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The Cause of Follicular Spicules in Multiple Myeloma

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To The Editor

Hyperkeratotic spicules may develop as a paraneoplastic syndrome of multiple myeloma. These follicular spicules in multiple myeloma (FSMM) are composed of precipitates of monoclonal dysproteins identical to the serum protein found in these patients [1]. Light microscopy of the affected follicular epithelium shows intercellular deposits of eosinophilic material that has been identified as IgG by direct immunofluorescence[1]. Trichodysplasia spinulosa (TS) is a distinct disorder that also presents with follicular spicules in the setting of immunosuppression[2]. There is increasing evidence that the TS polyomavirus (TSPyV) is involved in the pathogenesis of TS [3].

Based on the clinical similarity between FSMM and TS, van Boheemen and colleagues assessed whether FSMM had a viral cause [4]. After the findings of TSPyV-specific polymerase chain reaction (PCR) and rolling circle amplification proved negative, a sensitive deep-sequencing approach identified sequences from Merkel Cell Polyomavirus (MCPyV); PCR confirmed that the virus was present at low copy numbers (about 0.1 copies/cell). Based on these findings, the researchers concluded that MCPyV might have a role in the disease. However, MCPyV can frequently be detected in skin swabs from healthy individuals. Thus, the detection of MCPyV at low copy numbers in this case of FSMM could be the result of its presence as a part of the normal skin flora rather than as a specific driver of disease.

In contrast to the low copy numbers of MCPyV detected by van Boheemen et al[4] in their FSMM case, TSPyV is found at an average of about 10^6 copies/cell in cases of TS [3]. Moreover, while ultrastructural analyses in cases of FSMM have consistently failed to identify viral particles in affected tissue, the overwhelming majority of cases of TS in which electron microscopy has been attempted do show evidence of viral particles [2].

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Van Boheemen et al[4] also argue that the responsiveness of the eruption to cidofovir gel supports a viral role for FSMM. However, the concurrent treatment of the patient's multiple myeloma with systemic agents mitigates any conclusions regarding cidofovir's direct effects.

Finally, in a distinct case of FSMM [5], our research group was unable to identify the presence of TSPyV or MCPyV using multiple primer sets. Thus, the majority of existing literature supports the follicular accumulation of an immunoglobulin dysprotein rather than a virus as the cause of FSMM. In the absence of compelling evidence for a virus in FSMM, patients with FSMM should be treated systemically for their multiple myeloma and topically with keratolytics.

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