Cardiac manifestation of hepatocellular carcinoma

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A 76-year-old Caucasian woman with a history of hepatitis C presented to our institution due to symptoms of worsening fatigue and peripheral oedema. She had signs of right heart failure and almost normal laboratory profile. Cardiac echocardiography revealed a hypertrophied left ventricle and the presence of a round mass in the right atrium. In transoesophageal echocardiogram, the mass appeared homogeneous, 4.43 x 4.28 cm in size with projections into the right ventricle during diastole and into the inferior vena cava (IVC; Figure 1A). A computed tomographic (CT) scan of the abdomen revealed a mildly contrast-enhanced right lobal sub-diaphragmatic liver tumour (Figure 1B). The presence of a mass inside the right atrium was confirmed and there were signs of continuity between these two identities (Figure 1C), which was also apparent in magnetic resonance imaging (Figure 1D). CT-guided biopsy of the tumour showed hepatocellular carcinoma. Right heart masses are nosological entities quite rarely observed, which are associated with difficulties in differential diagnosis. Hepatocellular carcinoma, the most common primary malignant tumour of the liver, frequently extends to vessels, with IVC involvement predicted to be up to 26%, through which the tumour can affect the right heart in less than one-fourth of the cases. Tumours with intracardiac extension can present with symptoms of right heart failure, can affect the integrity of the tricuspid valve, and can lead to pulmonary embolism or sudden death, but they may also be asymptomatic. A high level of clinical suspicion is needed in order to identify the hepatic source of some intracardiac masses.

Figure 1 Echocardiographic, CT and MRI imaging of the tumor (for details see text)

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