

Acute inflammatory pericarditis and constriction following blunt chest trauma

Künt göğüs travmasını takiben akut enflamatuvar perikardit ve daralma

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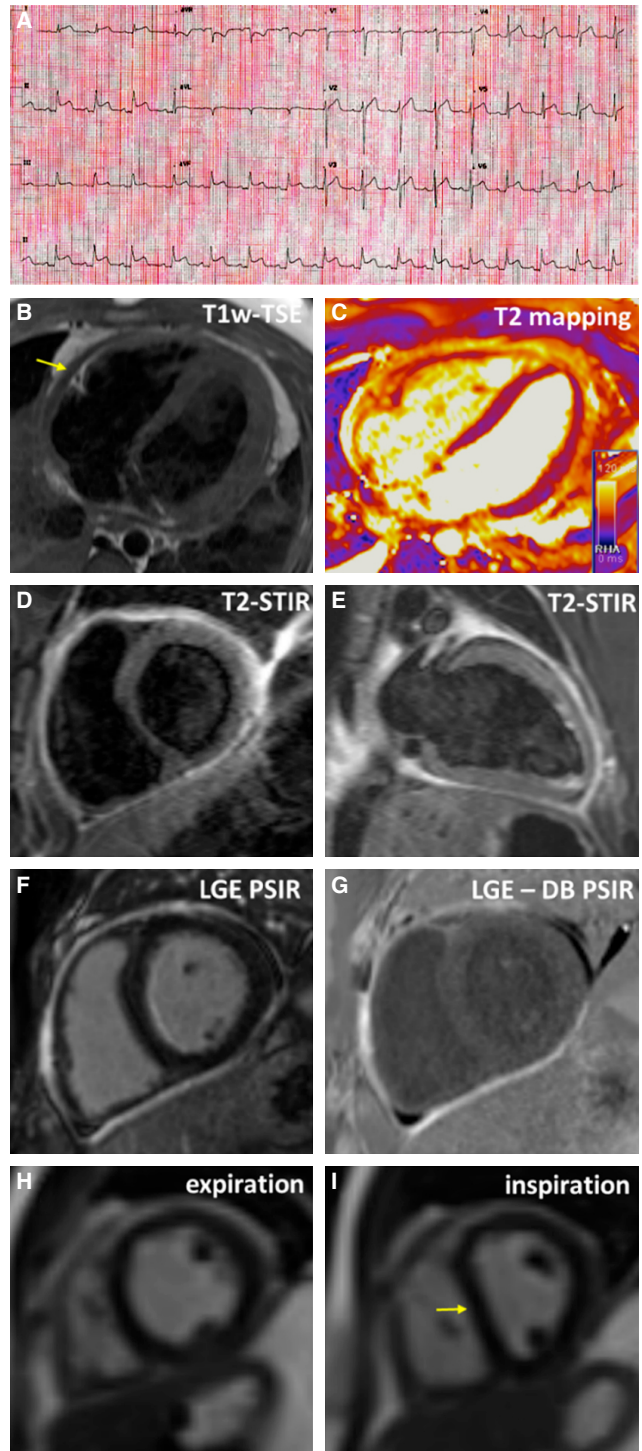
A 29-year-old male patient presented with persistent pleuritic chest pain and dyspnea 3 weeks after a road traffic accident. An electrocardiogram showed widespread, concave ST elevation in the precordial and limb leads along with PR depression (Fig. A). A cardiac magnetic resonance (CMR) study revealed

a globally thickened pericardium (maximum 7 mm) on T1-weighted images without any pericardial effusion (Fig. B-arrow). The pericardial signal intensity was markedly increased on T2-weighted maps and T2 short tau inversion recovery images (Fig. C–E). Late gadolinium contrast images indicated global pericardial enhancement suggestive of pericardial inflammation (Fig. F, G). Real-time cine images showed a prominent septal bounce during deep inspiration in keeping with constrictive physiology (Fig. H, I-arrow, supplementary data online, Video 1*). The findings were typical of acute inflammatory pericarditis with constrictive physiology.

Post-traumatic pericarditis can occur after penetrating injuries and may present acutely with tamponade. Some reports have also noted pericarditis in the context of blunt chest trauma, but direct imaging proof of active pericardial inflammation and constriction is not always available. Constrictive post-acute pericarditis is transient in 15% of cases, resolving spontaneously or with anti-inflammatory treatment. Nonetheless, recognizing this condition is crucial to preventing progression to more chronic fibrotic constrictive pericarditis or a need for a pericardiectomy. CMR provides excellent diagnostic accuracy for identifying both constrictive physiology and the active pericardial inflammation and thereby facilitates appropriate management.



Figures– (A) Electrocardiogram revealing widespread, concave ST elevation in the precordial and limb leads and PR depression; (B) T1-weighted cardiac magnetic resonance image revealing a globally thickened pericardium without pericardial effusion; (C–E) T2-weighted maps and T2 short tau inversion recovery images demonstrating pericardial signal intensity; (F, G) Late gadolinium contrast images indicating global pericardial enhancement suggestive of pericardial inflammation; (H, I) Real-time cine images



illustrating a prominent septal bounce during deep inspiration. DB: Dark blood; LGE: Late gadolinium enhancement; PSIR: Phase-sensitive inversion recovery; STIR: Short tau inversion recovery.

*Supplementary video files associated with this presentation can be found in the online version of the journal.