Abstract: **P474**

Atrial tachycardia in carcinoid heart disease: the straw that breaks the camel's back.

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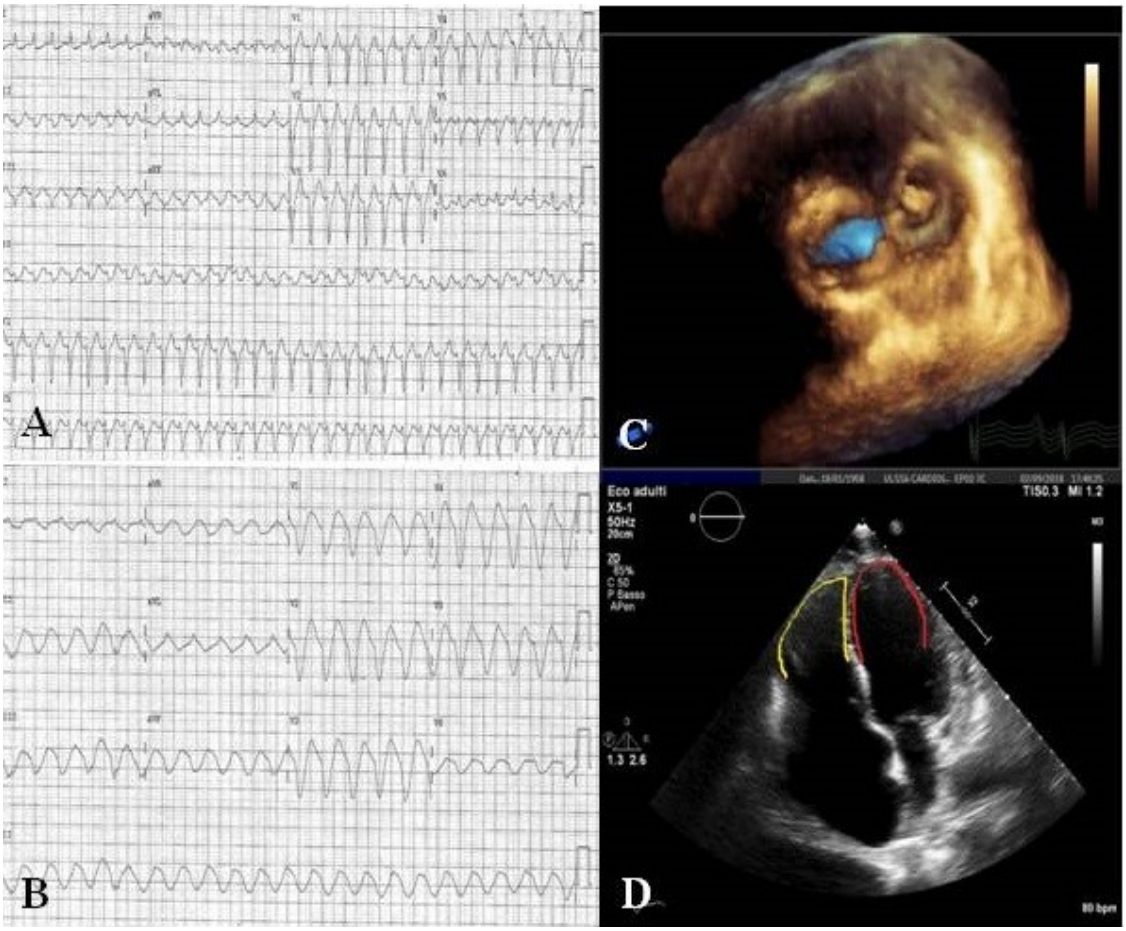
Introduction: Carcinoid tumor (CaT) is a rare neuroendocrine tumor (NET), characterized by secretion of serotonin and other vasoactive substances responsible for flushing, diarrhea, and bronchospasm. The cardiac manifestations of a CaT are referred as carcinoid heart disease (CaHD) and are usually characterized by right-sided valvular involvement that can lead to right-sided heart failure. We report a particular case of acute heart failure (HF) in a patient with CaHD, triggered by atrial tachycardia (AT).

Case report: A 60-year-old man was urgently carried to Emergency Room for breathlessness and tachycardia. In the medical history there were arterial hypertension, paroxysmal atrial fibrillation treated with flecainide and a recent detection of NET hepatic metastases. ECG showed an AT with elevated heart rate (figure A) and iv flecainide was adoperated to attempt pharmacological cardioversion. Suddenly a wide QRS tachyarrhythmia whithout pulse occurred (figure B), and epinephrine was administered to recover spontaneous circulation. An electrical cardioversion restored the sinus rhytm. Focus cardiac ultrasound (FoCUS) demonstrated severe right heart dilation with severe tricuspid regurgitation but chest computed tomography failed to reveal a pulmonary embolism. A transthoracic echocardiography showed thickened and restricted tricuspid leaflets that failed to coapt (figure C) and also biventricular systolic dysfunction with mid-apical akinesia, as in Takotsubo syndrome (figure D). Chromogranin A and urinary 5-hydroxyindoleacetic acid elevated values allowed us to formulate the diagnosis of CaHD.

In this clinical case we can identify three different and related mechanisms of HF: CaHD, flecainide intoxication and Takotsubo sydrome. CaHD is characterized by right ventricular dysfunction due to right heart valves fibrotic degeneration, exacerbated in this scenario by AT. Flecainide is effective for AT pharmacological cardioversion, but its use is restricted to patients without structural heart disease. In our case it has determined the appareance of a wide QRS tachyarrhythmia whithout pulse and has contributed to ventricular dysfunction by its negative inotropic effect. Biventricular Takotsubo is a very rare Takotsubo variant and in this patient it has been the consequence of respiratory distress and resuscitation maneuvers.

Conclusions: Our case underlines the importance to carefully evaluate the cardiac conditions of a patient before cardioversion of an atrial arrhythmia, also through a FoCUS, to choose how to perform it and what antiarrhytmic drug to adoperate in case of pharmacological approch. Furthermore, we highlight that an acute HF can recognize multiple mechanisms, that need to be diagnosed to best treat it. Finally, in case of unexplained severe tricuspid regurgitation with right heart dilation, we strongly recommend to consider the rare but possible diagnosis of CaHD and the use of 3D echocardiography to best characterize it.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