

Left main coronary artery aneurism in an adult

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Case vignette

A 46-year old lady with essential hypertension presented with recurrent episodes of Non-ST-elevation myocardial infarctions over a period of six months. Each episode was associated with classical chest pain, dynamic electrocardiographic changes and elevated cardiac enzymes. Two dimensional echocardiography showed evidence of hypertensive heart disease and dilated left main coronary artery with turbulent flow (Figure A). Trans-oesophageal echocardiography demonstrated the dilated segment clearly and 3 dimensional navigation showed more details of the abnormal segment (Figure B). The conventional coronary angiography, further elaborated the aneurismal segment, with turbulence and stagnation of the dye reflecting the indirect evidence of hemodynamic states of the aneurismal segment (Figure C). Except the left main, all other coronary arteries were normal. Finally, she was subjected to computer tomographic coronary angiography which showed excellent details of the aneurism in relation to origin, extension and the anatomy of the bifurcation, the essential details required for the surgeons (Figure D). Since the patient had a nidus for in-situ thrombi formation, which is the most likely cause for recurrent myocardial infarctions the decision to close the defect by surgery was taken. She was planned for aneurismal ligation with re-establishment of flow by coronary artery bypass grafting. The case illustrates the use of different modalities of coronary imaging in complex situations to obtain an accurate therapeutic decision.

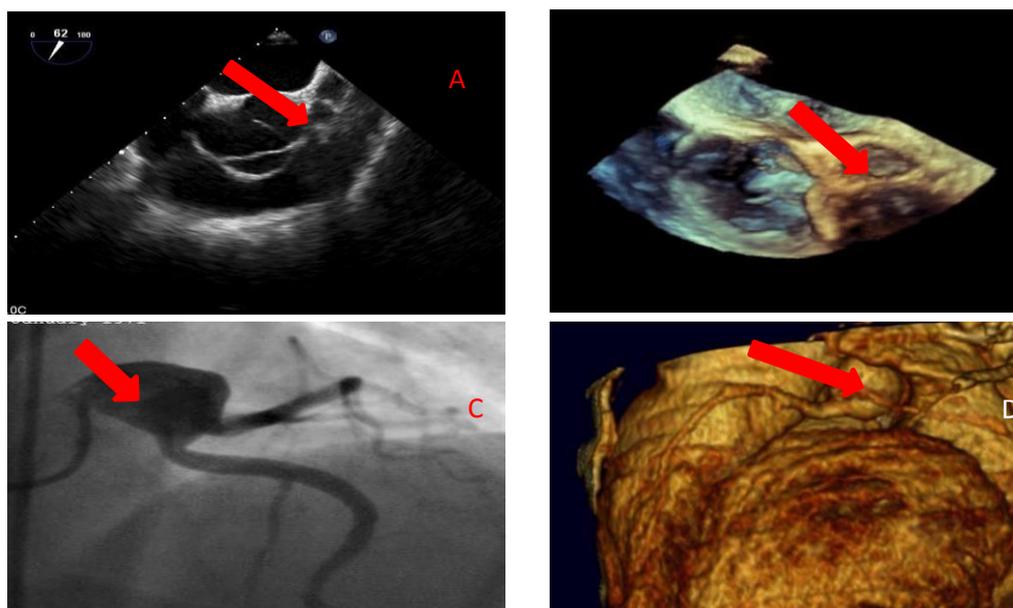


Figure A. Trans-oesophageal 2D echocardiography of the aortic root and left main, Figure B. Trans-oesophageal 3D echocardiography of the left main, Figure C. Conventional coronary angiogram of the left main aneurism, Figure D. CT coronary angiogram of the aneurism

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Discussion

Aneurysm of the left main coronary artery (LMCA) is a rare clinical entity and mostly found incidentally in 0.15% to 4.9% of patients who undergo coronary angiography¹. The main aetiologies are related to atherosclerosis, and other causes including trauma following coronary interventions, connective tissue disorders, Kawasaki disease, vasculitis, congenital, mycotic, and idiopathic causes².

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