Herpes Zoster

Sir,

We read with interest the article entitled "Histopathological findings, viral DNA distribution and lymphocytic immunophenotypes in vesicular and papular types of herpes zoster", recently published in the journal (1). We are pleased to see that the authors confirm several of our previous findings, despite the fact that they do not quote these works.

In fact, in various stages of herpes zoster, including the erythematous, papular, vesicular and crusted stages, we compared by immunohistochemistry (IHC) the distribution of Herpes Simplex Virus (HSV) I and II and Varicella Zoster Virus (VZV) specific antigens (2). It was reported that HSV could only be detected in epithelial structures, whereas VZV was often present in both epidermal and dermal cell populations, including type I dendrocytes. Such findings shed some light on the occurrence of vasculitis, granulomas and scars at the site of former acute herpes zoster (2).

Furthermore, we performed a study using IHC and *in situ* hybridization (ISH), detecting the VZV envelope glycoproteins gE and gB and their corresponding nucleic acid sequences in various stages of varicella and herpes zoster skin lesions (3). Comparing the VZV/host cell relationship in epidermal and dermal cells we demonstrated a cell type-dependent permissiveness to VZV infection. The immunophenotype of the inflammatory infiltrate during herpes zoster and varicella skin rash was also discussed in these papers (2, 3).

The importance of the pilosebaceous structure in the pathogenic pathway of herpes zoster skin lesions was underlined in these studies (2, 3) and by Muraki and coworkers (4). Our observations also led to the individualization of follicular herpes zoster, characterized by viral replication restricted to the follicular keratinocytes. In a conceptual point of view, follicular herpes zoster might be situated between zoster sine herpete and regular herpes zoster (5). Recently, this concept was beautifully illustrated in a case report (case 4) by Weinberg and coworkers (6).

Our findings also shed new light on the pathogenesis of post zosterian granulomatous reactions most probably related to a delayed type hypersensitivity reaction to persisting VZV envelope glycoproteins in the deep dermis while unrelated to the presence of viral DNA (7).

More recently, an altered gene expression pattern of VZV was shown during chronic hyperkeratotic skin infections in AIDS patients (8). The astounding reduced expression of gE and gB glycoproteins leads to a non-cytolytic virus/keratinocyte relationship resulting in chronic infection. A similar type of low-productive virus/host cell relationship was also detected in keratinocytes of chronic HSV and VZV lichenoid dermatosis (9).

Our results underline the importance of pushing investigations further on *in vivo* viral gene expression in order to disclose possible altered patterns that may be related to the pathomechanisms of atypical clinical presentations.

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Response to the Letter by Nikkels & Piérard

It is my clinical opinion that herpes zoster in patients with persistent papules without vesicular change are found fairly frequently in Korea. In our study to elucidate differences between the classical vesicular and papular types of herpes zoster, it was found that the appearance of clinical types of herpes zoster depends on the distribution of varicella zoster virus in the tissue. Nikkels & Piérard indicated that there were some rare atypical clinical presentations in herpes zoster, and in previous studies the varicella zoster virus could have involved a pilosebaceous unit. But no mention was made of a precise correlation between virological and clinical findings.