Isolated hepatocellular carcinoma recurrence in the right ventricle

Wznowa izolowanego raka wątrobowokomórkowego w prawej komorze

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A 63-year-old male has had medical records of hepatocellular carcinoma (HCC), segment 2 of liver (1.7 cm), and received lobectomy with assistance of radiofrequency tumour ablation 2 years as well as coronary artery disease and triple vessel disease, and he had performed percutaneous coronary intervention, including plain old balloon angioplasty and stent implantation in the past 5 years. Recently he began to have symptom of shortness of breath for 1 month. Scheduled transthoracic echocardiography incidentally showed a large tumour over the right ventricle with compression to the septum and left ventricle (Fig. 1). Computed tomography of the abdomen and chest was performed revealing no gross recurrence in the liver, but confirming a mass lesion in the right ventricle and in the root of the pulmonary trunk (Fig. 1). Metastatic cardiac tumour with unknown origin was first diagnosed. Pre-operation coronary angiography revealed no significant restenosis of coronary arteries, but prominent tumour blush and stain, mainly arising from both left anterior descending artery and right coronary artery, were noted (Fig. 1). Surgical intervention was performed for relief of tumour compression and obstruction (Fig. 2). The pathology surprisingly concluded the diagnosis of recurrent and metastatic HCC in the heart. Primary cardiac tumours are rare, and 75% of them are benign. In contrast, secondary cardiac tumours are much more common and they invade via direct extension, haematogenous spread, or retrograde lymphatic extension. HCC has been known to invade other organs mostly via the haematogenous route, and the majority of cardiac metastases are direct and contiguous extensions from the inferior vena cava to the right atrium. In this patient, an extremely rare case of isolated metastatic HCC in the right ventricle with neither evidence of recurrence in the liver nor involvement of right atrium or vena cava was diagnosed.

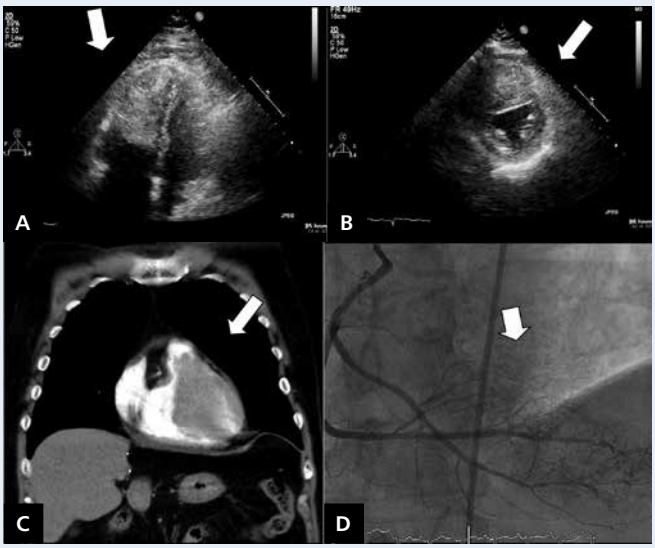

Figure 1. **A**. Transthoracic echocardiography, the apical four-chamber view showed a large tumour involving the right ventricle, measuring about 6 × 4 cm² (arrow); **B**. Transthoracic echocardiography, the parasternal short axis view showed tumour compression over the ventricular septum and left ventricle with D-shape (arrow); **C**. Computed tomography of the chest with contrast-media demonstrated a large tumour lesion (9.4 cm, arrow) involving the right ventricle and the root of the pulmonary trunk; **D**. Coronary angiography revealed tumour blush (arrow) from the left descending artery-septal perforator and right coronary artery

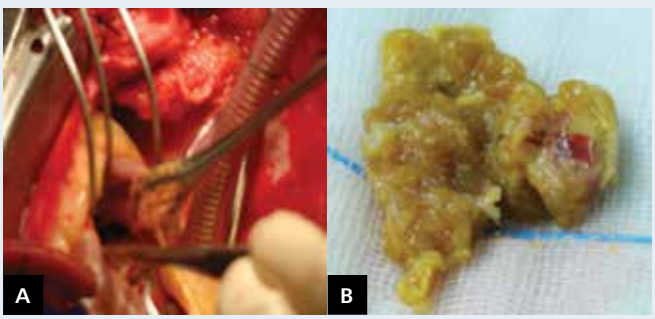

Figure 2. **A**. The procedure of the surgical removal of the cardiac mass in the right ventricle and the root of the pulmonary trunk; **B**. The tumour tissue that was resected from the heart

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