Focal nodular hyperplasia of the liver: Usefulness of SPIO-Enhanced MR Imaging

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**Background:** Superparamagnetic iron oxide (SPIO) uptake is expected in focal nodular hyperplasia (FNH) as the lesion contains Kupffer cells and has an excellent vascular supply.

**Case Report:** A 12-year-old girl was referred to our institute for further evaluation of abdominal pain and right lower abdominal mass. Her liver function tests and tumor markers were normal, such as \( \alpha \)-fetoprotein of 2.3 ng/ml and carcinoembryonic antigen < 0.5 ng/ml. An abdominal ultrasonographic examination revealed a well-demarcated heterogenous lesion in segment 5 and segment 6 of the right lobe of the liver, about 13 cm in diameter. It was seen as a hyperdense lesion with a suspected central stellate scar on enhanced CT. SPIO (FeridexTM)-enhanced MR imaging was performed to differentiate the lesion from malignant hepatic tumors such as hepatocellular carcinoma. The T1-weighted spin echo image obtained 1 hour after FeridexTM injection showed a predominantly hyperintense tumor mass containing a few streaky linear hypointense areas. On laparotomy, a brown, circumscribed, hypervascular mass protruding caudally with a nodular surface was found in segments 5 and 6 of the right hepatic lobe. Partial hepatectomy of segments 5 and 6 was performed. Pathologic findings confirmed the diagnosis of FNH. After 7 year of follow-up, there have been no signs of recurrence.

**Conclusion:** The use of SPIO-enhanced MR imaging is useful to diagnose FNH preoperatively.