

LETTER TO THE EDITOR / *Gastrointestinal imaging*

From a typical focal nodular hyperplasia to a fibrotic band with capsular retraction: A case report



Observation

Keywords: Focal nodular hyperplasia; Magnetic resonance imaging; Contrast agent; Glutamine synthetase; Spontaneous regression

A 42-year-old woman had a history of fortuitously discovered liver lesions detected during abdominal ultrasonography realised for abdominal pain. She has benefited from a regular magnetic resonance imaging (MRI) follow-up in different imaging department. Clinical examination and liver functions have never revealed any perturbation.

The first (Fig. 1, line A) and intermediate (Fig. 1, line B) MRI, which were respectively performed in 2006 and

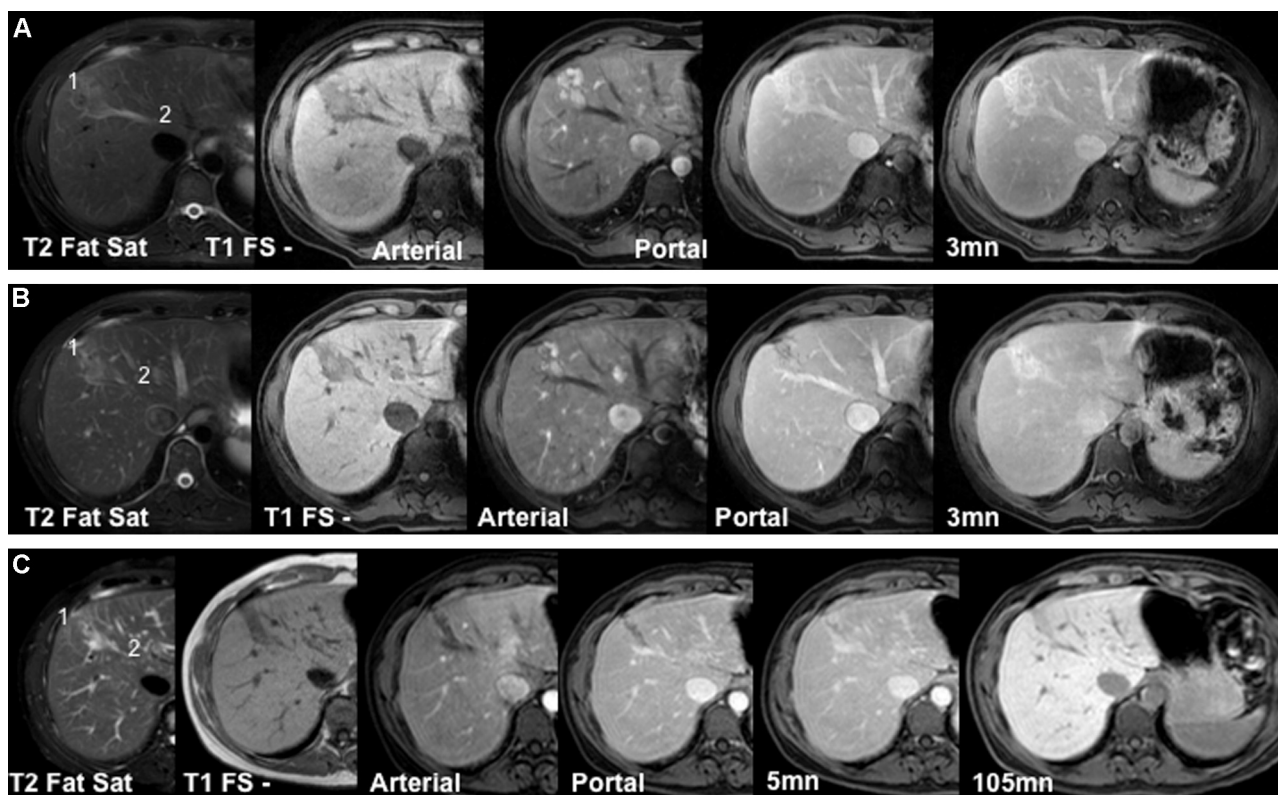


Figure 1. Line A. First MR examination (2006), showing two hyper vascular lesions (lesion 1 and 2), developed in a non-dysmorphic, non-fatty liver and localized in segment IV, slightly hyperintense on T2-weighted sequence, with intense enhancement at the arterial phase without wash-out. All these findings were consistent with typical FNHs. Line B. Second MR examination (2009), showing a reduction size of the first FNH (lesion 1), whereas the second one (lesion 2) increased significantly. Line C. Third MR examination (2014), exhibited a fibrotic area, 45 mm diameter, associated with a focal capsular retraction, located in the segment IV, instead of the former FNH (lesion 1). The other FNH (lesion 2) in segment IVA was continuing to increase to reach 26 mm.

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2009, demonstrated a typical focal nodular hyperplasia (FNH) (lesion 1), localized in segment IV, lobulated, slightly hyperintense on T2-weighted sequence, slightly hypointense on T1-weighted sequence and with marked enhancement on arterial phase then homogenization without washout. A central scar was observed corresponding to a central area strongly hyperintense on T2-weighted sequence with delayed enhancement. Between 2006 and 2009, its maximum length on arterial phase reduced from 56 mm to 43 mm. A second typical FNH (lesion 2) was observed in segment IV whose maximum length increased from 11 mm in 2006 to 16 mm in 2009.

