

American Journal of Transplantation Images in Transplantation – Continuing Medical Education (CME)

Each month, the *American Journal of Transplantation* will feature Images in Transplantation, a journal-based CME activity, chosen to educate participants on current developments in the science and imaging of transplantation. Participants can earn 1 AMA PRA Category 1 Credit™ per article at their own pace.

This month's feature article is titled: "An eruption of numerous spiny papules in a pediatric transplant patient."

Accreditation and Designation Statement

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of John Wiley & Sons, Inc., the American Society of Transplant Surgeons, and the American Society of Transplantation. John Wiley & Sons, Inc. is accredited by the ACCME to provide continuing medical education for physicians, and fulfills the requirements for the American Board of Surgery (ABS) for Maintenance of Certification (MOC).

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Statement of Need

Transplant patients are immunosuppressed to prevent graft rejection, which can cause a wide range of opportunistic infections. Physicians must maintain graft viability while providing early recognition and treatment of atypical or rare infections.

Purpose of Activity

This activity was designed to educate physicians to accurately and promptly recognize and safely treat a rare cutaneous eruption associated with trichodysplasia spinulosa virus.

Identification of Practice Gap

Virus-associated trichodysplasia spinulosa (VATS) is a rare skin eruption that occurs in the setting of immunosuppression, putting transplant patients at particularly increased risk. Not all physicians are well versed in the diagnosis and treatment of VATS due to its rarity. This knowledge gap may lead to diagnostic delays, nonoptimal treatment regimens, and poor outcomes. This activity will illustrate the diagnostic characteristics and therapeutic approaches to treating VATS patients in an effort to mend this knowledge gap.

Learning Objectives

Upon completion of this educational activity, participants will be able to:

- Recognize this rare entity characterized by a cutaneous eruption of folliculocentric papules and keratin spicules on the central face and ears, with concomitant alopecia of the eyebrows and eyelashes.
- Identify the underlying pathogen.
- Treat this entity appropriately.

Target Audience

This activity has been designed to meet the educational needs of physicians and surgeons in the field of transplantation.

Disclosures

No commercial support has been accepted related to the development or publication of this activity. John Wiley & Sons, Inc. has reviewed all disclosures and resolved or managed all identified conflicts of interest, as applicable.

Editor-in-Chief

Allan D. Kirk has no relevant financial relationships to disclose.

Editors

Sandy Feng discloses stock ownership or equity in Abbott, Amgen, Charles River Labs, Eli Lilly, Glaxo-Smith Klein, Hospira, Johnson and Johnson, Express Scripts, Medco, Merck, Pfizer, and Stryker; and research support from Cumberland, Novartis, and Quark.

Matthew H. Levine discloses research support from Pfizer.

CME Manager, ASTS

Ellie Proffitt has no relevant financial relationships to disclose.

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This manuscript underwent peer review in line with the standards of editorial integrity and publication ethics maintained by the *American Journal of Transplantation*. The peer reviewers have no relevant financial relationships to disclose. The peer review process for the *American Journal of Transplantation* is blinded. As such, the identities of the reviewers are not disclosed in line with the standard accepted practices of medical journal peer review.

Instructions on Receiving CME Credit

This activity is designed to be completed within an hour. Physicians should claim only those credits that reflect the time actually spent in the activity. This activity will be available for CME credit for 12 months following its publication date. At that time, it will be reviewed and potentially updated and extended for an additional 12 months.

Physicians must correctly answer 75% or more of the posttest items to claim MOC credit.

Follow these steps to participate, answer the questions and claim your CME credit:

- Log on to <https://www.wileyhealthlearning.com/ajt>
- Read the learning objectives, target audience, and activity disclosures.
- Read the article in print or online format.
- Reflect on the article.
- Access the CME Exam, and choose the best answer to each question.
- Complete the required evaluation and print your CME certificate.

