

## Transfuse To Perfuse - A Case of Anemia Causing Left Main Coronary Artery Occlusion Pattern On Electrocardiogram

Safia Shaikh

Internal Medicine, SSM Health St Mary's Hospital, St Louis, USA

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\*Corresponding author: Safia Shaikh, Internal Medicine, SSM Health St Mary's Hospital, St Louis, USA

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An 89 year-old female with moderate aortic stenosis presented with chest pain, exertional dyspnea and melena. She was hypotensive (blood pressure 85/49 mm Hg) with heart rate of 80/min, aortic stenosis-related murmur, bibasilar lung crackles and bilateral lower extremity edema. Laboratory data showed severe anemia with hemoglobin of 4.8 g/dl (normal 11.9-15.9 g/dL), and troponin of 0.106 ng/dL (normal <0.038 ng/dL). Electrocardiogram (EKG) showed subendocardial injury-associated pattern concerning left main coronary artery occlusion (figure 1A). Antiplatelet and anticoagulation therapies were held. Patient received a packed red blood cell transfusion. Symptoms and hemodynamics improved. Repeat EKG showed resolution of ST segment changes (figure 1B). Troponin decreased to 0.066 ng/dL. Echocardiogram confirmed normal systolic function without wall motion abnormalities. Endoscopy showed a duodenal ulcer treated with a proton pump inhibitor.

Anemia causes supply-demand mismatch predisposing to ischemia. Presence of ST elevation in lead I is an independent predictor for left main stem occlusion/ triple vessel disease requiring intervention. Despite EKG changes, reversible causes should be addressed prior to considering catheterization

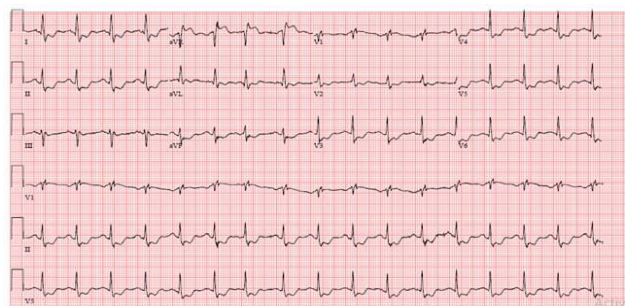


Figure 1A- EKG showing Sinus tachycardia with incomplete right bundle branch block, marked ST elevation in AVR and diffuse ST depressions with possible anterolateral and inferior sub endocardial injury

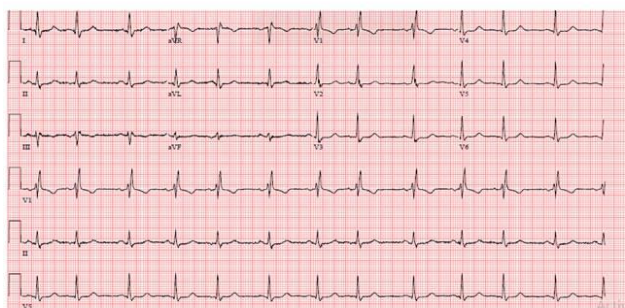


Figure 1B- EKG showing sinus rhythm with premature atrial complexes and right bundle branch block. ST elevation in AVR and diffuse ST segment depressions are no longer present.