



Infective Panniculitis in a Patient on Dialysis

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We report a 34-year-old man on peritoneal dialysis presented with eruptive tender erythematous nodular lesions scattered over bilateral extremities. The typical microscopic picture with rapid response to antimicrobial therapy guided by the results of bacterial susceptibility tests from previous ascites culture supports the diagnosis of infective panniculitis. Our case brought into attention the necessity of including this rarely reported disease entity on the list of differential diagnoses on encountering nodular skin lesions in immunocompromised patients.

Key words: dialysis, infective panniculitis, immunocompromised

Case Report

Panniculitis is a group of diseases that involve inflammation of subcutaneous fat. It is relatively uncommon in clinical practice. Besides erythema nodosum and erythema induratum, other types of panniculitis are rarely seen and difficult to reach an accurate diagnosis without the assistance of a clinical-pathological study provided by dermatologists and pathologists.

A 34-year-old man with underlying end-stage renal disease on peritoneal dialysis was admitted to our hospital due to fever and abdominal pain. He was diagnosed with bacterial peritonitis for which culture of his ascites revealed *Staphylococcus aureus*. His fever subsided after receiving intravenous Cefazidime for four days together with peritoneal injection of Vancomycin. The patient was then discharged without further antimicrobial thera-

pies.

Three days later, multiple tender erythematous nodules with heat became apparent on his bilateral lower extremities. He was referred to our dermatologic clinic for consultation about the unusual skin presentation. Physical examination by the dermatologist showed eruptive tender erythematous nodular lesions scattered over bilateral lower extremities (Fig. 1). Erythema induratum, insect bite reaction, and autoimmune panniculitis were all considered to be possible diagnoses. There were no other skin abnormalities or enlarged lymph nodes during palpation. Blood examination showed leukocytosis $13.84 \times 10^3/\mu\text{L}$ with left-shifting of neutrophils (82.4%). C-reactive protein (CRP) level was elevated (17.10 mg/L). ANA, C3, C4 levels were normal. Due to the atypical presentation of abrupt scattered and extensive nodular tender skin lesions with leukocytosis, the dermatologist decided to perform a skin biopsy for pathologic examination. During

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Fig. 1 Eruptive tender erythematous nodular lesions scattered over bilateral lower extremities.

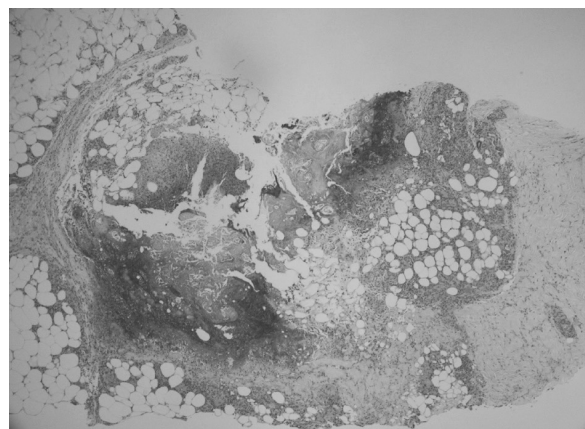


Fig. 2 Extensive basophilic necrosis mainly located at the lobular area of the subcutis with marked neutrophilic inflammatory infiltration and the presence of some lymphocytes, histiocytes, and scant eosinophils, compatible with infective panniculitis.

biopsy, purulent discharge was noted from a fluctuant nodule. Microscopically, there was extensive basophilic necrosis at the lobular area with focal extension into the septal region of the subcutis (Fig. 2). There was marked neutrophilic inflammatory infiltrate with some lymphocytes, histiocytes, and scant eosinophils. The epidermis was intact and relatively unremarkable. Immunofluorescent studies of the biopsy specimen were negative. Even though tissue culture of the biopsy specimen showed no organisms, typical microscopic and laboratory studies pointed to a diagnosis of infective bacterial panniculitis. After systemic antibiotic treatment combining Cefatazidime and Oxacillin for one week guided by the results of previous bacterial susceptibility tests from ascites culture, the lesions resolved with no recurrence. The leukocytes count, neutrophil prevalence, and CRP level were back to normal.

Infective bacterial panniculitis is rarely

studied as an entity compared to other panniculitis such as erythema nodosum or erythema induratum. It is usually presented as lobular panniculitis or mixed septal and lobular panniculitis with basophilic necrosis.¹ Occasionally, small vessel vasculitis may be seen. However, the increasing population of immunosuppression patients, including those on peritoneal dialysis as in our case, can increase the incidence.² Bacterial panniculitis can result from septicemia secondary to hematogenous spread of an underlying infection. *Streptococcus pyogenes*, *Staphylococcus aureus*, *Pseudomonas* spp, *Klebsiella*, *Nocardia* spp, and *Brucella* have all been identified as causative microorganisms in previous reports.³⁻⁵ On some occasions the micro-organisms are difficult to detect as in our case. Treatment with broad-spectrum antimicrobial therapy is usually recommended. A proper pathologic examination and early antimicrobial intervention are crucial to the treatment of this rarely reported disease when caring for immunocompromised patients.

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