



Symptomatic Calcified Ostial Lesions in both Left Main and Right Coronary Arteries

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A 68 year old woman with a history of hypertension, hyperlipidemia and aortic stenosis, presented with frequent short episodes of chest pain and shortness of breath while at rest. During an episode of angina transient diffuse ST-segment depression (I, AvL, II, AvF, V2-6) and ST-segment elevation (AvR) was noted [Figure 1]. Echocardiography demonstrated a calcified aortic valve with severe aortic stenosis (peak gradient, 76 mmHg and measured aortic valve area of 0.55 cm²) with good systolic left ventricular function (estimated left ventricular ejection fraction 60%). Subsequent coronary angiography revealed ostial calcified lesions in both the right coronary artery and left main coronary artery with relatively normal coronary arteries beyond the ostial part [Figure 2]. A significant pressure drop appeared with the engagement of both RCA and LMCA. Figure 2A shows a calcified ostial lesion in the RCA (arrow) with a stenosis of about 90%. Figure 2B demonstrates calcified ostial lesion in the LMCA (arrow) with a stenosis of about 80%. Note the spreading of the calcium [Figure 2C, (arrows)] from the calcified aortic valve toward the coronary arteries (RCA and LMCA) causing the severe stenosis. The patient underwent aortic valve replacement combined with arterial coronary artery bypass grafting to the left anterior descending artery, left circumflex artery and right coronary artery. The spreading of the calcium from the calcified aortic valve along the ascending aorta to the level of the sinu-tubular junction involving both RCA and LMCA orifices was confirmed

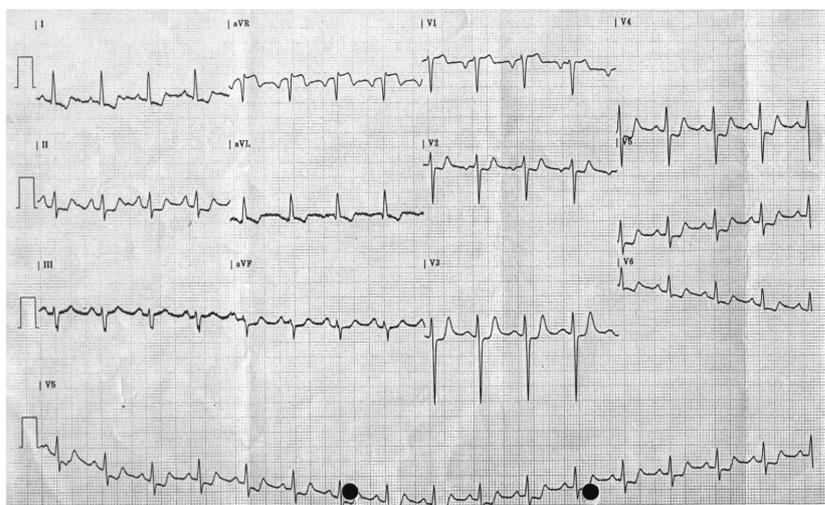


Figure 1. Symptomatic angina with diffuse ischemic changes, ST-segment depression (I, AvL, II, AvF, V2-6) and ST-segment elevation (AvR)

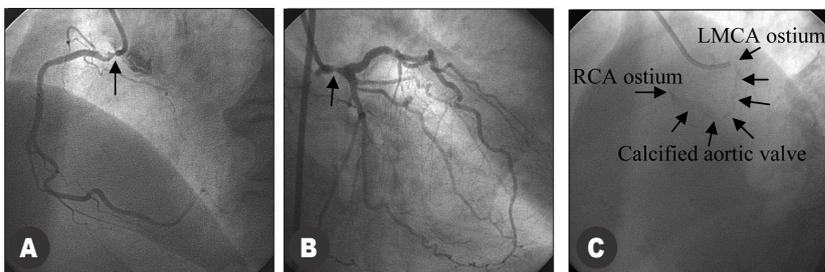


Figure 2. Calcified aortic valve penetrating the ostial coronary arteries. **[A]** Ostial RCA stenosis. **[B]** Ostial LMCA stenosis. **[C]** Calcified aortic valve.

by direct vision during the surgery. Post-surgery, the patient is asymptomatic.

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RCA = right coronary artery
 LMCA = left main coronary artery