Case Report

Postoperative ST-segment Elevation: Not a Blocked Coronary Artery, Then What?

Wai-Ching Sin1, Joy Melody K Wong1, Tiffany Cho-Lam Wong1, Charlotte Kwong2, Carmen Chan3, Chung-Wah Siu2

1 Departments of Adult Intensive Care Unit and 2 Radiology, Queen Mary Hospital, 3 Department of Medicine, Division of Cardiology, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, China

Abstract

ST-segment elevation is well known for its diagnostic value for transmural myocardial infarction due to acute thrombotic occlusion of a coronary artery and often requires emergency reperfusion therapy. However, ST-segment is by no means pathognomonic for acute coronary events. Here, we report a case of ST-segment elevation after hepatectomy secondary to an unusual etiology.

Keywords: ST-segment elevation, pneumomediastinum, pneumopericardium

Case Report

A 22-year-old healthy man was transferred postoperatively to our Intensive Care Unit following elective hepatectomy of the left and caudate lobes for live-donor, liver transplantation. The procedure was uneventful. On arrival, he had been extubated and blood pressure was 98/62 mmHg and pulse rate was 86 bpm. No inotropic support was required, and routine electrocardiogram 8 h later revealed sinus rhythm at a rate of 65 bpm. Nonetheless, there were new widespread ST-segment elevations over the inferior leads (II, III, and aVF) and anterolateral precordial leads (V2–V6) [Figure 1].

PR-segment depression was also noted over leads II, III, and aVF. He was asymptomatic and hemodynamically stable. Echocardiogram showed normal systolic function with a left ventricular ejection fraction of 65%. There was no pericardial effusion or any regional wall motion abnormality. An initial troponin I level of 0.03 ng/ml (normal range: <0.04 ng/ml) subsequently rose to 1.59 ng/ml. Chest radiograph in the anteroposterior projection [Figure 2] revealed a radiolucent line at the left heart border. Computed tomography coronary angiogram was performed but showed no evidence of coronary artery disease or pericardial effusion. Nonetheless, the presence of air was confirmed in the mediastinal as well as the pericardial space [Figure 3]. The patient remained asymptomatic and hemodynamically stable; he was treated conservatively.

The ST-segment elevations resolved completely 5 days later [Figure 1]. Repeated chest radiograph on day 7 showed no residual pneumomediastinum or pneumopericardium. The patient was discharged 8 days after the operation.

Discussion

ST-segment elevation is well known for its diagnostic value for transmural myocardial infarction due to acute thrombotic occlusion of a coronary artery and often requires emergency reperfusion therapy. Nonetheless, ST-segment elevation is by no means pathognomonic for ST-segment elevation myocardial infarction (STEMI); nonischemic ST-segment elevation may be observed in a number of clinical conditions such as pericarditis [Table 1]. In our case, the diffuse ST-segment elevations that involved multiple coronary territories, the normal left ventricular ejection fraction on echocardiography, together with the disproportionally low troponin level favored an alternative diagnosis to STEMI. The clinical presentation was consistent with that of pericarditis, but the short time period since surgery and the lack of pericardial effusion on echocardiogram also made pericarditis an unlikely diagnosis. Albeit rare, pneumomediastinum and pneumopericardium

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Quick Response Code:  
Website: www.cardiologyplus.org  
DOI: 10.4103/2470-7511.248349

Address for correspondence: Prof. Chung-Wah Siu, Department of Medicine, The University of Hong Kong, Hong Kong, China. E-mail: cwdsiu@hku.hk

How to cite this article: Sin WC, Kwong JM, Wong TC, Kwong C, Chan C, Siu CW. Postoperative ST-segment elevation: Not a blocked coronary artery, then what? Cardiol Plus 2016;1:42-3.
patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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