**TRIPLE TROUBLE: SINGLE CORONARY ARTERY AND CORONARY ATRERY DISEASE IN THE SETTING OF HYPERTROPHIC CARDIOMYOPATHY**

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*Introduction*: Isolated coronary artery anomalies (CAAs) occur in about 1.3% of patients undergoing coronary arteriography, of which single coronary artery is a potentially serious anomaly.

*Case*: A 49-year-old African-American male, with history of hypertension and mild congenital cognitive impairment presented with episodes of substernal discomfort radiating to the throat, lasting for 2-3 minutes each time. Examination was normal except for mild tachycardia (115 beats per minute). Initial ECG is as shown [Fig-1]. Echocardiogram revealed hyperdynamic left ventricle (LV) with ejection fraction >75%, asymmetrical LV septal hypertrophy, small LV cavity. There was systolic anterior motion of mitral valve, mild eccentric mitral regurgitation [Fig-2]. Troponin was elevated (0.29ng/mL). Coronary angiogram showed single coronary artery arising from right coronary cusp. There was 50% stenosis at the mid-left anterior descending artery and at the origin of first diagonal artery [Fig-3]. Patient was managed conservatively for noncritical CAD, and HCM (due to absence of significant resting LV cavity gradient) with aspirin, beta blockers, and high intensity statin. He was referred to adult congenital heart disease specialist.

*Discussion*: Single coronary artery refers to the common origin of left and right coronary arteries from a single aortic ostium. Coronary anomalies may result in myocardial ischemia due to the course in relation to aorta and pulmonary artery. Angina in HCM can occur from severe systolic narrowing of epicardial coronaries or major branches (myocardial bridges), and coronary demand-supply mismatch. Associated CAD or small vessel disease can further complicate the situation. Both HCM and single coronary artery independently increase risk of sudden cardiac death. 40% of single CAA cases are associated with congenital heart diseases such as fallot tetralogy, transposition of great arteries, persistent truncus arteriosus, and pulmonary atresia. Depending on the CAA type, management strategies include observation, coronary angioplasty with stent deployment and surgical repair (unroofing/bypass).