In February 2014, her liver MRI was performed in our centre. MR examinations (Fig. 1, line C) exhibited a non-dysmorphic, non-fatty liver, and identified a fibrotic area, 45 mm diameter, associated with a focal capsular retraction, located in the segment IV, instead of the former FNH (lesion 1). After contrast agent injection (Multihance®, Gadobenatidimeglubine, Bracco, Milan, Italy), this lesion was enhanced only at delayed phases (2, 5 and 45 minutes), which was consistent with fibrous component. At hepatobiliary time acquisition (105 minutes), the lesion showed no enhancement. Interestingly, the other FNH (lesion 2) in segment IVA was continuing to increase to reach 26 mm.

Discussion

FNH is a benign proliferation of non-neoplastic hepatocytes, classically asymptomatic, which, when typical, does not require biopsy, follow-up or treatment. Different evolutions have been described in various proportions. Most of time, FNH remains stable. Proportion of growing FNH is about 0.7% [2] to 11.1% [3]. Significant decreasing in length ranges from 2.2% [2] to 55.5% [3] with possible disappearance. One pathological analysis in a spontaneous regression case exhibited an atypical fibrous component with numerous dystrophic arteries. Glutamine synthetase staining was negative [4]. MRI demonstrated a loss of FNH diagnosis criteria quite similar to our case. Two factors for regression have been found: older age and long follow-up duration [5]. Capsular retraction of the liver is classically adjacent to a malignant hepatic mass. However, this phenomenon was observed aside a typical FNH [6].

In this observation, for the last follow-up, the lesion showed no enhancement at hepatobiliary phase with liver-specific MRI contrast agents (Gadobenatidimeglubine, Bracco, Milan, Italy). These agents may help to differentiate FNH from hepatocellular adenoma by showing the biliary excretion product in FNH [1,7]. We thought that the total regression of the FNH explains the lack of enhancement at hepatobiliary phase due to the lack of ductular reaction.

Conclusion

Finally, this case illustrates several rare findings observed in a single case of FNH:

- different profiles of evolution in the same patient;
- total regression of the typical part replaced by a fibrotic area;
- capsular retraction as a feature of fibrosis involvement of decreasing FNH.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

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A. Crombe*, N. Alberti,
P. Balageas, N. Frulio

Department of Medical Imaging, Hôpital
Saint-André, CHU de Bordeaux, 1, rue
Jean-Burquet, 33000 Bordeaux, France

* Corresponding author.

E-mail address: amandine.crombe@ens-lyon.fr

(A. Crombe)