

**Characterization of focal hepatic lesions
with ferucarbotran (Resovist)-enhanced T2 and T2*-weighted MR imaging**

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목적 : The purpose of this study was to characterize focal hepatic lesions through pre and post ferucarbotran-enhanced T2 and T2*-weighted imaging and to help differentiate benign and malignant lesions

대상 및 방법 : Consecutive 34 patients with 52 hepatic lesions underwent MRI before and after intravenous bolus injection of ferucarbotran (Resovist Schering, Berlin, Germany) for evaluation of focal hepatic lesions. Lesions included hemangiomas ($n=17$), metastases ($n=12$), cysts ($n=10$), hepatocellular carcinomas ($n=8$), dysplastic nodules ($n=4$), and focal fat deposit ($n=1$). T2-weighted fast spin echo (TR/TE = 4060/138) and gradient echo T2*-weighted images (TR/TE = 140/5.3, FA = 90) were obtained according to the institutional routine imaging protocol. Lesional signal-intensity and lesion-to-liver contrast changes were measured by contrast-to-noise ratio (CNR) from region of interest.

결과 : Hemangiomas showed significantly decreased CNR on post-contrast T2-weighted images (mean = -59%, $p < .01$) and significant increased CNR on post-contrast T2*-weighted images (mean = 46%, $p < .01$). On ferucarbotran-enhanced T2*-weighted images, metastases had a significantly increased CNR (mean = 123%, $p < .01$) comparing on T2-weighted images (mean = 22%, $p = .07$). Cysts also showed no significant CNR change after contrast injection on T2-weighted images (mean = 10%, $p = .61$), but showed significantly increased CNR on T2*-weighted images (mean = 85%, $p = .026$). Hepatocellular carcinomas showed increased contrast-to-noise ratio on ferucarbotran-enhanced T2 (mean = 41%, $p = .06$) and T2*-weighted images (mean = 685%, $p = .089$). Dysplastic nodules showed no significant change in signal intensity on pre and post ferucarbotran-enhanced T2 (mean = -65%, $p = .41$) and T2*-weighted images (mean = 149%, $p = .67$).

결론 : Comparing to pre-contrast images, CNR of hemangiomas is lower on ferucarbotran-enhanced T2-weighted images and higher on T2*-weighted images, which may aid in the differentiation of hemangiomas from other focal hepatic lesions. Metastases may show higher sensitivity on ferucarbotran-enhanced T2* weighted images than on ferucarbotran-enhanced T2 weighted images depending on more obvious CNR changes