Atypical follicular nodular hyperplasia misdiagnosed as Hepatocellular carcinoma; a case report and review of the literature

Fabio A González-Mondellini, MD; Cesár E Escareño-Pérez, MD; Alberto Riojas Garza, MD; Jorge A Saldaña-Rodriguez, MD; Eliana López-Zamora, MD; César M Gutierrez-Peña

Instituto de Cirugía, Hospital Zambrano Hellion TecSalud, Tecnológico de Monterrey, San Pedro Garza García, N.L., México

Introduction

Follicular nodular hyperplasia (FNH) is the second most common benign liver tumor, representing 25%. Imaging can help make the final diagnosis, although atypical cases can require a different approach. Biopsy has been the standard tool in patients presenting with inconclusive imaging. When deciding on management false negatives and false positive results from biopsy must be taken into consideration. We present a patient misdiagnosed with Hepatocellular carcinoma (HCC).

Case presentation

A 40y old patient presented with an elevated Alkaline Phosphatase (693) in his routine check-up. During his work up a liver mass was found in the US. CT reported a 14.3 x 11.6 x 12.3 cm, irregular, lobulated mass with a central scar with homogenous enhancement in the arterial phase, predominantly in the portal phase, associated with 3 small calcifications and peripheral isodense necrosis zones. A liver biopsy was taken, seven samples were analyzed and a hepatocellular carcinoma diagnosis was made. The patient was scheduled for a right extended hepatectomy. The patient developed pneumonia postoperatively requiring management in the ICU and was finally discharged 10 days after surgery. . Definitive pathology of the liver mass reported a FNH.

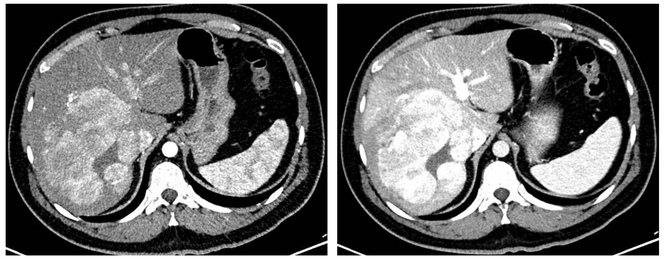


Image 1: CT scan. A. Arterial phase with homogeneous enhancement and central scar. **B.** Portal phase shows augmented enhancement.

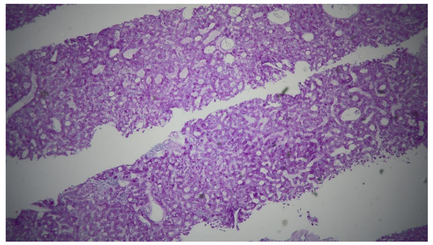


Image 2: Liver biopsy H&E stain: HCC with moderate nuclear atypia, hyperchromatic nuclei, trabecular pattern.

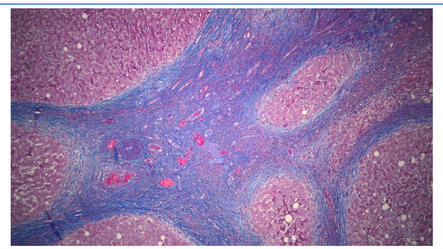


Image 3: Definitive pathology Trichrome stain: highlighting fibrous bands, bland hepatocytes.

Discussion

The diagnosis of FNH is based on patient history and imaging, most commonly; asymptomatic with normal liver function tests. Imaging helps differentiate FNH from other hepatic tumors (hepatic adenoma, HCC, fibrolamellar carcinoma), characteristic findings include a central scar, homogeneous enhancement in the arterial phase with attenuation in the portal phase. Our patient presented with no personal history of cancer and no risk factors for hepatocellular carcinoma and imaging was nonconclusive. A liver biopsy was undertaken to clarify the diagnosis, although it was misdiagnosed as HCC. Several studies have shown that a preoperative biopsy can have up to 94% accuracy when imaging has classic findings but can drop to 58% in atypical cases. Few false negatives where an HCC was found on biopsy have been reported but all have greatly influenced final management.

Conclusion

When deciding between conservative and surgical management in patients with atypical cases, false negative biopsy for FNH should be considered as a possibility. We recommend a multidisciplinary approach and considering repeating biopsy before major surgical procedures are performed.

References

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contact: fabioglzmon@gmail.com