An eruption of numerous spiny papules in a pediatric transplant patient

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Keywords: clinical decision-making, clinical research/practice, complication: infectious, continuing medical education (CME), dermatology, health services and outcomes research, immunosuppressant, immunosuppression/immune modulation, infection and infectious agents—viral, infectious disease

1 | CASE REPORT

An 8-year-old African American female presented to the dermatology clinic with a 3-month history of numerous, tiny, asymptomatic, white folliculocentric papules, and spicules on the face, with concomitant alopecia of the eyebrows and eyelashes (Figure 1). The patient had a past medical history of congenital renal dysplasia and was 18 months status following renal transplant. The patient had a history of antibody-mediated rejection 4 months posttransplant, which was treated with intravenous methylprednisolone and rituximab. Her current immunosuppressive medications included oral tacrolimus, mycophenolate mofetil, and prednisolone. No adjustments had been made to this regimen for 7 months prior to presentation. Laboratory testing revealed a negative serum BK virus PCR. A 3-mm punch biopsy of the left ear revealed a dilated follicular canal, underlying cyst formation with a granular layer, and keratinous material and inflammatory debris in the lumen. The surrounding dermis showed fibrosis, dilated vessels, and sparse perifollicular inflammatory cell infiltrate. Abnormal eosinophilic inclusions were noted surrounding the inner root sheath of a hair follicle (Figure 2). After appropriate treatment, the patient showed improvement of the perifollicular papules, facial spicules, and eyelash and eyebrow regrowth (Figure 3).



FIGURE 1 Eight-year-old child status following renal transplant with numerous tiny white folliculocentric papules and spicules on the face, with concomitant alopecia of the eyebrows and eyelashes.

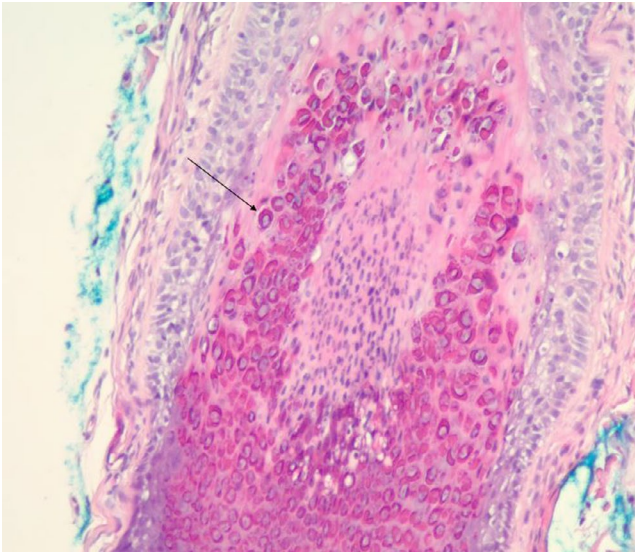


FIGURE 2 Dermatopathology of a hair follicle at 100× magnification showing abnormal cytoplasmic eosinophilic inclusions (arrow) in the inner root sheath.



FIGURE 3 Eight-month follow-up visit showing improvement of the folliculocentric papules and spicules on the face with associated postinflammatory hyperpigmentation and regrowth of the eyebrows and eyelashes.

2 | QUESTIONS

- Given the clinical and histopathological presentation, what is the most likely diagnosis for this patient?
 - Alopecia areata
 - Atypical fungal infection, specifically blastomycosis
 - Chronic eczematous dermatitis
 - Virus-associated trichodysplasia spinulosa
 - Viral warts
- What is the causative pathogen associated with this cutaneous eruption?
 - BK polyoma virus
 - Human immunodeficiency virus
 - Human papillomavirus
 - JC polyoma virus
 - Trichodysplasia spinulosa-associated polyomavirus
- What additional studies could be useful in making the diagnosis if clinically not apparent?
 - Electron microscopy
 - Immunohistochemical staining
 - Liver function tests
 - PCR for BK virus
 - Renal ultrasound
- What is the safest next step for this patient given her dermatologic findings and recent transplant management history?
 - Intravenous cidofovir
 - Oral itraconazole
 - Reduction in immunosuppressive regimen
 - Topical 1% cidofovir
 - Topical valaciclovir

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