

Effect of Autologous Bone Marrow Cell Infusion Therapy in Patient with Liver Cirrhosis on Ferucarbotran-enhanced MR Imaging: A Preliminary Report.

M-S. Park¹, and J. Kim²

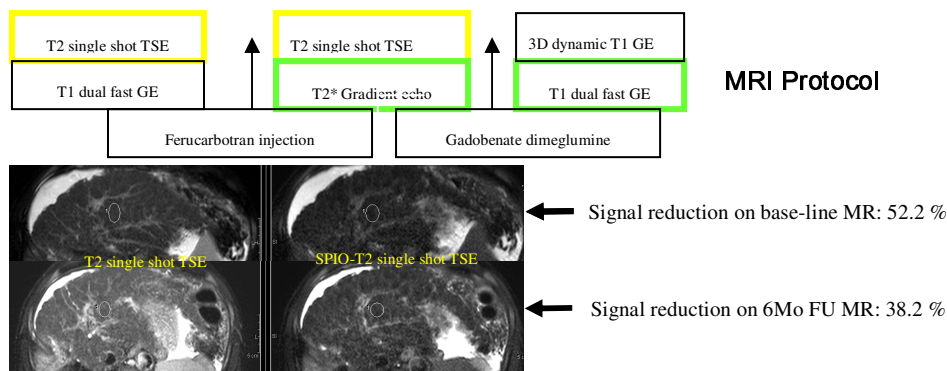
¹Radiology, Yonsei University, Severance Hospital, Seoul, Seoul, Korea, Republic of, ²Yonsei University

Purpose: To prospectively evaluate the effect of autologous bone marrow cell infusion (ABMI) therapy in the patients with liver cirrhosis on ferucarbotran-enhanced MR Imaging.

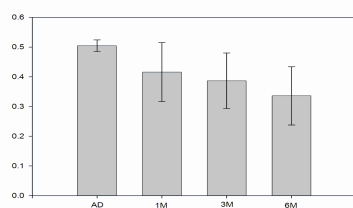
Materials and Methods: This prospective study was approved by the institutional review board. All patients were required to provide written informed consent before study participation. Five patients with liver cirrhosis (child B, C) underwent ferucarbotran-enhanced MRI and liver biopsy before and 1, 3, and 6 months after ABMI therapy. The total liver volume was measured. The percentage of signal intensity loss was performed by measuring the signal intensity of the liver on respiratory-triggered T2-weighted FSE sequence before and after ferucarbotran administration. Radiologic findings were correlated with clinical and pathologic (Kupffer cell and progenitor cell) findings.

Results: In 4 of the 5 patients, liver volume obtained at 6 months after ABMI was increased from 105% to 145% (mean; 112.4%) of the initial volume. Mean % signal intensity loss on baseline MRI after SPIO injection was 50.4% (from 47.3 to 52.2 %). A gradual reduction in mean % signal intensity loss was observed on follow up MRI (33.5% at 6 months after ABMI). A gradual increase in mean serum albumin level was observed (from 3.12 on baseline to 3.52 on 6 month). The mean progenitor cell compartment demonstrates an increased number of them after ABMI with the peak on 3 month. The Kupffer cell compartment demonstrates a gradual reduction, in spite that there was individual variation.

Conclusions: There was a gradual reduction of SPIO uptake after ABMI with increase of liver volume and serum albumin level, which might reflect the progenitor cell proliferation and reduction of the Kupffer cell compartment.



Summation value of SI loss on SPIO-MRI



Kupffer cell

