



ORIGINAL ARTICLE / *Abdominal imaging*

Suspicious liver nodule in chronic liver disease: Usefulness of a second biopsy

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Abbreviations: AASLD, American Association for the Study of Liver Diseases; CT, Computed Tomography; EASL, European Association for the Study of the Liver; HCC, hepatocellular carcinoma; MRI, Magnetic Resonance Imaging; Nn, number of nodules; Np, number of patients; RFA, Radiofrequency Ablation; TACE, Transcatheter Arterial Chemoembolization; US, Ultrasound.

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KEYWORDS

Hepatocellular carcinoma (HCC); Percutaneous liver biopsy; Imaging guidance; Diagnostic yield; Efficacy study

Abstract

Purpose: To assess the usefulness of a second biopsy when the first one was inconclusive in patients with a liver nodule found during the follow-up for chronic liver disease.

Materials and methods: Among 381 patients (544 nodules) included in a prospective study designed to evaluate the accuracy of imaging for the diagnosis of small hepatocellular carcinoma (HCC) in chronic liver disease, 254 nodules were biopsied. The following histological results were considered as conclusive: HCC, dysplastic or regenerative nodule, and other identified tumors (benign or malignant). For nodules with inconclusive results (e.g. fibrosis or no definite focal lesion), a second biopsy was suggested, but was not mandatory.

Results: A total of 242 patients (194 men, 48 women; mean age, 61.9 ± 9.5 [SD]; range: 40.2–89.0 years) with 254 nodules underwent a first biopsy. Mean nodule diameter was 19.2 ± 5.4 mm (range: 10–33 mm). The first biopsy was conclusive in 189/254 nodules (74.4%): 157 HCCs (83.1%), 11 regenerative nodules (5.8%), 10 dysplastic nodules (5.3%), 3 cholangiocarcinomas (1.6%), and 8 other tumors (4.2%). Among the 65 nodules for which the first biopsy was inconclusive, a second biopsy was performed for 17 nodules in 16 patients within 6 months of the first one. It was conclusive in 13/17 nodules (76.5%): 10 HCCs (76.9%), 2 dysplastic nodules (15.4%), and 1 other tumor (7.7%). In 4/17 nodules (23.5%), no definitive diagnosis could be provided.

Conclusion: The diagnostic yield of a second biopsy of a suspicious lesion suggestive of HCC in chronic liver disease is not decreased compared to the first one. Repeated biopsy after a first negative one could be an alternative option to the follow-up of patients with chronic liver disease.

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Introduction

In patients with cirrhosis, typical imaging features on dynamic-enhanced images can help reach a non-invasive diagnostic imaging of hepatocellular carcinoma (HCC) [1,2]. However, in the event of missing typical hallmarks, a biopsy is still needed to achieve a final diagnosis [2–4].

Ultrasound screening programs of HCC in cirrhotic patients result in the discovery of an increasing number of

small nodules. It has been shown that 20 to 40% of small HCCs do not display typical features of HCC [5–7] and should therefore be biopsied. However, pathological diagnosis is particularly complex for nodules between 10 and 20 mm [8]. Morphological criteria alone are still challenged for the differential diagnosis of high-grade dysplastic nodules versus early HCC, especially because the pathological hallmark of HCC, stromal invasion, can be absent or difficult to identify in biopsy specimens [9,10].

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