Detection of flail tricuspid valve many years after blunt chest trauma

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Posttraumatic tricuspid insufficiency is a rare clinical entity that is mostly associated with traffic accidents causing nonpenetrating chest wall injury. Here we report a patient with a flail tricuspid valve detected many years after blunt chest trauma at work place.

A 25-year-old man was admitted to the cardiology department due to dyspnea with exertion, weakness and palpitation lasting for a long time. He did not have any history of systemic illness. However, he had suffered from blunt chest trauma seven years before. A big wood block had been thrown from a machine and had hit his sternum. Clinical evaluation after the accident did not show any cardiac abnormality. At admission the pulse rate was 90/min, blood pressure 90/60 mmHg, body temperature 37.0ºC and respiration rate was 20/min. Physical examination revealed a third heart sound and a grade III/VI pansystolic murmur best heard at the fifth intercostal space along the left sternal border. The ECG showed normal sinus rhythm with right bundle branch block and right axis deviation. Chest radiography showed a slightly increased cardiothoracic ratio. Routine laboratory tests were normal. A trans-thoracic echocardiogram (TTE) was performed. Left ventricular (LV) wall thicknesses, dimensions and ejection fraction were normal. There was no abnormality in the valvular structures at the left side of the heart, but there was severe tricuspid regurgitation together with dilated right atrium and right ventricle with normal wall motion. Systolic pulmonary arterial pressure was increased (40 mmHg). Severe tricuspid regurgitation was due to a flail septal leaflet of the tricuspid valve (Figure 1; Movies 1 and 2). It was concluded that the tricuspid valve had become injured after the blunt chest trauma many years ago. The patient underwent repair operation by chordae reconstruction and annuloplasty. No complications occurred in the postoperative period. Posttraumatic tricuspid insufficiency is a rare clinical entity that is mostly associated with traffic accidents causing nonpenetrating chest wall injury.1 Cardiac injury should be ruled out in patients with nonpenetrating chest wall trauma by careful clinical evaluation including chest radiography, electrocardiography and echocardiography.2

Figure 1 Apical 4-chamber view of the transthoracic echocardiography showing flail septal leaflet of the tricuspid valve with asterisk. RV, right ventricle; RA, right atrium; TV, tricuspid valve.

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Supplementary material
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References