



IMAGE FOCUS

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Peak systolic tricuspid annulus velocity in a patient with tricuspid valve prolapse: is it time to pick the right?

Pier Paolo Bocchino ¹, Francesco Ancona ^{2*}, and Eustachio Agricola^{2,3}

¹Division of Cardiology, Department of Medical Sciences, "Città della Salute e della Scienza" Hospital, University of Turin, Corso Bramante 88, 10126, Turin, Italy;

²Echocardiography Laboratory, IRCCS San Raffaele Scientific Institute, Via Olgettina 60, 20132 Milan, Italy; and ³Vita-Salute San Raffaele University, Milan, Italy

*Corresponding author. Tel: +390226437124. E-mail: ancona.francesco@hsr.it

An asymptomatic 51-year-old woman with myelodysplastic syndrome following chronic lymphocytic leukaemia presented at our outpatient clinic for a routine transthoracic echocardiogram. She was asymptomatic and in good clinical conditions, in particular she reported no history of cardiac arrhythmias nor syncope. The electrocardiogram showed normal sinus rhythm with vertical QRS axis and almost flattened T wave in the inferior leads (*Panel A*). Multi-leaflets prolapse of the tricuspid valve with moderate tricuspid regurgitation (*Panel B*: arrows) along with tricuspid annular disjunction (*Panel B*: asterisk) and moderate circumferential pericardial effusion without tamponade physiology were found ([Supplementary data](#) online, Videos S1 and S2): the same findings had been previously described on a routine transthoracic echocardiogram 2 years ago. Noteworthy, at the tissue Doppler imaging of the free wall portion of the tricuspid annulus, a peak late-systolic velocity of 30 cm/s was depicted (*Panel C*), mirroring the Pickelhaube sign on the mitral side. Due to the lack of arrhythmic history and overall good haemodynamic status, no therapy was recommended.

The Pickelhaube sign is a spiked systolic high-velocity signal ≥ 16 cm/s at the pulsed-wave tissue Doppler of the mitral annulus in patients with bileaflet mitral valve prolapse and it is associated with an arrhythmic phenotype. We report the presence of a late-systolic peak on the right free wall portion of the tricuspid annulus in a patient with tricuspid valve prolapse. The clinical and prognostic impact of this novel finding or association with increased arrhythmic susceptibility, like its left counterpart, has to be defined.

[Supplementary data](#) are available at *European Heart Journal - Cardiovascular Imaging* online.

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