CARDIOVASCULAR FLASHLIGHT
doi:10.1093/eurheartj/ehs324
Online publish-ahead-of-print 25 September 2012

Getting the right diagnosis: ST-elevation myocardial infarction in situs inversus

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A 32-year-old Indian contractor presented to the military hospital in Camp Bastion, Afghanistan, with 2 h of cardiac chest pain. His initial ECG (Panel A) suggested dextrocardia (right-axis deviation, positive complexes in aVR and diminishing R-wave progression). He suffered a VF arrest and received three shocks over the right precordium before return of spontaneous circulation.

He was transferred to the ICU and intubated and invasive monitoring was commenced. He suffered a further three VF arrests requiring DC shocks and his subsequent ECG (Panel B) (with right and left limb leads reversed) showed diagnostic ST-elevation anteriorly. He was thrombolysed with tenecteplase and a transthoracic echocardiogram confirmed dextrocardia with an akinetic anterior wall and an ejection fraction of 15%.

He was commenced on aspirin, clopidogrel, and enoxaparin, and a contrast CT scan confirmed situs inversus totalis (Panel C) and evidence of a LAD thrombus (Panel D). The patient was subsequently evacuated to India to undergo secondary PCI.

Initial dextrocardic ECG (Panel A) and anterior ST-elevation in reversed leads (Panel B). Non-gated contrast CT demonstrating situs inversus (Panel C) and mid-LAD thrombus (white arrowhead, Panel D). Ao, aorta; RVOT, right ventricular outflow tract; LAD, left anterior descending artery; D1, first diagonal branch of LAD.

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