A RIGHT CORONARY ARTERY ANEURYSM ASSOCIATED WITH CHEST PAIN: A CASE REPORT

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INTRODUCTION
Coronary artery aneurysm is an uncommon condition seen during coronary angiogram studies or at autopsy. However, and, because of their presentation as chest pain, this is first suspected by competent family physicians who are the first contact of patients with chest pain. An aneurysm of an artery is commonly defined as a localized dilatation exceeding the diameter of adjacent normal segments by 50%. It can be fusiform, involving the full circumference of the blood vessel, or saccular involving only a portion of the circumference. The natural history and prognosis of this condition remain obscure. Coronary artery aneurysm is a neglected topic in the cardiology literature published from Middle East. We report the first case of coronary aneurysm associated with chest pain from Saudi Arabia.

CASE PRESENTATION
A 46-year-old lady with diabetes (DM), hypertension (HTN), dyslipidemia and osteoporosis had retro-sternal chest pain for a few months. The pain was compressing in nature, severe, radiating to both shoulders and not related to effort. She had had a total hysterectomy three years prior to presentation. She was admitted to the coronary care unit for five days where she was diagnosed as acute coronary syndrome.

On physical examination, the patient was afebrile. Her blood pressure was 145/90 mmHg and pulse rate 70 beats/min. which was irregular with extra beats. The rest of the physical examination was unremarkable. The patient was diagnosed as acute coronary syndrome and treated as such.

On admission, a 12-lead electrocardiogram revealed normal sinus rhythm with infrequent uniform premature ventricular contractions. There were no ischemic changes. Repeated cardiac enzymes (CK MB, troponin I and myoglobin) were within the normal range. Chest X-ray was also normal. FBS was 192 mg/dl, while lipid profile was as follows: total cholesterol 191 mg/dl, triglyceride 241 mg/dl, HDL 37 mg/dl and LDL 111 mg/dl.

Coronary angiogram was done to reach a definitive diagnosis. It showed a 15 mm aneurysm arising from the proximal segment of the right coronary artery. There was mild stenosis in the

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middle segment of left anterior descending artery (LAD) after the second diagonal branch (Figure 1).

The patient was treated with anti-platelet agents and statin. Her antihypertensive and hypoglycemic drugs were increased. She was discharged in a good condition with follow up in the cardiology clinic.

DISCUSSION
There is no doubt that important genetic and possibly environmental factors influence the incidences of coronary aneurysm because its incidence is lower in Asia than in North America and Europe. Two very different studies suggest that the incidence of coronary artery aneurysms is 1.4% in Germany and USA.2,3

Coronary artery aneurysms are more common in men. The average age at angiographic diagnosis in one study is 63.5 years,3 which is markedly higher than our 46-year old patient.

The natural history and prognosis of coronary aneurysm have not been delineated. Most aneurysms are clinically silent. When encountered at autopsy, it may represent a secondary cause of death because abnormal blood flow within the aneurysm may lead to the formation of a thrombus, occlusion, embolization, myocardial ischemia, or myocardial infarction.4 Our patient had a coronary aneurysm associated with chest pain but no myocardial infarction.

Causes of coronary artery aneurysms usually include atherosclerosis (accounting for 50% of cases), Kawasaki disease, polyarteritis nodosa, systemic lupus erythematosus, infection, trauma, dissection, angioplasty, and congenital malformation, Behcet disease and cocaine use.1,5

The aneurysm in our patient is most likely due to atherosclerosis as she had evidence of atherosclerosis in the form of mild stenotic lesion in LAD. Also, she is at a high risk for the development of atherosclerosis since she has DM, HTN and dyslipidemia.

CONCLUSION
Coronary artery aneurysm although uncommon, should be considered in the differential diagnosis of chest pain. Its size is variable and can be very large. The optimal therapy for patients with coronary artery aneurysm is unknown. The absence of underlying significant stenotic atherosclerotic lesion in the coronary artery involved, led us to treat her conservatively without surgical intervention and repeat angiography in 12 months.

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