

Clinical-Medical Image

Focal Nodular Hyperplasia: The 7 Characteristic Features on Imaging.

Lina Belkouchi*, Aourarh Benayad, Saouab Rachida

Department of Radiology, Children Hospital of Rabat, Faculty of Medicine and Pharmacy of Rabat, Morocco

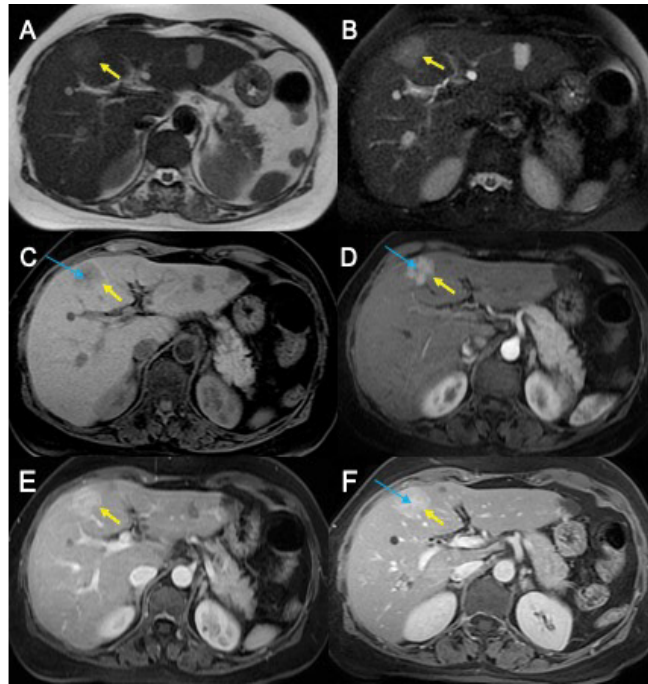


Figure 1: Liver MRI with axial images in T2 weighted sequences without FS (A) and with FS (B), T1 weighted sequence (C), and T1 enhanced sequences in arterial phase (D), portal phase (E) and delayed phase and (F), showing a focal nodular hyperplasia of the liver (yellow arrows), with the central scar that is hypointense in T1 and arterial phase and becomes enhanced in the delayed phase (blue arrows, C, D and F).

Clinical Image

Focal nodular hyperplasia or FNH is the second most common benign liver tumour after hemangiomas. It is caused by abnormal alignment of hepatocytes, due to hypoperfusion or hyper perfusion in the hepatic lobule, from anomalous arteries [1-2].

It affects women mostly, in their reproductive age, and is usually asymptomatic, discovered incidentally through imaging, however, sometimes when enlarged it may cause discomfort and vague abdominal pain.

Magnetic Resonance Imaging (MRI) is the method of choice for its diagnosis.

The importance of recognizing FNH resides in its differential diagnosis: Hepatic adenoma, Hepatocellular carcinoma and hypervascular metastases (Figure 1).

To confirm diagnosis, there are 7 characteristic features on imaging:

1. It is a homogeneous, non-capsulated lesion, with well-defined margins that are sometimes lobulated.
2. It is isoechoic on ultrasound.
3. In MRI: It is isointense on T1 weighted images or slightly hypointense and isointense on T2 weighted images or slightly hyperintense, because it contains disorganized hepatocytes, thus, signal stays homogeneous to liver signal.

*Corresponding author: Lina Belkouchi, Department of Radiology, Children Hospital of Rabat, Faculty of Medicine and Pharmacy of Rabat, Morocco, Tel: +212 659 14 27 87; E-mail: belkouchilina@gmail.com

Citation: Belkouchi L, Boneyard A, and Rachida S, (2021) Focal Nodular Hyperplasia: The 7 Characteristic Features on Imaging. *Int J Clin Med Imaging* 8:788.

Copyright: © 2021 Belkouchi L, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

4. Surrounded liver parenchyma is respected.
5. It contains a central scar that may be seen in 50%-80% of the cases.
6. Contrast enhancement is typically intense and homogeneous at arterial phase, and becomes iso intense in the late phase. The central scar is hypointense in arterial phase, but becomes enhanced in the late phase. It presents no wash out.
7. It contains a feeding arteriole that develops towards the central scar.

When asymptomatic, Patients only need an imaging follow up and no treatment is required, however, when symptomatic, surgical resection is necessary.

Keywords: Liver; Focal; Lesion; Imaging; FNH

Declaration of Interests

The authors declare that they have no competing interests.

References

- [1] Venturi A, Piscaglia F, Vidili G, Flori S, and Righini R, et al. (2007) Diagnosis and management of hepatic focal nodular hyperplasia. *J Ultrasound*. 10:116-127.
- [2] Matos AP, Velloni F, Ramalho M, AlObaidy M, and Rajapaksha A, & Semelka, et al. (2015) Focal liver lesions: Practical magnetic resonance imaging approach. *World J Hepatol*. 7: 1987-89