Norwegian Scabies Associated With Herpes Simplex Infection in a Renal Transplant Patient

Progressively more potent immunosuppressive medications have significantly reduced the incidence of rejection of solid and bone marrow transplants while increasing patients' susceptibility to potentially opportunistic infections (*1*). This study reports a mixed infection in a renal transplant patient because of herpes simplex virus (HSV) and *Sarcoptes scabiei*.

A 34-year-old male renal transplant recipient presented, 5 months after transplantation, with a diffuse papular rash (chest, lumbar area, and thighs). The patient reported of itching and scratching excoriations were noted. His immunosuppressive regimen included cyclosporine 5 mg/kg per day and prednisone. Eczematous scabies was diagnosed and antihistamines, topical steroids, and a lindane preparation were prescribed. Despite therapy for scabies for 1 week, the skin lesions progressed to multiple keratotic plaques involving the ears, upper and lower extremities (Fig. 1). The patient was admitted to the hospital with a diagnosis of Norwegian scabies and immunosuppressive medications were reduced with cyclosporine levels (200 ng/mL at the time of hospitalization) to 2.5 mg/kg per day and prednisone discontinued. By the time of the patient's admission, multiple vesicular and ulcerative lesions with pustules had become evident (Fig. 1).

A complete blood count with differential on admission revealed an abnormal white blood count 2.4×10^9/L, with 87.6% neutrophils, 8.4% lymphocytes, 4.0% monocytes, and a hemoglobin of 75 g/L. The patient's renal transplant function had deteriorated from a creatinine of 232 mmol/L preadmission to 301 mmol/L, 29.93 mmol/L urea, and 566 μmol/L uric acid. A metabolic acidosis and hypoxemia also developed. His liver functions were normal.

Blood culture and culture of skin scrapings were positive for *Proteus mirabilis* and *Acinetobacter calcoaceticus*. The pp65 antigenemia assay for cytomegalovirus infection was negative. A Multiplex polymerase chain reaction, which detects five different herpesviruses, including HSV, varicella-zoster virus, cytomegalovirus, human herpesvirus 6 and Epstein-Barr virus (*2*), was performed to a serum sample obtained on admission, showing amplification of HSV genome.

Microscopical examination of skin scrapings revealed mites (Fig. 2) consistent with the scabies diagnosis. Intravenous ciprofloxacin, vancomycin, acyclovir, and oral ivermectin were administered.

The patient died 8 days after admission to the hospital with severe sepsis, and skin examination showed cutaneous inflammatory lesions, necrosis of the epidermis, and bacterial presence. No mites were observed.

Infectious diseases, including parasitic, bacterial, and viral diseases, are found often in transplant patients (*1*, *3*, *4*). Norwegian scabies has been reported previously in renal (*5–9*) and bone marrow transplant patients (*10*). Hematopoietic and solid organ transplant recipients are at increased risk of HSV infection (*1*). However, the simultaneous recognition of HSV infection, causing a Kaposi's varicella-like eruption, with crusted Norwegian scabies has not been previously reported.

It is likely the altered host-parasite relationship during transplant immunosuppression contributed to the evolution from the eczematous scabies to crusted scabies (*11*). This case high-

FIGURE 1. Renal transplant patient with extensive skin lesions worsening at the time of admission.

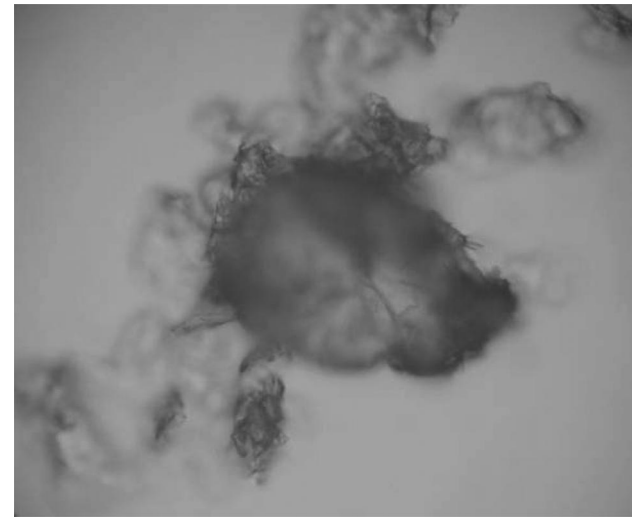

FIGURE 2. Microscopical examination of skin scrapings showing the *Sarcoptes scabiei* parasite.

lighted that a simultaneous infection with HSV in a transplant patient with scabies necessitates immediate detection and treatment.

In summary, we report for the first time the coexistence of HSV and Norwegian scabies in a transplant patient. More studies are necessary to demonstrate coinfections of emerging transplantation-associated pathogens.

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Received 29 October 2008.
Accepted 2 December 2008.

ISSN 0041-1337/09/8706-943
DOI: 10.1097/TP.0b013e31819b6e12

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ERRATA

In the February 15, 2008 issue of *Transplantation*, in the article entitled "Neutralization of Blood Group A-Antigen by a Novel Anti-A Antibody: Overcoming ABO-Incompatible Solid Organ Transplantation" by Hasegawa Y, et al., the authors used a novel anti-A antibody (K7508) produced by Institute of Immunology Co., Ltd. (Tokyo, Japan).

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1. Hasegawa, Y, Kato Y, Kaneko MK, et al. Neutralization of blood group A-antigen by a novel anti-A antibody: overcoming ABO-incompatible solid-organ transplantation. *Transplantation* 2008; 85: 378.