

Tricuspid Stenosis: a Rare Finding in Carcinoid Syndrome

Estenosis tricuspídea: un hallazgo poco habitual en el síndrome carcinoide

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We report the case of a 55-year-old female patient, with no significant history of cardiovascular disease. In 2014, she presented with abdominal pain and a heterogeneous mass in the 3rd portion of the duodenum, and multiple images of liver nodes. A Tc-99-octreotide scan was performed in January 2015 with high expression of somatostatin receptors in the liver and abdomen. A surgical biopsy of the small bowel lesion in March 2015, revealed a neuroendocrine tumor. In 2016, a Doppler echocardiography reported physiological tricuspid regurgitation, with no other findings. The following year, her clinical condition deteriorated, with FC II/III dyspnea, asthenia, and increased intestinal transit. A new Doppler echocardiography was performed in May 2018 showing preserved biventricular function and diameters, moderate right atrial enlargement, thickening, reduced tricuspid valve mobility and retraction (Video 1), moderate tricuspid regurgitation with 28 mmHg RV/RA gradient and increased antegrade velocity with values corresponding to significant tricuspid stenosis (mean transtricuspid gradient of 6.57 mmHg and 151 ms PHT) (Figure 1). No pulmonary or left heart valve disease was observed. Three-dimensional reconstructions provided more information on the morphological changes typical of carcinoid tricuspid valve disease, showing the marked reduction in mobility (Figure 2 & Video 2). The tricuspid and pulmonary valves are the most affected, and the involvement of the left valves is more common in cases of bronchial carcinoids, uncontrolled disease or right-to-left shunts. Echocardiography is the key tool for diagnosing and quantifying the severity, follow-up and progression of valve disease. (1) For established carcinoid heart disease, echocardiography should be performed every 3 to 6 months if dictated by changes in clinical status. (2) The incidence of moderate to severe tricuspid regurgitation diagnosed by 2D Doppler echocardiography reaches 90%. (5) Only few cases have been reported in the literature of significant tricuspid stenosis. In this patient, 3D images confirm significant tricuspid stenosis, a rare expression of carcinoid heart disease.

Conflicts of interest

None declared (See authors' conflicts of interest forms on the website/ Supplementary Material).

See additional video in:
<https://youtu.be/U62WYKoZXY>
<https://youtu.be/XEZOulaTnqg>

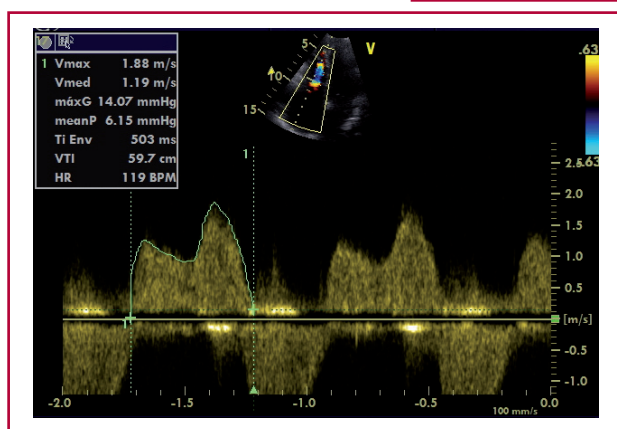


Fig. 1. Two-dimensional echocardiography. Four-chamber apical view, spectral Doppler of transtricuspid diastolic flow. Notice the significant increase in flow rate and the velocity time integral (VTI).

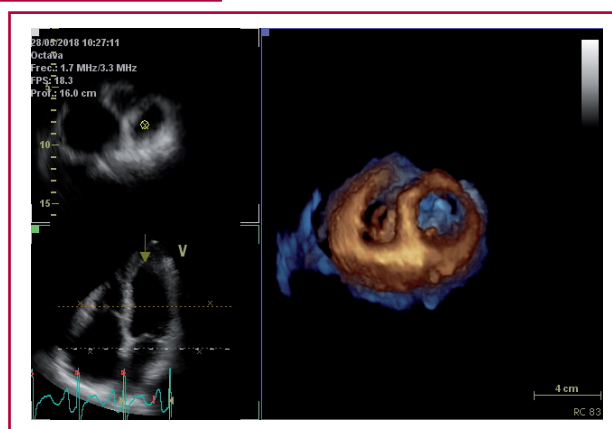


Fig. 2. 3D view of both atrioventricular valves from a ventricular perspective. Notice tricuspid leaflet thickening

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