

Case of a successful liver transplantation from a living donor with focal nodular hyperplasia

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To the editor,

The number of patients awaiting liver transplantation is increasing, whereas the donors are few. Thus, the donor pool must be optimized. Due to the increasing demand for liver donations, the eligibility criteria have been reviewed and “extended donor criteria” have been suggested with the aim of expanding the donor pool. Generally, applicants with hepatic lesions identified by using different imaging methods are excluded from the list. However, mass lesions in the liver should not constitute a definitive contraindication to donation. Evaluation as to whether a donor applicant meets the extended donation criteria is possible via imaging techniques and/or histopathological assessment. In this article, we present a case of a successful liver transplantation from a living donor with a focal nodular hyperplasia (FNH) identified by imaging techniques.

The first-degree relative of a 42-year-old man with ethylic cirrhosis under follow-up at our clinic was found eligible for liver donation based on the relevant test results. Computerized tomography (CT) and magnetic resonance imaging (MRI) examinations of the donor applicant revealed a 13-mm nodular lesion in segment 8 of the hepatic right lobe. Two separate radiologists evaluated the CT and MRI findings. An isodense or slightly hypodense mass was identified on a non-enhanced CT scan, which showed bright homogenous contrast enhancement in the arterial phase images due to prominent arterial supply that then became isodense or slightly hyperdense to liver in the portal venous phase. An MRI confirmed the diagnosis of FNH at the liver segment 8, which showed a lesion with intense homogenous contrast uptake with a subtle central scar during the early arterial phase on fat-saturated, contrast-enhanced T1 images, and showed no washout during the phases that followed (Fig. 1). Depending on the imaging findings, the nodular lesion was found consistent with FNH and therefore, a histopathological evaluation was considered unnecessary. Subsequently, liver transplantation from the living donor with FNH was performed in December 2014. We preferred transplantation of the right lobe, as the left lobe volume was estimated to be insufficient for the receiver and because the lesion in the right lobe was accepted as benign.

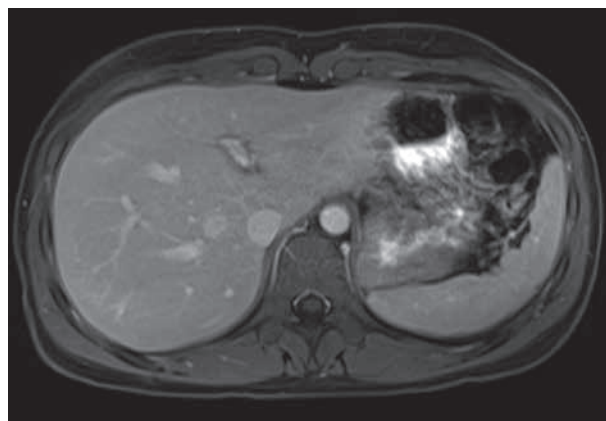


Fig. 1. — Fat saturated contrast enhanced T1 series of donor liver : intense homogenous contrast uptake during early arterial phase that showed no wash out at following phases.

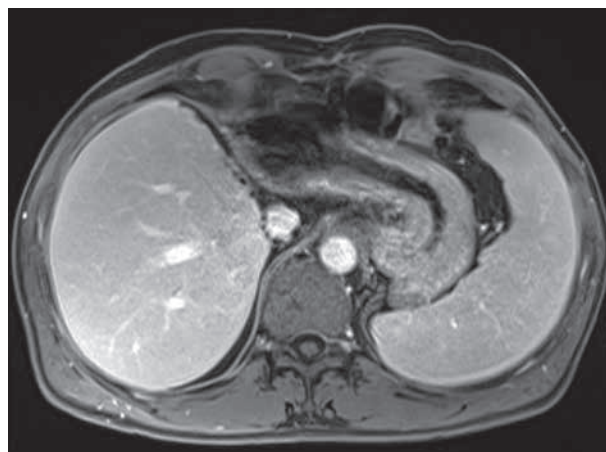


Fig. 2. — Fat saturated contrast enhanced T1 series of post-transplant liver : no lesion is seen.

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No adverse clinical or laboratory events occurred during or after the transplantation. The patient's post-transplantation ultrasound at 3 months showed no change in the mass size, but a follow-up MRI scan at 6 months post-transplantation did not reveal any lesions on the fat-saturated, contrast-enhanced T1 scans (Fig. 2). A possible rationale for this finding would be the shrinkage of the lesion due to a decrease in vascularization of the lesion after the transplantation.

FNH is often incidentally detected as a benign subcapsular tumor of the liver generally 1-3 cm in size (1). FNH in the donor liver is not a contraindication for transplantation (1). Although FNH is rarely a primary tumor of the liver; it is the second most common benign tumor following hemangiomas (2).

Distinguishing FNH from other benign liver tumors, such as adenomas is essential. FNHs have a favorable clinical course, while adenomas have a higher risk of complications such as hemorrhage, rupture, or most importantly neoplastic degeneration (3,4). A histopathological diagnosis is occasionally required because of the difficulty in distinguishing FNH from adenomas by imaging techniques (5).

The present case is unique as it is one of the few cases of liver transplantation from a living donor with FNH reported in the literature (6). This case indicates that FNH has a favorable course in the short-term. The lesion showed no progression; on the contrary, it showed regression on follow-up imaging. Additionally, this case suggests that performing liver transplantation from a living donor with FNH could optimize the donor pool.

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