

Extended Abstract

Micro-MRI-based Detection of Tissue Damage in the Liver, Pancreas, and Kidney during the Early Phases of an LPS and D-Galactosamine-Induced Hepatic Injury Model in Mice

[Nodoka Nago](#)^{1*}, [Misao Yoneda](#)², [Samuel Darkwah](#)¹, [Eiji Kawamoto](#)^{1,3}, [Eun Jeong Park](#)¹ and [Motomu Shimaoka](#)¹

¹Department of Molecular Pathobiology and Cell Adhesion Biology, Graduate School of Medicine, [Mie University](#), 2-174 Edobashi Tsu-City, Mie 514-8507, Japan

In the pancreas, increases in the T2-weighted signals were made readily apparent by the pancreatic edema formation that was determined by histological examination. Only minimal pathologies were observed in the renal cortex based on micro-MRI and histological examination. The results of this study have demonstrated the distinct temporal changes that occur in the liver and injured pancreatic acinar cells during the very acute phase of LPS-induced hepatitis.

Abstract

How tissue injuries progress among organs during LPS-induced fulminant hepatic failure remains to be elucidated, especially during the very acute phase of small animal models. We have addressed this problem in LPS/D-galactosamine-induced fulminant hepatitis by using sequential micro-MRI scanning. Analysis of T2-weighted MRI signal intensities detected tissue injury in the liver during the early phase (as early as the 3 h timepoint), at which point histological examination revealed only minor morphological changes in hepatic tissues.