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Am J Transplant. Author manuscript; available in PMC 2020 February 10.

Published in final edited form as:

Am J Transplant. 2019 October ; 19(10): 2955–2957. doi:10.1111/ajt.15538.

New skin lesions in a liver transplant recipient

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Keywords

biopsy; cirrhosis; clinical research/practice; complication: infectious; immunosuppressant - mechanistic target of rapamycin (mTOR); infection and infectious agents - viral: human herpesvirus 8 (HHV-8); infectious disease; liver transplantation/hepatology

A 53-year-old woman from Ukraine underwent orthotopic liver transplant (OLT) for cryptogenic cirrhosis. She received induction immunosuppression with antithymocyte globulin and methylprednisolone, transitioning to tacrolimus monotherapy (troughs 3–12 ng/mL). Pathology of her explanted liver, including stains for infectious and autoimmune processes, revealed no etiology for her cirrhosis. A culture swab from the organ transport media grew *Candida glabrata*, for which she received 4 weeks of prophylactic fluconazole. During the first 45 postoperative days, her course was complicated by biliary stricture, asymptomatic cytomegalovirus viremia for which she received valganciclovir, and *Clostridioides difficile* colitis.

Two months posttransplant, she reported progressing skin lesions on her lower extremities. She first noted lesions 2 days posttransplant, which she had interpreted as bruises. No lesions were noted pretransplant. During the intervening weeks, the lesions progressed proximally, grew in size, and became palpable and tender. A review of systems was otherwise unremarkable. On examination, she had scattered hyperpigmented, tender papules with associated dependent edema and faint erythema of bilateral lower extremities; her examination was otherwise unremarkable. The patient's exposure history was only notable for wading up to her knees into a freshwater lake 1 month post-OLT.

At time of presentation, her anti-infective regimen included valganciclovir, trimethoprim–sulfamethoxazole, and fluconazole. Based on the appearance of the skin lesions, she

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underwent an urgent skin biopsy, was admitted to the hospital, and was started on intravenous (IV) cefepime and liposomal amphotericin B. Initial fungal, acid-fast, and gram stains from the skin biopsy were negative. An immunohistochemical stain confirmed the diagnosis.

QUESTIONS

1. Which of the following diagnoses will the lower extremity skin biopsy likely confirm?
   - **a.** Disseminated fungal infection
   - **b.** Kaposi sarcoma
   - **c.** Bacillary angiomatosis
   - **d.** Ecthyma gangrenosum
   - **e.** Cryoglobulinemic vasculitis
2. Which infectious agent is associated with the diagnosis?
   - **a.** Bartonella henselae
   - **b.** Candida glabrata
   - **c.** Pseudomonas aeruginosa
   - **d.** Human herpesvirus 8
   - **e.** Hepatitis C virus
3. What is the most likely origin of the pathogen?
   - **a.** Reactivation of latent infection in the recipient
   - **b.** Zoonosis from a domestic animal
   - **c.** Primary infection acquired exogenously after transplant
   - **d.** Transmission of a donor-derived pathogen
   - **e.** Contamination of the donor organ transport medium
4. What treatment would you recommend at this time?
   - **a.** Change amphotericin to posaconazole
   - **b.** Decrease immunosuppression
   - **c.** Initiate IV liposomal doxorubicin
   - **d.** Begin IV ganciclovir
   - **e.** Initiate oral doxycycline plus rifampin

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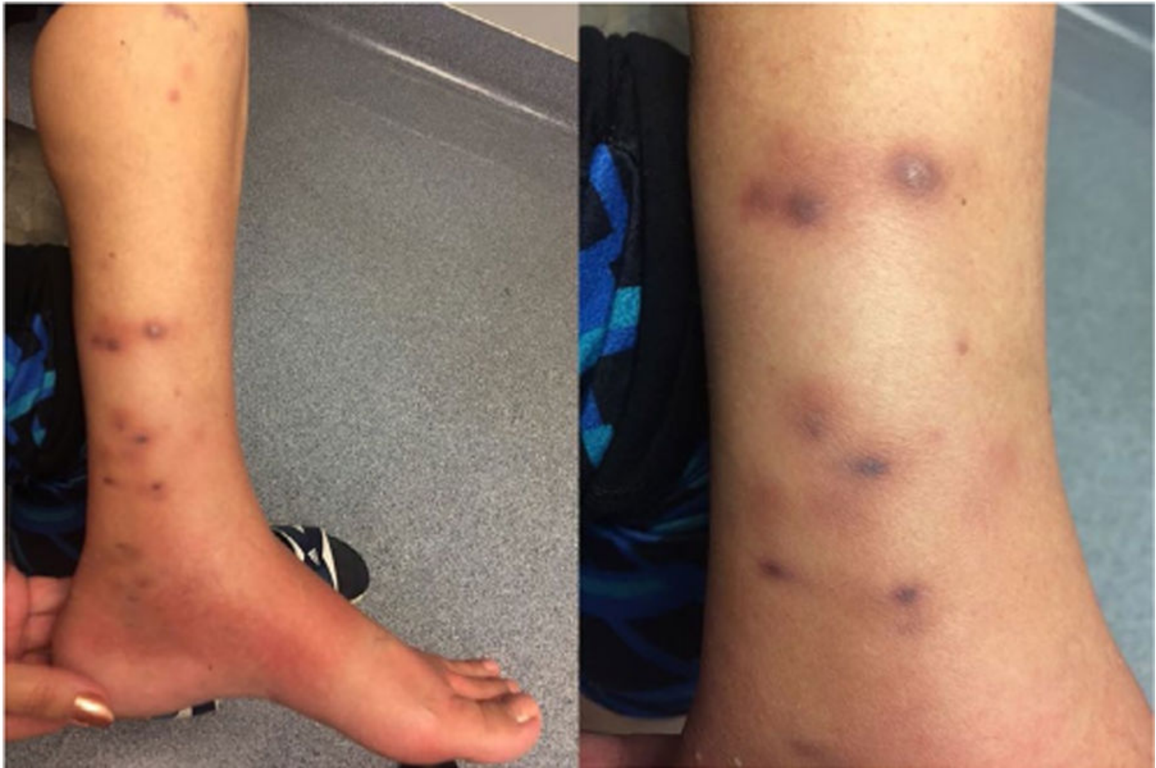

FIGURE 1.
The patient demonstrated edema and moderately tender macules and papules on her bilateral lower extremities. The lesions of her left lower extremity are shown