

Post Myocardial Infarction Left Ventricle Lateral Wall Huge Aneurysm Resection

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Abstract:

Myocardial infarction occurs as result of coronary artery disease, while one or multiple arteries are occluded significantly or 100%. Myocardial infarction has many complications including, Arrhythmia, severe ventricular dysfunction, inter ventricular septum rupture and left ventricular aneurysm.

We report a case of an left ventricular aneurysm created after myocardial infarction in a 62yrs old male patient, we resected and repair the huge LV aneurysm using Dacron patch and, grafted the diseased arteries with great saphenous vein i.e. left ventricle aneurysm repair + coronary artery bypass successfully done (grafts were SVG to OM1, SVG to distal RCA). After procedure echocardiography revealed normal left ventricular size, geometry and considerably improved function.

Key words: post myocardial infarction mechanical complication; left ventricle lateral wall aneurysm; CABG with left ventricle aneurysm repair

Introduction

The main complications of a left ventricular aneurysm (5 days to 3month) are heart failure, ventricular arrhythmias, systemic embolization, cerebrovascular accident, and ventricular rupture [6]. The main surgical indications occurring in patients with a true aneurysm, intractable ventricular arrhythmias and heart failure unresponsive to drug treatment [1]. Other possible indications include refractory angina and systemic embolization in patients who cannot take oral anticoagulants. In cases of pseudoaneurysm, surgical treatment is the best option, deferring surgery for 3 months is ideal mature scar tissue holds stitches better and lowers the risk that repair will tear [3]. given its high probability of symptom dissolution. Surgical techniques currently in use for correction of a left ventricular aneurysm are based on reconstruction of the left ventricle or a reduction of its volume with the goal of restoring normal cardiac geometry although a left ventricular aneurysm is a common complication following a myocardial infarction, its incidence has declined, primarily due to the treatment of a myocardial infarction with coronary angioplasty performed in the acute phase of the event [5]. The condition can be classified as a true aneurysm when the aneurysm forms at the damaged wall of the myocardium and as a pseudoaneurysm when the cardiac rupture is contained by adherent pericardium or scar tissue[6]. The present article reports a case of a giant ventricular aneurysm post-myocardial infarction in a 62 year-old male patient and shows an example of a positive outcome of surgical correction with the ventricular remodeling technique. The case report contains full imaging documentation of

transthoracic echocardiography, Computed tomography with contrast and intraoperative images.

Case presentation

A 67 year – old male patient suffered from hypertension, dyslipidemia and family history of coronary artery disease. Following an acute myocardial infarction. He was managed medically for one month, later on he came to hospital echocardiography revealed giant Lateral wall left ventricular aneurysm and ejection fraction was reduced to 30%. coronary angiography was done, diagnosed as double vessel disease, right coronary artery was blocked 95% from proximal part, OM1 was blocked 100%, LAD had minor plaque. He was in functional class IV of heart failure (NYHA).

The patient underwent repair surgery of the left ventricular aneurysm resection with geometric connection meanwhile coronary artery bypass (Great Saphenous Vein Grafted to distal RCA and OM1), through a median sternotomy [6]. Cardiopulmonary bypass established by Aorto bi caval cannulation under mild hypothermia. Myocardial protection was held with antegrade cold blood dilated cardioplegia. [4] After incising the aneurysm and extracting a large thrombus , measuring 10cm X 10cm (aneurysm , 5cm X 4cm the neck) Dacron patch was placed in the neck, interrupted plegeted 2 -0 ethibond sutures placed around the patch , the healthy and fibrotic determined the fibrotic area excised , to maintain the normal size and geometry of left ventricle surgical gloves inserted in to left ventricle 150ml normal saline insufflated or injected in side gloves,

in that condition the primary sutures tighed , the second layer of healthy tissue approximated three long Dacron strip sized , one put between , tow patches on either side of excised healthy myocardium , it was sutured with 5 – 0 prolene , before tighing the last suture gloves out. Cardiopulmonary bypass time was 75mnts and the aorta was clamped for 50mnts, the patient was weaned off from CPB uneventful with low dose inotropes, Milrinone and adrenalalin [1,2]. Patient shifted to ICU in stable condition and

extubated 6hrs later. First post operative day echocardiography revealed increase in ejection fraction to 45% with normal left ventricular size and competent mitral and tricuspid valves. On 6th post operative day. One week later he came for first post operative check up echocardiography reveal normal biventricular function and sinus regular rhythm on E.C.G. (Figure).



