

学位論文の要旨

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主論文の題名			
Intravital Three-Dimensional Dynamic Pathology of Experimental Colitis in Living Mice Using Two-Photon Laser Scanning Microscopy			
主論文の要旨			
<p>Background: Intravital three-dimensional (3D) visualization of treatment efficacy in experimental colitis in living mice using two-photon laser scanning microscopy (TPLSM) has not been described.</p> <p>Methods: Colitis was induced with dextran sulfate sodium (DSS) in green fluorescent protein (GFP) transgenic mice. The 3D tomographic image of DSS-induced colitis with or without prednisolone was obtained intravitaly using TPLSM. The serosal-approaching method was developed by which we could observe all layers of the cecum from serosa to luminal mucosa without opening and everting the cecum. The dynamic pathology and treatment efficacy were assessed in the same mouse on several occasions.</p> <p>Results: The time-lapse 3D tomographic movie of DSS-induced colitis was obtained in living mice at a magnification of >600×, which demonstrated irregularity of crypts, disappearance of crypts, inflammatory cell infiltrates in the lamina propria, and abscess formation at the bottom of crypts. Intravital TPLSM in the same mice demonstrated fewer infiltrating leukocytes and crypt abscesses on day 14 in the steroid group compared with the non-steroid group.</p> <p>Conclusions: Intravital 3D tomographic visualization of experimental colitis using TPLSM in combination with a serosal-approaching method can provide dynamic pathology at a high magnification, which may be useful on evaluating treatment efficacy in the same living mice.</p>			

(注) 2, 000字以内にまとめて記入すること。