

A case of carcinoid pericardial metastases and massive effusion

Przerzuty rakowiaka do osierdzia z obecnością znacznego wysięku: opis przypadku

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A 74-year-old man with arterial hypertension, diabetes, persistent atrial fibrillation, disseminated carcinoid tumour and chronic renal failure was admitted because of hypotension and dyspnoea. His blood pressure was 80/50 mm Hg, and heart rate was irregular (130 bpm). The jugular veins were distended. On auscultation, the heart sounds were dull. Second heart sound was augmented. A holosystolic murmur was accompanied by a decrescendo diastolic murmur. The lung fields were clear, without the presence of wheezing. The liver was palpable about 4 cm below the right costal margin. Oedema on the lower legs was present. Massive pericardial effusion (PE) was recognised in echocardiography (Fig. 1). Six years previously, a disseminated carcinoid tumour was diagnosed because of recurrent flush with diarrhoea and elevated levels of 5-hydroxyindoleacetic acid (5-HIAA) 39.1 mg/24 h (normal 4.2–12.1) and chromogranin A 820.4 ng/mL (normal < 100). He underwent hemicolectomy and recurrent thermoablation of hepar metastases. Chronic therapy with octreotide and lanreotide was introduced, leading to a reduction of clinical symptoms and 5-HIAA urinary level. Two years later, diabetes mellitus, chronic renal failure requiring haemodialysis with secondary anaemia and hyperparathyroidism developed. In the last 12 months, fatigue, dyspnoea, and oedema in the legs occurred, and advanced heart failure (NYHA III, BNP 3000 pg/mL; normal: < 121) was diagnosed. Repeated transthoracic echocardiography revealed thickened and retracted leaflets and chordae caused an immobility of the valve in a semi-open position of tricuspid and pulmonary valves. Colour Doppler and continuous-wave Doppler (CWD) showed a characteristic 'dagger-shaped' severe tricuspid regurgitation (TR) signal with maximum velocity of 2.28 m/s, demonstrating a rapid decline in pressure difference between right ventricle (RV) and right atrium (RA) and mild tricuspid stenosis with mean pressure gradient of 3 mm Hg.

CWD of the pulmonary valve revealed severe regurgitation with a short deceleration time: 175 ms and mild stenosis with maximum velocity of 1.78 m/s (Fig. 2). Dilatation, overloading and dysfunction signs of RV developed, i.e. wall hypokinesia and reduction of tricuspid annulus plane systolic excursion (TAPSE) amplitude to 18.4 mm, abnormal intraventricular septal motion, dilatation and lack of inspiratory collapse of inferior vena cava (Fig. 3). Additional masses, suggesting pericardial metastases, and massive PE (up to 27 mm of liquid) were revealed (Fig. 1).

Myocardial metastases or endocardial fibrosis were not found. Left ventricular (LV) dysfunction with segmental hypokinesia of inferior wall and depressed ejection fraction (40%) developed. The patient underwent pericardiectomy for evacuation of 500 mL of bloody liquid. He did not agree to a surgical valve replacement and died within 2 months due to the decompensation of chronic heart failure.

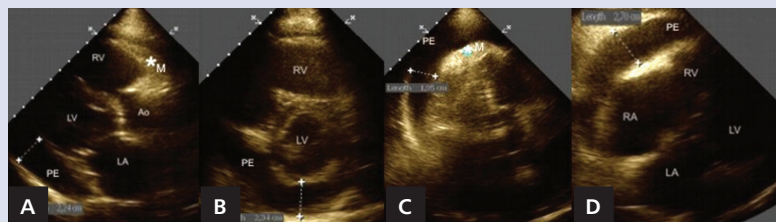


Figure 1. A–D. Pericardial carcinoid metastases and massive effusion; LA — left atrium; Ao — aorta; VCI — vena cava inferior; TV — tricuspid valve; PR — pulmonary regurgitation; M — metastasis; rest abbreviation — see the text

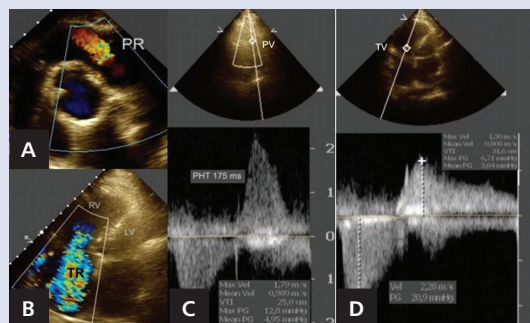


Figure 2. A–D. Combined carcinoid tricuspid and pulmonary valve disease

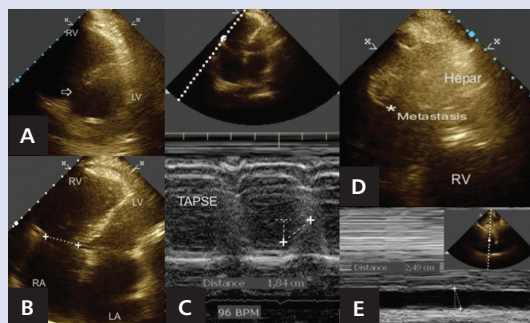


Figure 3. A–C, E. Dilatation and overloading of the right ventricle; D. Hepar metastases

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