

ST-segment elevation myocardial infarction as a COVID-19 manifestation in a recent heart transplant recipient

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Herein presented is the case of 65-year-old male treated with tacrolimus, mycophenolate mofetil and prednisone who reported sudden dyspnea at rest on the 28th day after heart transplantation.

Telemetry electrocardiogram (ECG) monitoring initially showed an episode of bradycardia (Fig. 1A) and atrial fibrillation (Fig. 1B). After 30 min an elevation of the ST segment in leads II, III, aVF was observed (Fig. 1C). The patient was immediately given loading doses of acetylsalicylic acid (300 mg), ticagrelor (180 mg) and unfractionated heparin (5000 IU). Coronary angiography demonstrated 70% stenosis of the proximal segment of right coronary artery (Fig. 1D).

A drug-eluting stent was successfully implanted (Fig. 1E). Both dyspnea and ECG abnormalities resolved and stabilization of the patient's hemodynamic state was achieved. High-sensitivity

cardiac troponin I concentration rose to 0.18 ng/mL (99th percentile value for the assay 0.032 ng/mL).

On the following day, deterioration of patient's condition with increasing dyspnea occurred. Real-time polymerase chain reaction test for the coronavirus disease 2019 (COVID-19) was positive. The patient developed moderate pneumonia. Despite early treatment with dexamethasone, remdesivir, convalescent plasma and enoxaparin together with ongoing dual antiplatelet therapy, cardiac arrest due to asystole unexpectedly occurred after 14 days, resuscitation was unsuccessful and the patient died. The autopsy was not performed because of COVID-19 restrictions. According to available research, this is the first case showing ST-elevation myocardial infarction as a first cardiovascular manifestation of COVID-19, in a patient after heart transplantation, which suggests that the course of COVID-19 may be atypical in this group of patients.

Conflict of interest: None declared

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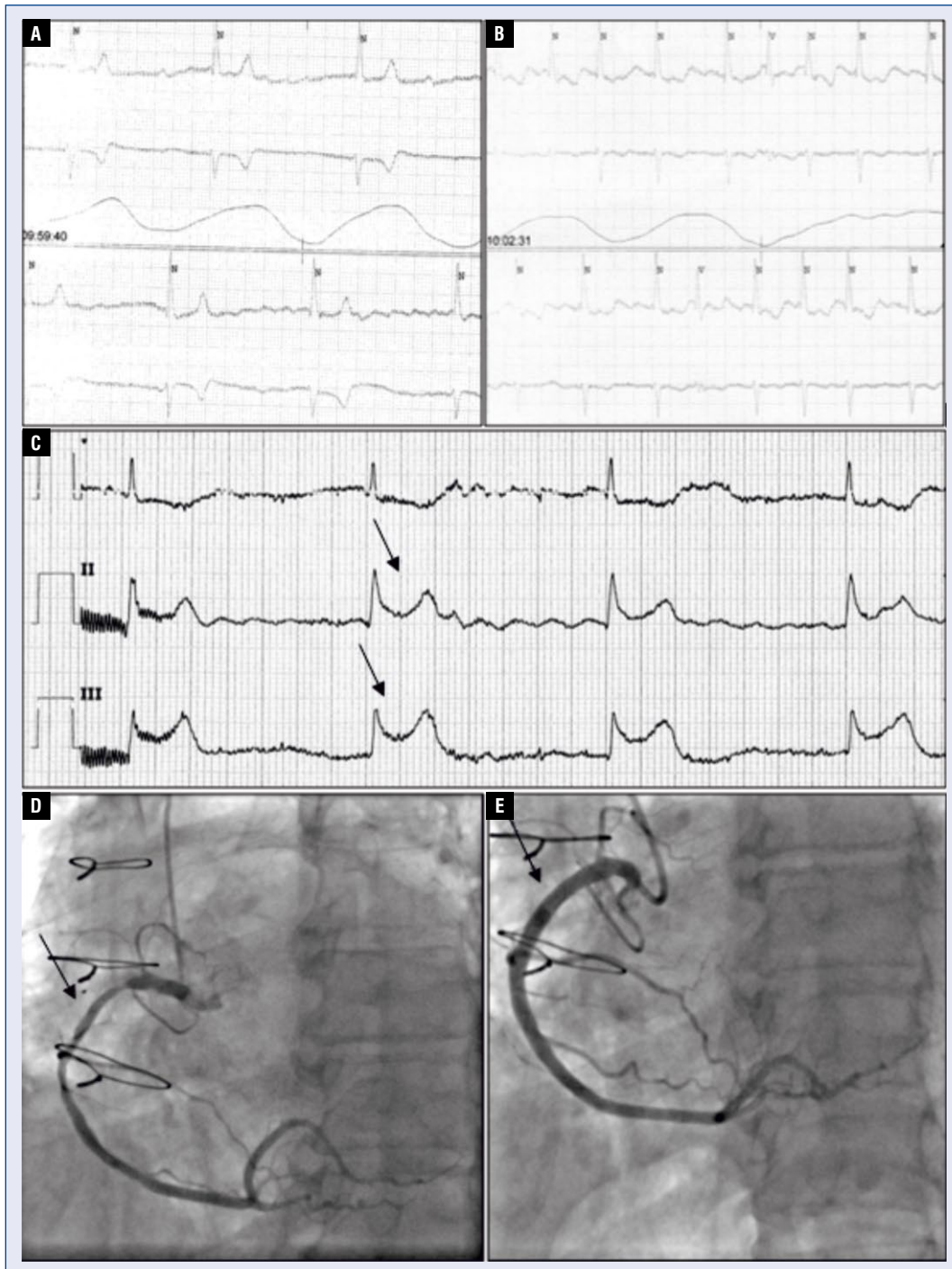


Figure 1. A. Telemetry electrocardiogram (ECG) showing bradycardia — heart rate approximately 40 bpm; B. Telemetry ECG showing atrial fibrillation; C. ECG showing ST-segment elevation in leads II and III (arrows); D. Coronary angiography — a 70% stenosis in the right coronary artery (arrow); E. The proximal segment of the right coronary artery after implantation of a drug-eluting stent (arrow).