



ORIGINAL RESEARCH PAPER

Cardiology

MULTIPLE GIANT CORONARY ANEURYSMS WITH SYMPTOMATIC ISCHEMIC HEART DISEASE - TREATMENT APPROACH

KEY WORDS: Giant coronary artery aneurysms, coronary ectasia, PTCA

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ABSTRACT

Coronary artery aneurysms are uncommonly found in routine angiographies. Giant coronary artery aneurysms are dilation of the aneurysms to more than four times the reference vessel diameter or more than 8 mm in diameter. Most common cause being atherosclerosis. Our patient had multiple giant coronary aneurysms with symptomatic ischemic heart disease and was managed with multivessel PTCA.

INTRODUCTION

Coronary artery aneurysm is rare condition ranging from 0.4% to 4.9% in patients taken for coronary angiography and 0.3 to 5.3% in patients taken for PTCA. Coronary artery ectasia is defined as dilation of coronary artery to 1.5 times the adjacent normal coronary artery.^[1] Coronary aneurysms can be localized or diffuse. Localised aneurysms can be further divided into congenital, mycotic-embolic, syphilitic or arteriosclerotic whereas all diffuse aneurysms are congenital in origin. Localised aneurysms are more commonly found in left coronary artery whereas diffuse aneurysms are more common in right coronary artery. Men are more commonly affected than women in the ratio of 14:1 particularly in congenital aneurysms^[2]

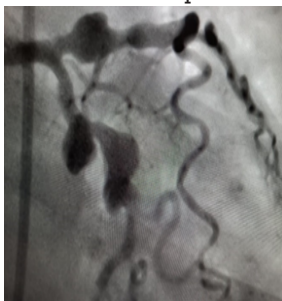


Figure 1 Coronary angiography showing ectatic vessels

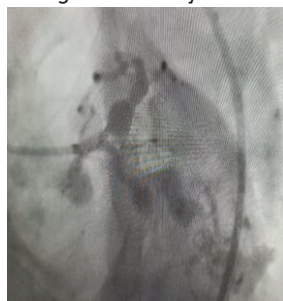


Figure 2 Post PTCA

MATERIAL AND METHODS

70 year old male known case of diabetes and hypertension was admitted to our side with left sided chest pain associated with sweating and breathlessness on exertion for 4 months. He was a known case of bilateral medical renal disease with multicystic kidney disease. He had haemoglobin of 9.5 with total leukocyte count of 6100/mm³ with platelet count 2.19 lacs/mm³ with creatinine 1.7 mg/dl, HIV, HbsAg and anti HCV were negative. On ECG he showed T wave inversion from V2-V6 and q wave in II, III and aVF. Echocardiography showed concentric LVH with distal interventricular septum and apex mildly hypokinetic with ejection fraction of 50%. He underwent coronary angiography in December 2019 which revealed LAD proximal ectasia (diameter of 8.2 mm) followed by mid segment 90% stenosis, LCX proximal (diameter 9.2 mm) and mid segment aneurysm (diameter 13.2 mm) followed by distal 70% stenosis and RCA dominant mid segment 99% stenosis (figure 1)

Patient was initially advised CABG but patient and his relatives were not willing. After proper consent and counselling PTCA to RCA was done with two drug eluting stents followed by PTCA to LAD and LCX in March 2020 (figure 2). Patient's symptoms improved and was advised to follow up.

DISCUSSION

Aneurysms were classified as type 1 if there was diffuse involvement of two or three vessels, type 2 if there was diffuse disease of one vessel and localized disease in another vessel, type 3 if there was diffuse ectasia of one vessel and type 4 if there was localized or segmental ectasia^[3] Our case was of type 1 as both LAD and LCX were ectatic.

Studies have shown increased risk of hypertension and myocardial infarction in patients with coronary ectasia^[3] Exercise stress test may come positive in these patients especially with diffuse disease.^[4] About 50% of cases have been attributed to coronary atherosclerosis^[10] and 20-30% are congenital in origin. Inflammatory and connective tissue disorders like scleroderma, Ehler danlos syndrome, ANCA positive vasculitis, Syphilis and Kawasaki disease cause another 10-20% cases.^[5] They have also shown to be associated with abdominal aortic aneurysm and peripheral vascular diseases.^[6]

Elderly have been shown to have increased mortality.^[8] Hypertriglyceridemia and increased CRP are also more frequently found in patients with coronary ectasia.^{[9][11]} Studies have shown decreased nitrate mediated vasodilation in brachial artery suggestive of increased involvement of media layer of arteries in patients with coronary ectasia.^[12]

Coronary artery aneurysms are termed giant if their diameter exceeds more than four times the reference vessel diameter or are more than 8 mm in diameter^[17]. Surgical treatment like distal and proximal ligation, aneurysmorrhectomy and aneurysm resection can be tried in giant aneurysms^{[7][13][14]} Antiplatelets should be given for prophylaxis of coronary artery ectasia and nitrates should be avoided^{[15][16]} Since our case had multiple giant aneurysms and significant stenosis we did PTCA with stents.

CONCLUSIONS

Giant coronary artery aneurysms with significant stenosis were managed with PTCA with stents as patient had predominantly coronary complaints and post procedure

showed dramatic improvement in symptoms .

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