

ISCHEMIC HEART DISEASE

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681 RIGHT ARM PAIN WITH RIGHT BUNDLE BRANCH BLOCK: SHOULD WE PERFORM TROPONIN ASSAY?Lorenzo Acone^{a,b}, Marco Foti^{a,b}, Roberto Tarantini^{a,b}, Antonio Sorropago^{b,c}, Evelina Toscano^b, and Andrea Mortara^{a,b}^aUniversità Degli Studi Di Pavia, Italy; ^bPoliclinico Di Monza, Italy; and ^cUniversità Degli Studi Di Milano-Bicocca, Italy

We present the case report of a 67 year old man with no previous cardiovascular history, who was admitted to our emergency department (ED) for two days onset of right arm pain which was not responsive to painkillers. On admission, he was asymptomatic for typical angina. His BP was 190/100 mmHg, HR 80 bpm, SpO2 99% and afebrile. The clinical examination was unremarkable. The ECG showed sinus rhythm, complete right-bundle-branch-block (RBBB) and left-axis deviation, negative T-waves in V1-V2 and positive T-waves in V3 > V6 (figure 1A) (no previous ECGs were available). The blood samples showed normal renal function and blood count. Surprisingly, there was a progressive rise in troponin I levels 0.023 > 0.061 > 0.38 ng/ml (ULN 0.010 ng/ml). Echocardiography revealed preserved LVEF without major regional wall motion abnormalities (RWMA), nor any valvulopathy.

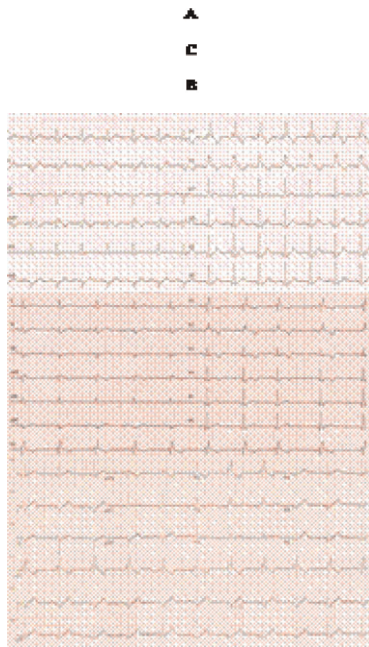
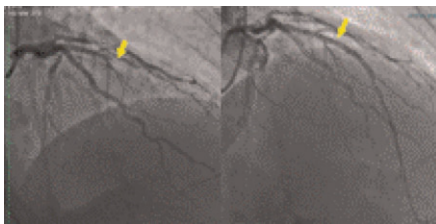


Figure 1. ECG on admission (A) at discharge (B), at 3 months (C)

Figure 1



Despite the atypical presentation and ECG, the troponin rise was strongly suggestive for an acute coronary syndrome (ACS), so the patient was sent to the Cath lab to undergo coronary angiography (CAG). At the time of the CAG he was asymptomatic. The exam revealed thrombotic occlusion of mid-segment left anterior descending artery (LAD). Primary PCI with DES implantation was performed obtaining TIMI 3 flow (figure 2). The remaining hospital stay was uneventful, the patient was discharged asymptomatic after 4 days. Pre-discharge echocardiography reported normal LVEF with no RWMA. Discharge ECG showed persistency of the RBBB with negative T-waves from V1 to V4 (figure 1B). On 3 months follow up visit the patient is asymptomatic with preserved LVEF. On ECG there is persistency of RBBB and normalization of the T-waves in the precordial leads (figure 1C).

Discussion: This case report is an atypical presentation of acute thrombotic occlusion of an epicardial coronary artery, without the typical ST segment elevation

(STEMI equivalent) and without the typical angina. RBBB may represent an uncommon ECG presentation of acute myocardial ischemia, with an incidence from 2 to 6% overall, with TIMI 0 flow in the infarct-related artery only in half of the cases. RBBB (especially new or presumably new onset RBBB) is also associated with increased mortality and morbidity, possibly due to delay in diagnosis and primary reperfusion strategies. Troponin dosage was fundamental to understand that we were facing an acute coronary syndrome, however we were not expecting complete occlusion of the LAD.

In conclusion, the presence of RBBB on admission may delay primary reperfusion strategies, especially when symptoms are atypical. However, in case of unresponsive pain and presumably new-onset conduction disturbances on ECG it is mandatory to perform troponin assay and therefore drive the correct timing of coronary revascularization.