
Brain drain causing severe tricuspid regurgitation

Satyendra Tewari, Srivatsa Nadig, and Aditya Kapoor*

Department of Cardiology, Sanjay Gandhi PGIMS, Lucknow 226014, India
* Corresponding author. Tel: +91 522 2494220/+91 9839008893; Fax: +91 522 2668073, Email: akapoor65@gmail.com

An adult male with breathlessness and audible tricuspid regurgitation (TR) had right atrial (RA) enlargement on chest X-ray (Panel A). Transthoracic echocardiography with 3D reconstruction revealed dilated RA, severe TR, normal right ventricular function, and a mobile, tubular structure in the RA seemingly traversing the superior vena cava (SVC; Panel B and see Supplementary data online, Videos S1 and S2). The mobile tubular structure was confirmed on transoesophageal echocardiography, traversing from the SVC, into the RA (see Supplementary data online, Video S3 and Panel C); thrombus or spontaneous echo contrast was absent.

Although the patient denied any previous cardiac intervention, a scar mark was visible in the neck (Panel D). He volunteered a history of ventriculo-atrial shunt 20 years ago for obstructive hydrocephalus. The intracardiac shunt catheter had caused functional TR secondary to malcoaptation, reminiscent of pacing lead-induced TR. In most such cases, TR is usually mild to moderate and severe TR is quite rare; moreover, malcoaptation as the sole mechanism of severe TR is rather unusual.

A ventriculo-atrial shunt meant for decompressing hydrocephalus (prompting the term ‘brain drain’) leading to severe TR is as yet an unreported entity. The patient improved following initiation of diuretics. Careful clinical examination and detailed transthoracic (with 3D reconstruction) and transoesophageal echocardiography were helpful in making the diagnosis in this unusual case.

Supplementary data are available at European Heart Journal – Cardiovascular Imaging online.