

## **Left main coronary artery aneurysm associated with severe atherosclerosis: a case report from Pakistan**

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### **Introduction**

Coronary artery aneurysm is a rare abnormality defined angiographically as a localized luminal dilatation measuring at least 1.5-2 times the diameter of a normal adjacent segment.<sup>1</sup> Coronary artery aneurysms are usually of atherosclerotic origin and are frequently asymptomatic. However, they may have varied presentations like angina, myocardial infarction and sudden death. Aneurysms involving the Left main coronary artery are exceedingly rare with an incidence of less than 0.1% of the population.<sup>2</sup> We present a case of Left main coronary artery aneurysm diagnosed on coronary angiography, done as a part of diagnostic work-up for angina pectoris in a 55 year old lady.

### **Case Report**

A 55 year old non-insulin dependent diabetic, obese female presented with recent onset chest pain along with exertional dyspnea of two years duration. This was associated with palpitations and dizziness. There were no features suggestive of Kawasaki's disease in the history. The physical examination was unremarkable. The ECG showed non-specific ST segment changes present in anterior chest leads.

Coronary angiography was performed which showed a large fusiform aneurysm (Figure) of about 15 mm diameter at its widest point at the bifurcation of the Left main coronary artery (LMCA). This was associated with severe stenosis of Left anterior descending artery (LAD) and Circumflex artery. Furthermore sub-total occlusion of the Right coronary artery (RCA) was also observed. Coronary artery bypass graft (CABG) surgery was advised; however the patient opted for surgery abroad. Since then, she has been lost to follow-up.

### **Discussion**

Coronary artery aneurysm is a rare disease which has been diagnosed with increasing frequency since the advent of coronary angiography. Reported incidence varies from 1.5% to 5%, depending on the angiographic criteria used to define the aneurysm with preponderance for the male sex.<sup>3</sup> The most common site of the aneurysm is LAD while it has been most infrequently observed in the LMCA.<sup>4</sup> Our search revealed less than twenty aneurysms of the LMCA reported in the literature. Majority of these were associated with atherosclerosis. However coronary artery aneurysms have also been associated with Kawasaki's disease, diagnostic or interventional coronary angiography, blunt trauma to the chest, inflammatory and infectious arteritis, connective tissue disorders, aortic dissection, tumor metastases and congenital malformations.<sup>5</sup>

The patients are usually asymptomatic however as the aneurysms enlarge, they may lead to myocardial ischemia, unstable coronary syndromes and cardiac arrest. Other complications of coronary artery aneurysms are thrombosis and distal embolisation, rupture and vasospasm.<sup>3</sup> Giant coronary artery aneurysms may also compress surrounding structures.<sup>6</sup> Non-invasive imaging with echocardiography and CT-scan may aid the diagnosis but the definitive test is coronary angiography. Newer modalities like intravascular ultrasound are being used to study this disease in greater detail.<sup>5</sup>

The best strategy for the management of coronary artery aneurysm is still unclear and based on anecdotal reports and experience rather than controlled trials. Due to the rarity of this disease, no data are available comparing medical and surgical management. It has been recommended that the management be individualized according to the clinical context, type and location of the aneurysm.<sup>7</sup> Nevertheless, it is generally agreed that CABG should be performed in patients who have coronary artery aneurysmal disease concomitant with significant coronary stenosis.<sup>8</sup> Medical therapy consists of antiplatelet and anticoagulant medication to prevent

thromboembolic complications.

## References

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