In vivo imaging of the diseased nervous system.

Abstract:
In vivo microscopy is an exciting tool for neurological research because it can reveal how single cells respond to damage of the nervous system. This helps us to understand how diseases unfold and how therapies work. Here, we review the optical imaging techniques used to visualize the different parts of the nervous system, and how they have provided fresh insights into the aetiology and therapeutics of neurological diseases. We focus our discussion on five areas of neuropathology (trauma, degeneration, ischaemia, inflammation and seizures) in which in vivo microscopy has had the greatest impact. We discuss the challenging issues in the field, and argue that the convergence of new optical and non-optical methods will be necessary to overcome these challenges.
TUM Einrichtung:
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