesion is crucial. Here, we present a case of a patient with rapidly progressive retiform necrosis due to drug-induced lupus erythematosus (DILE).

Learning Objectives

- Identifying key differential diagnosis for work up of acute necrotic skin lesions.
- Discussing presentation of drug-induced lupus erythematosus.

Case Presentation

- An 81-year-old male without significant past medical history initially presented with testicular pain and was treated for epididymitis with levofloxacin and doxycycline. Two days later, he presented with a painful ill-defined retiform necrotic bullous lesion across his left shin. A lower extremity computed tomography (CT) angiogram showed mild peripheral artery disease without ischemic limb. He was treated with intravenous heparin and was discharged on apixaban.
- The patient returned to the emergency department seven days later with similar lesions on his right shin and right distal hallux (Figure 1). On admission, laboratory (labs) were significant for elevated white blood cell count and lactate, (Table 1) and empiric intravenous cefepime and vancomycin were initiated. Atypical heparin-induced thrombocytopenia was considered and anticoagulation was switched to fondaparinux.
- Further investigations included (1) Pathology of punch biopsies with immunofluorescence and von Kossa stains showed small vessel thrombosis without vasculitis or calciphylaxis. (2) Full body CT scans were negative for tumors. (3) Hypercoagulable labs were negative, and (4) rheumatologic labs were significant for elevated antinuclear antibody (Table 2). Eventually, anti-histone antibody IgG and immune complex-C1q binding returned with significant elevations (Table 2).
- DILE was considered given his potential exposure and significant clinical and lab findings. The patient was given high dose prednisone and any potential offending agents were removed. He was discharged on a prednisone taper, with significant improvement of his lesions at one week follow up visit (Figure 2).

Case Timeline

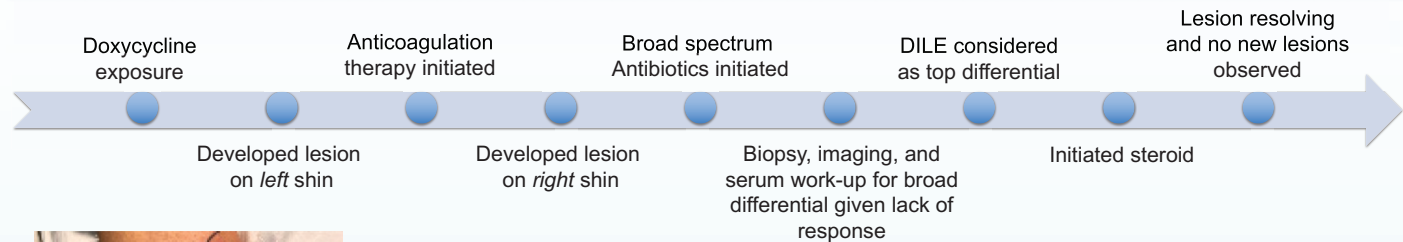


Figure 1.
Lesion on right shin on hospital day 4



Figure 2.
Lesion on right shin at one week post-discharge

Table 1. Abnormal Labs on Admission

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|--|------|
| White Blood Cell (reference: 4-11x10 ³ /μL) | 20.3 |
| Lactate (reference: 4.5-19.8 mg/dL) | 26 |
| Creatinine (reference: 0.7-1.2 mg/dL) | 2.03 |

Table 2. Rheumatologic Studies

| | |
|--|---------|
| Erythrocyte Sedimentation Rate (reference: 0-20 mm/hr) | 61 |
| C-Reactive Protein (reference: <3 mg/dL) | 21.8 |
| Rheumatoid Factor (reference: <14 IU/mL) | 61 |
| Antinuclear Antibody Titer (reference: 1:40– 1:60) | >1:1280 |
| Histone antibody IgG (reference: <1 unit) | 4.1 |
| Immune complex-C1q binding (reference: <3.9 μEq/mL) | 5.3 |

Discussion

DILE should be suspected with new onset of clinical lupus with typical lab findings after exposure to causative agents. Tetracyclines, classically minocycline, can potentiate DILE. Although within the same class, doxycycline is rarely reported as a causative agent but was the likely culprit in our patient. Onset of symptoms for DILE usually occurs months after exposure. This atypical case of rapidly evolving necrotic lesions illustrates the diagnostic difficulty and importance of early diagnosis for DILE. Initial differential for necrotic lesions should remain broad with workup to rule out infection, ischemic limb, thrombosis, vasculitis, malignancy and drug reactions. Early subspecialist consultation is key to assist with diagnosis and treatment. Removal of offending agents and treatment with steroids usually lead to favorable outcomes in DILE.

References

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