Figure 1



Figure 2



Figure 3

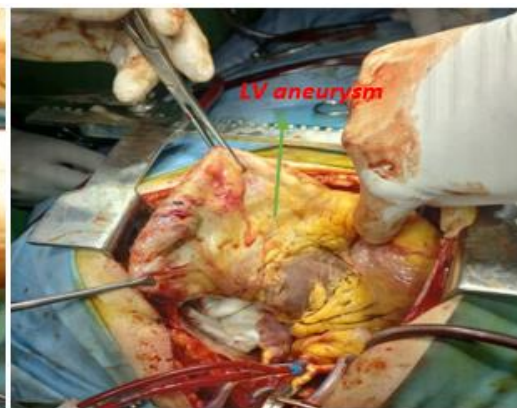


Figure 4

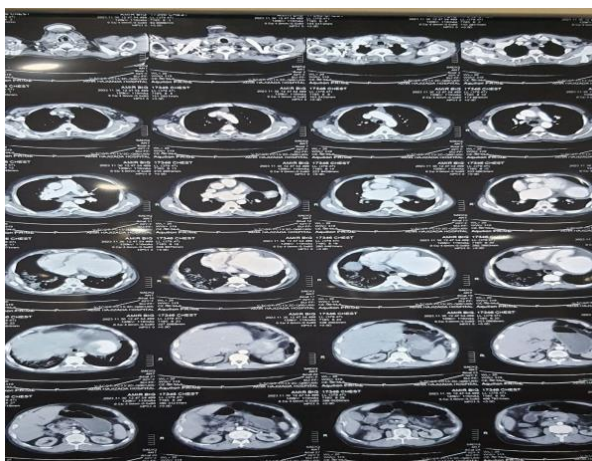


Figure 5

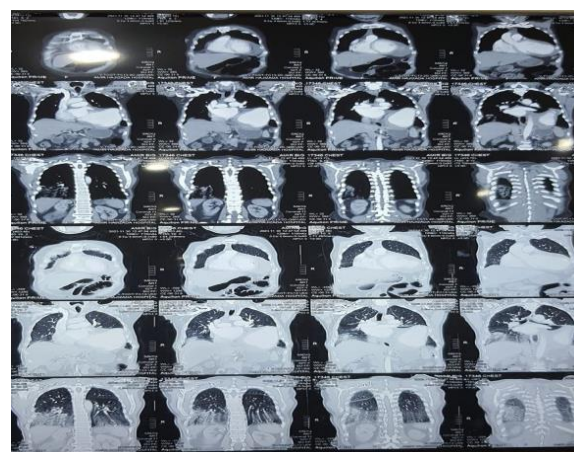


Figure 6

Discussion and Conclusion

The main complications of left ventricular aneurysm are heart failure, ventricular arrhythmias, systemic embolization, cerebrovascular accident, and ventricular rupture. The main surgical indications occurring in patients with a true aneurysm, intractable ventricular arrhythmias and

heart failure unresponsive to drug treatment [4,6]. Other possible indications include refractory angina and systemic embolization in patients who cannot take oral anticoagulants. In cases of aneurysm, surgical treatment is the best option, given its high probability of symptom dissolution [5]. Surgical techniques currently in use for correction of a left ventricular aneurysm are based on reconstruction of the left ventricle or a

reduction of its volume with the goal of restoring normal cardiac geometry. Although a left ventricular aneurysm is a common complication following a myocardial infarction [3], its incidence has declined, primarily due to the treatment of a myocardial infarction with coronary angioplasty performed in the acute phase of the event [4]. The condition can be classified as a true aneurysm when the aneurysm forms at the damaged wall of the myocardium and as a pseudoaneurysm when the cardiac rupture is contained by adherent pericardium or scar tissue. This case shows an example of a positive outcome of surgical correction with the ventricular remodeling technique.

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