
Preface

This book treats varicella-zoster virus (VZV) caused corneal epithelial changes captured in high-magnification photographs in herpes zoster ophthalmicus (HZO). The images highlight the typical substructure of VZV lesions clinically presenting in a large variety of shapes and sizes, both in conjunction with and in the absence of typical HZO rash; the accompanying case reports illustrate the varying clinical features of the disease, ranging between typical and rare ones.

In addition, the book shows serial photographs capturing the dynamic features of VZV impact on the corneal epithelial architecture. The opportunity was unique, not only because the corneal epithelium is the only one in the human body in which morphological changes can be directly observed and followed without intervention, and highlighted by *in vivo* staining, but also because the follow-up was not terminated by treatment. Contrary to expectations, the at that time recommended antiviral drug (acyclovir or valacyclovir) showed no detectable effect, neither on the morphology nor on the dynamics of the epithelial disease.

In the interpretation of the disturbances of the epithelial architecture, this book partly relates to the morphology of herpes simplex virus (HSV) caused changes, for reasons extending beyond differential diagnostics. The point is that it is not only the impact of the infection that has to be taken in account, but also epithelial healing responses. When the similarities between the two viruses are sorted out, very different reparative patterns emerge; these patterns indicate that after having reached the corneal epithelium via the same route, the two viruses strongly diverge in their behaviour. Because all this is reflected in the individual lesions, the comparison between them can explain at least some mechanisms behind their appearance.

With this book I intended to fill a void in the literature by adding high-magnification *in vivo* images that capture several aspects of an intriguing disease so far defying attempts to be reproduced in laboratory animals. I hope I have done that.

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