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STUDIUM PRZYPADKU / *CLINICAL VIGNETTE*

Unexpected cause of acute right heart failure: renal cell carcinoma and tumour thrombus

Nieoczekiwana przyczyna ostrej niewydolności prawokomorowej: rak nerkowokomórkowy i czop nowotworowy

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A 56-year-old man presented with significant lower extremity oedema, dyspnoea, abdominal distension and associated weight gain of five days' duration. His medical history included hyperlipidemia and smoking. Examination showed distended bilateral neck veins, grade 2/6 systolic murmur over tricuspid area, and bilateral prominent pretibial oedema. Electrocardiography showed sinus rhythm (65 bpm). Transthoracic echocardiography was undertaken to investigate the aetiology of heart failure symptoms, and a huge right atrial (RA) mass was detected (Fig. 1A). Transoesophageal echocardiography also showed a huge RA mass moving through the tricuspid orifice with a dimension of 50 × 25 mm (Fig. 1B, C). Tricuspid valve function was normal. Abdominal and thoracic computerised tomography identified a large 75 × 85 × 90 mm egzophytic lobulated mass involving the lower pole of the right kidney and also a 50 × 55 mm solid mass involving the lower pole of the left kidney with extension into renal veins, cephalad into the vena cava inferior (VCI), with contrast filling defect evident in the RA (Fig. 1D, E). There was no filling defect in the pulmonary trunk. Renal biopsy revealed clear cell type renal cell carcinoma (stage IV RCC). In the follow-up, his general condition worsened, and only palliative therapy was planned. The patient died because of sepsis after initiation of chemotherapy. The incidence of metastatic cardiac tumours is 0.2–6.45% in autopsy series and is higher than primary tumours (Lam KY et al. Arch Pathol Lab Med, 1993; 117: 1027–1031). RCC extends to the cardiac chambers rarely as tumour thrombus. RA involvement has been reported in 0.7–1% of patients (Babu SC et al. Am J Surg, 1998; 176: 137–192). Herein, we present a patient who was admitted to our hospital with acute right heart failure symptoms and diagnosed as metastatic RCC and tumour thrombus extending into the RA. Echocardiography is a valuable tool for the evaluation of patients with heart failure symptoms and the diagnosis of intracardiac masses. An intracardiac mass may be primary or metastatic cardiac tumour, tumour thrombus or vegetation from infective endocarditis. It is known that RA masses usually originate from an extracardiac site. RCC can extend into RA by way of the VCI and cause symptoms and signs such as dyspnoea, syncope, and right-sided murmurs (Mootha RK et al. Urology, 1999; 54: 561). Right-sided congestive symptoms, profound oedema, as seen in our patient, may be the predominant symptoms. Therefore it should be considered as a possible diagnosis in the presence of suitable signs and symptoms in a patient with intracardiac mass.

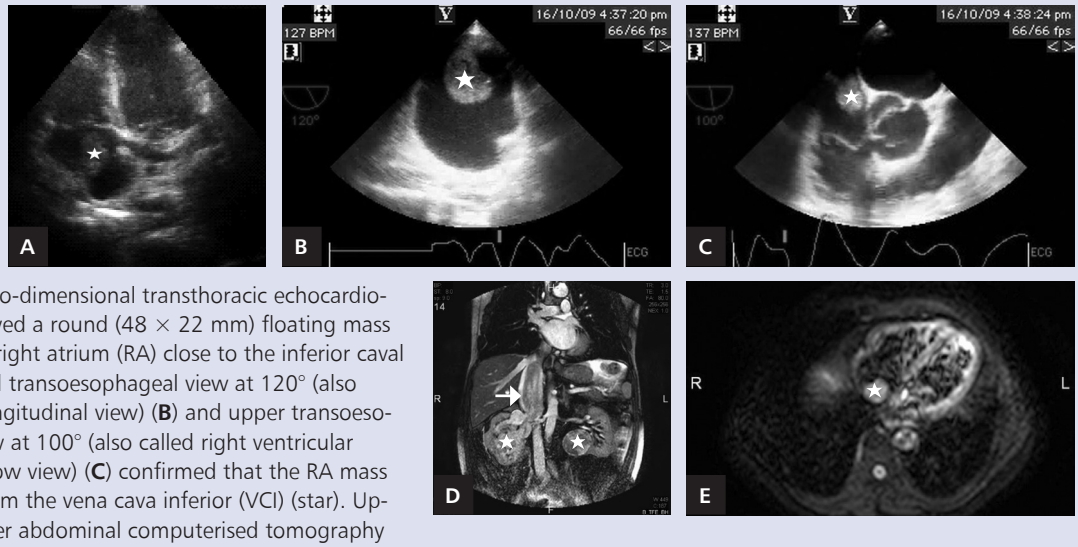

Figure 1. Two-dimensional transthoracic echocardiography showed a round (48 × 22 mm) floating mass (star) in the right atrium (RA) close to the inferior caval vein (**A**). Mid transoesophageal view at 120° (also called RA longitudinal view) (**B**) and upper transoesophageal view at 100° (also called right ventricular inflow-outflow view) (**C**) confirmed that the RA mass extended from the vena cava inferior (VCI) (star). Upper and lower abdominal computerised tomography (CT) showed a bilateral solid renal mass (stars) and tumour thrombus extension into the VCI (arrow) (**D**). Also thoracic CT demonstrated the RA mass (star) which was extending from the VCI (**E**)

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Conflict of interest: *none declared*