Pitfalls in the diagnosis of the acute coronary syndrome in hemodialysis patients

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Introduction: Cardiac death is the most common cause of death among hemodialysis patients, predominantly acute myocardial infarction. High-sensitivity troponins (hs-cTnT, hs-cTnI) have become the gold standard for the diagnosis of the acute coronary syndrome (ACS) in the general population. The aim of this presentation is to show the limitation of these biomarkers in patients with end-stage renal disease (ESRD) because the serum troponin levels are very often elevated in those patients[1-3].

Case report: 68-year-old woman has been on a chronic hemodialysis program for the past 4 years. She also had a history of arterial hypertension, dyslipidemia, and diabetes. During the regular hemodialysis program, she mentioned intensive chest pain that she had two days ago. She had a high blood pressure (240/120 mmHg) then, but now she felt good. In the laboratory elevated values of hs-cTnI were found (1995 ng/L). 12-lead electrocardiogram showed the signs of septal ischemia with a discretely elevated ST segment in inferior leads (**Figure 1**). An emergency echocardiography was done. Concentric hypertrophy of the left ventricle with normal ejection fraction was found but with regional wall motion abnormality - hipocontractility of the basal part of anteroseptum and basal part of inferoseptum. The patient was referred to the University Hospital for coronary angiography. The stenosis of the proximal right coronary artery around 40% was found. Obstructive coronary disease has been ruled out as well as the diagnosis of ACS. It was concluded that echocardiographic and ECG changes are related to hypertensive heart disease.

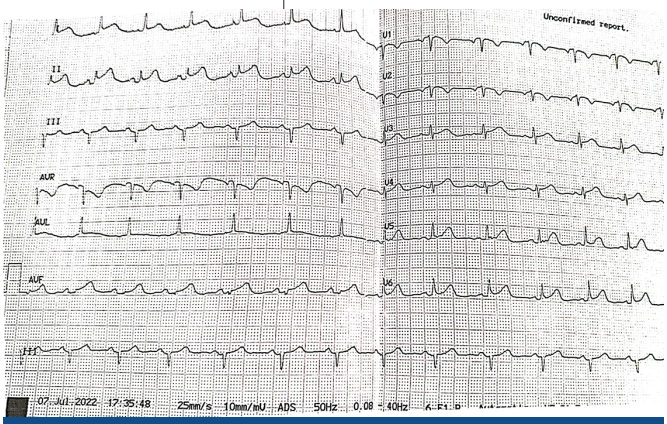

FIGURE 1. 12-lead electrocardiogram in the hemodialysis patient with a history of chest pain.

Conclusion: When patients with ESRD present themselves with chest pain and the ECG findings are suggestive of myocardial ischemia, it is necessary to make a coronary angiography to confirm or to exclude the diagnosis of ACS. In any case, we must keep in mind that elevated troponin in patients undergoing dialysis, is directly correlated with cardiovascular and total mortality.

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