CARDIOVASCULAR FLASHLIGHT

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Is abnormal function with troponin T elevation definitely myocardial infarction?

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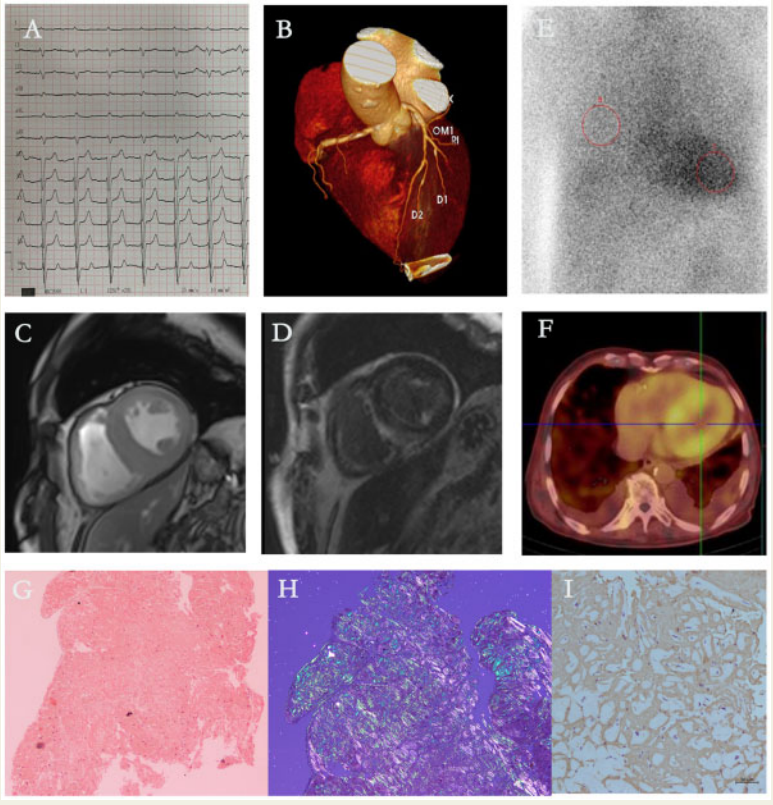
An 80-year-old man with hypertension was referred to the geriatric department for oedema of lower extremities. Electrocardiogram (ECG) demonstrated complete left bundle branch block with poor progression of V1–V4 R-wave, low voltage of limb.

Lead (*Panel A*). Troponin T (TnT) increased slightly. Echocardiography demonstrated the anterior dysfunction, left ventricular hypertrophy (Supplementary material online, *Video S1*). Coronary computed tomography disclosed mild stenosis of the left anterior descending artery (*Panel B*). Coronary artery disease was excluded.



Further investigations were carried out:

- Cardiac magnetic resonance imaging demonstrated increased left ventricular and right ventricular wall thickness (*Panel C*), late gadolinium enhancement from subendocardial to transmural (*Panel D*).
- Negative serum and urine protein electrophoresis ruled out monoclonal gammopathy.
- Cardiac scintigraphy with 99m Technetium Pyrophosphate (TC-99m PYP) showed grade 3 tracer uptake on planar imaging, increased heart to contralateral chest ratio of 1.6 (*Panels E* and *F*).
- Endomyocardial biopsy revealed positive Congo Red staining (*Panel G*), characteristic 'apple green' birefringence on polarized light microscopy (*Panel H*). Immunohistochemistry of transthyretin amyloid (TTR) was positive (*Panel I*), Lamda-, APO- were negative which suggested transthyretin amyloid cardiomyopathy (ATTR-CM).
- TTR genetic testing was performed, but no mutation was found. Wild-type ATTR-CM was confirmed.

In addition to angiotensin-converting enzyme inhibitor and loop diuretic, the patient prepared to receive taranmidis to stabilize transthyretin.

ATTR-CM is often misdiagnosed. For the patients with ventricle thickening and segmental dysfunction, it should be suspected even if with elevated TnT. TC-99m PYP could serve as a non-invasive way to distinguish the amyloidosis subtypes for its high consistency with biopsy. Emerging therapies that stabilize TTR have been shown to improve the prognosis.

Supplementary material is available at *European Heart Journal* online.

Conflict of interest: The authors have submitted their declaration which can be found in the article Supplementary Material online.