

Trichodysplasia Spinulosa Post Kidney Transplant

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Title: Trichodysplasia Spinulosa Post Renal Transplant

Key Clinical Message: Trichodysplasia spinulosa is a rare dermatological condition caused by a virus that predominantly affects immunosuppressed individuals. In this patient population, including organ transplant recipients, it is essential to maintain a high index of suspicion for possible infectious causes of persistent dermatologic conditions. Early diagnosis can facilitate treatment and help avoid disease progression and complications.

Manuscript:

A 37-year-old African American female, seven months post deceased donor kidney transplant, presented with follicular papules on the face (Figure 1), arms (Figure 2), and upper back. An acneiform process was initially suspected. Despite treatment with topical azelaic acid and triamcinolone creams, her lesions progressed with extension to the lower extremities. A biopsy (Figure 3) of the preauricular cheek lesion revealed marked focal acute inflammation and necrosis around a hair follicle in the dermis, with deeper sections showing a keratotic plug within a dilated follicle, and the PAS stain was negative for fungal organisms. The findings were consistent with trichodysplasia spinulosa. This rare skin condition is linked to Trichodysplasia Spinulosa Polyomavirus (TSPyV) and typically occurs in immunocompromised individuals. Viral replication within keratinocytes and hyperproliferation in the inner root sheath cell led to the development of keratin spines known as spicules [1]. These lesions can be pruritic. Areas commonly affected include the face, particularly the nose, ears, and eyebrows, as well as the arms and upper trunk. Trichodysplasia spinulosa is diagnosed based on clinical and histologic features, immunostaining, and TSPyV PCR testing. Histological findings include dilated hair follicles with keratin plugging, absent hair shafts, and eosinophilic trichohyalin deposits in the inner root sheath epithelium, accompanied by acanthosis and numerous apoptotic cells. [1,2]. Treatment involves oral valganciclovir and topical cidofovir 3% to reduce viral replication. Topical retinoids and physical extraction of the spicules can be used to manage symptoms. The persistence of this disease often warrants the reduction of immunosuppressive regimens based on transplant nephrologist discretion [3]. This highlights the importance of maintaining a balance between preserving allograft function and managing complications of immunosuppression, such as infections. The low index of suspicion for an infectious cause of this patient's symptoms allowed the disorder to advance initially. This case underscores the need to raise awareness among dermatologists, general practitioners, and the transplant community about the importance of considering viral etiologies, such as trichodysplasia spinulosa, in persistent dermatological conditions following transplantation.

Author contributions:

Franco Cabeza Rivera : Conceptualization; Supervision; Writing – original draft; Writing – review & editing. **Veronica A. Ortigosa Serrano** : Project administration; Writing – original draft; Writing – review & editing. **Adriana M. Medina** : Writing – original draft; Writing – review & editing. **Rojin Esmail** : Writing – original draft; Writing – review & editing.

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Figure legends:

Figure 1 - Facial follicular papules

Figure 2 - Forearm follicular papules

Figure 3 - Photomicrograph of preauricular cheek lesion biopsy demonstrating a keratotic plug within a dilated follicle





