Graefes Arch Clin Exp Ophthalmol (2012) 250:473
DOI 10.1007/s00417-011-1687-8

LETTER TO THE EDITOR

Early histological alteration of the retina following photocoagulation treatment in diabetic retinopathy as measured by spectral-domain optical coherence tomography

Martina Christina Herwig · Frank G. Holz · Karin U. Loeffler

Received: 10 February 2011 / Accepted: 4 April 2011 / Published online: 28 April 2011

Dear Editor,

We read with great interest the article by Kang et al. [1]. The study provides insight into the early retinal changes following laser photocoagulation treatment in diabetic retinopathy. As ophthalmopathologists, however, we are concerned about the terminology used by the authors. Spectral-domain optical coherence tomography (SD-OCT) is — unquestionably — a fantastic diagnostic tool that enables ophthalmologists to detect delicate retinal structures and to follow structural changes in retinal diseases at exactly the same localization over time. However, a SD-OCT does not provide a histological section of the retina. Histology (compound of the Greek words: ἱστός "tissue", and λογία "doctrine, theory, science") is the study of the microscopic anatomy of tissue and other structures. Modern pathology comprises different techniques for tissue processing, and different stains are available to highlight certain structures. In contrast, SD-OCT records the reflectivity of retinal tissue layers and generates high resolution images of — amongst others — retinal structures, and thus information that correlates in part with histological findings. But not all SD-OCT findings can be unequivocally transferred to anatomical structures, as many still-ongoing discussions about the interpretation in various retinal diseases and their possible histopathological correlations show.

Therefore, we suggest reserving the terms "histology" and "histological" for the microscopic investigation, and avoiding terms like "in vivo histology" for SD-OCT examination in order to prevent confusion. Instead, the term "in vivo visualization of the retinal microstructure" could be employed.

Conflict of interest None of the authors have any financial interest to disclose.

References

1. Kang H, Su L, Zhang H, Li X, Zhang L, Tian F (2010) Early histological alteration of the retina following photocoagulation treatment in diabetic retinopathy as measured by spectral domain optical coherence tomography. Graefes Arch Clin Exp Ophthalmol 248:1705–1711

M. C. Herwig · F. G. Holz · K. U. Loeffler
Department of Ophthalmology, University of Bonn,
Ernst-Abbe-Str. 2,
53127 Bonn, Germany

M. C. Herwig (✉) · K. U. Loeffler
Division of Ophthalmic Pathology,
Department of Ophthalmology, University of Bonn,
Ernst-Abbe-Str. 2,
53127 Bonn, Germany
e-mail: martina.herwig@ukb.uni-bonn.de