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Cardiac metastasis of bladder cancer presented as mimicking ST-segment elevation myocardial infarction

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A 63-year-old man, who diagnosed as bladder cancer 3 years previously, presented to the emergency department complaining of chest discomfort. An electrocardiogram (ECG) revealed marked ST-segment elevations in leads V1–4 (Panel A). The level of cardiac enzymes (CK-MB 6.87 ng/mL, Troponin-I 0.19 ng/mL) was found to be elevated. Under the impression of acute myocardial infarction (AMI), we initially performed the coronary angiogram. However, there was no significant coronary artery lesion (Panel B).

Transthoracic echocardiography from a modified parasternal long-axis view showed hypokinetic apico-anteroseptal wall of left ventricle (LV) associated with the mural mass lesion (arrows, Panel C). To differentiate the cardiac mass, we performed cardiac magnetic resonance imaging, and a T2-weighted black-blood acquisition imaging without contrast medium administration showed a $37 \times 31$ mm sized well enhanced mass with central haemorrhagic necrosis in the apico-anterosetal wall of LV (arrows, Panel D). An additional F-18 fluoro-fluorodeoxyglucose whole body positron emission tomography–computed tomography scan revealed multiple metastases to bones, lymph nodes, muscles, and myocardium (Panel E). Although intensive chemotherapy was initiated, the patient’s condition gradually worsened and he eventually died.

We described unique ECG changes due to myocardial metastasis, initially misdiagnosed as AMI. The leads with ST-segment elevations seemed to match the location of the LV mass. These ECG changes might be due to focal myocardial ischaemia or mass effect related to the invasion of the tumour mass.