

3. TACTICS OF IMAGING INVESTIGATIONS IN THE DIAGNOSIS OF HEPATOCELLULAR CARCINOMA



Author: Franjev Dmitri

Scientific advisor: Gavrilaşenco Igor, Assistant Professor, Department of Radiology and Imaging, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. Hepatocellular carcinoma (HCC) is the most common type of primary liver cancer, accounting for approximately 85-90% of all cases. It is unique among malignancies shown on imaging investigations, allowing an accurate diagnosis without an invasive biopsy.

Aim of study. Analysis and determination of optimal investigations in the detection of hepatocellular carcinoma.

Methods and materials. A literature review of the scientific literature specialized in hepatocellular carcinoma imaging was done. There were used scientific articles from PUBMED, NCBI, Radiopedia databases.

Results. A significant sensitivity has been reported using ultrasonography, ranging from 34 to 100%. Another attractive method is computed tomography (CT) with contrast substance, as it allows the detection, characterization and clinical staging of liver lesions. One study from the USA found that CT scanning showed increased sensitivity for HCC detection compared to USG or AFP, while another study found US and CT to have comparable sensitivity and specificity. In recent years, magnetic resonance imaging in angiographic mode has been noted for better detection of liver lesions. Lesion detection rates of 80% for nodules >2 cm, 50% for nodules 1–2 cm, and 33% for lesions <1 cm were reported in one study that concluded that MRI was insensitive for detecting HCC nodules <2 cm in patients with cirrhosis. However, a more recent study in cirrhotic patients reported that the presence of delayed hypointensity in patients with arterial-enhancing liver lesions had a sensitivity of 80% and a specificity of 95% for small (<2 cm) HCC.

Conclusion. The diagnosis of HCC is based on the assessment of attenuation differences on CT and signal intensity on MRI, these being the optimal investigations in detection of liver cancer. However, for a better diagnosis, it is necessary to perform at least two investigations: USG/CT, USG/MRI or CT/MRI, especially in the case of small formations in the liver.