The apple does not fall far from the tree: epicardial ventricular tachycardia due to blunt chest trauma

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A 62-year-old male was admitted to the emergency department of our centre because of recurrent episodes of palpitations and dizziness. The patient had a history of severe blunt chest trauma with multiple rib fractures (5–10th) due to a tractor fall 2 years before. The electrocardiographic tracing at admission showed (Panel A) a wide QRS tachycardia with the right superior axis, the onset of the QRS is relatively slurred, and the interval from the QRS onset to the peak of V1 is 150 ms, consistent with an epicardial origin. The cardiac evaluation revealed a severely depressed ejection fraction and the coronary angiography excluded significant stenosis of the coronary arteries. The thoracic computed tomography showed a broken fifth rib with chips touching the lateral wall of the left ventricle (Panel B, arrow). An electrophysiological study was performed and the tachycardia was easily inducible during programmed electrical stimulation. Due to a high degree of clinical suspicion of epicardial origin, a median sternotomy that enabled access to the left lateral epicardium was performed. Isolated diastolic potentials that preceded QRS onset by 60 ms was recorded during the ventricular tachycardia. A cryoablation was performed with restoration of sinus rhythm (Panels C and D). During the electrophysiological study after epicardial ablation, no ventricular arrhythmias were inducible with the programmed electrical stimulation from the apex of the right ventricle. At 1-year follow-up, the patient’s outcome was uneventful and the left ventricular ejection fraction recovered to normal. To our knowledge, this is the first report of an epicardial ventricular tachycardia secondary to a remote blunt chest trauma.

Note: Electrocardiographic leads in the figure are taken in the operation theatre.

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