

Gd-EOB-DTPA enhanced MR imaging findings of non-diffuse fatty change of the liver

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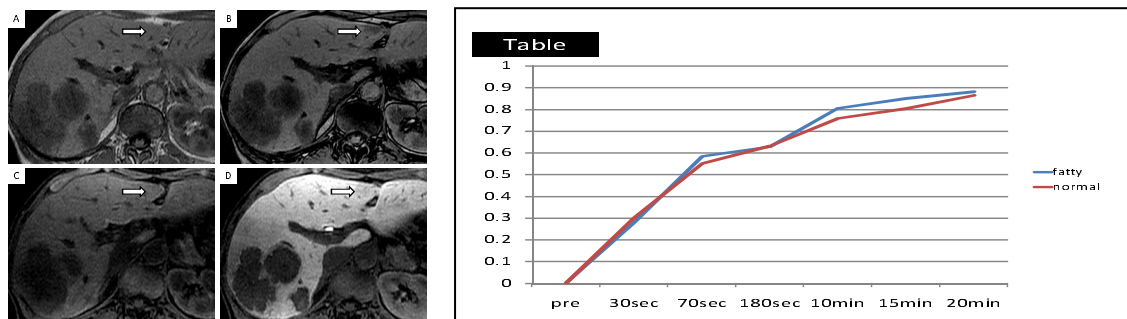
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PURPOSE: To evaluate the difference in enhancement effects of the liver between area of fatty change and area of non-fatty change at gadolinium ethoxybenzyl diethylenetriamine pentaacetic acid (Gd-EOB-DTPA) enhanced MR imaging to clarify whether the presence of fatty infiltration affected the liver uptake of Gd-EOB-DTPA.

MATERIALS AND METHODS: Six patients with non-diffuse fatty change of the liver underwent Gd-EOB-DTPA enhanced MR imaging including dynamic study using a 1.5T MR unit. Areas of fatty changes were confirmed by signal loss on out-of-phase MR imaging in comparison with in-phase MR imaging. Dynamic contrast-enhanced MR imaging (DCE-MRI) was performed using a 3D T1-weighted gradient-echo sequence with fat saturation. DCE images were obtained at pre, arterial-phase (AP: 25-30sec), portal-phase (PP: 70sec), equilibrium-phase (EP: 3min) and hepatocellular phases (10, 15, 20min). The percentage differences of contrast enhancement ratio (CER%) calculated from signal intensity measurement of the liver on each phase of DCE study were compared between area of fatty change and area of non-fatty area in all phases.

RESULTS: On the vascular phases (AP, PP, EP), there was no significant differences in the CER % between area of fatty change (24.2+/-15.5%, 46.6+/-10.6%, 58.2+/-8.3%) and area of non-fatty change (32.7+/-25.6%, 51.0+/-11.7%, 55.7+/-10.3%). On the hepatocellular phases (10,15,20min), there was also no significant differences in the CER % between area of fatty change (75.9+/-15.2%, 78.2+/-18.4%, 83.4+/-14.7%) and area of non-fatty change (69.3+/-8.1%, 74.3+/-5.4%, 81.5+/-5.9%).

CONCLUSION: Our results showed that the presence of fatty infiltration of the liver did not affect the hepatic contrast enhancement effects of Gd-EOB-DTPA in both vascular and hepatocellular phases. This fact indicated that the hepatic function for the uptake of Gd-EOB-DTPA can be preserved in the area of fatty change of the liver.



The difference in enhancement effects of the liver between area of fatty change and area of non-fatty change at gadolinium ethoxybenzyl diethylenetriamine pentaacetic acid (Gd-EOB-DTPA) enhanced MR imaging

A and B shows the presence of fatty changes confirmed by signal loss on out-of-phase MR imaging.

C,D and Table shows that the presence of fatty infiltration of the liver did not affect the hepatic contrast enhancement effects of Gd-EOB-DTPA in both vascular and hepatocellular phases.