

Incidental Left Atrial Dissection Detected During Redo Mitral Valve Replacement Due to Prosthetic Dysfunction

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Abstract

Left atrial dissection is very rare and circumferential mitral annular dissection is extremely rare. We are presenting a case of incidental left atrial dissection detected during redo mitral valve replacement due to prosthetic dysfunction.

Introduction

Left atrial dissection is a rare entity which occurs most commonly after mitral valve surgery. Etio-pathogenesis, incidence and management are poorly described in the literature [1]. We are presenting a case of incidentally diagnosed left atrial dissection at mitral annulus during redo mitral valve replacement due to prosthetic valve dysfunction.

Case Report

A 32 year old male patient was admitted with progressive dyspnea with NYHA grade III with past history of mitral valve replacement with mechanical valve 7 years ago. On physical examination valve click was absent and echocardiography revealed multiple paravalvular leak with mitral valve mean gradient 12. Fluoroscopy was done to confirm stuck valve. During operation after sternotomy and aorto bi-caval cannulation left atrium was opened. Mitral annulus was dissected and valve was attached to the false annulus which was in the left atrium. After excision of the valve true and false annulus (Figure 1) was sutured with pledgeted prolene suture. New mechanical valve was reimplanted and left atrium was closed. Sternum was closed after coming off from CPB and decannulation. Aortic cross clamp time cardiopulmonary bypass time were 98 and 118 minute. Post op VIS score, hours of ventilation, hours of inotropic support were 14, 12 hours and 28 hours. Intensive care unit and hospital stay were 7 and 11 days. After 6 months of follow up patient was well with NYHA II and no paravalvular leak and mean mitral valve gradient of 3.

Discussion

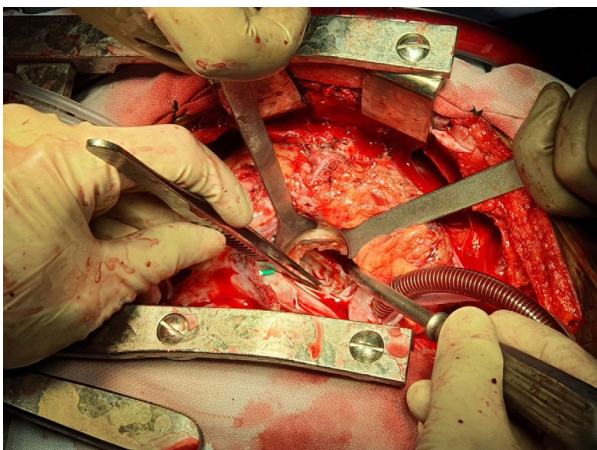


Figure 1: Intraoperative picture showing mitral annular dissection.

Left atrial dissection is a rare complication after cardiac surgery with incidence of 0.16% after mitral valve surgery and 0.02% after CABG [2] Probable mechanism of left atrial dissection after mitral valve surgery is due to contained atrioventricular separation. It occurs due to surgical, interventional or spontaneous. Although it is more common after mitral valve surgery it may occurs after aortic valve replacement, coronary artery bypass grafting, left ventricular aneurysmectomy, pulmonary vein cannulation, cardiac mass excision, malposition of retrograde cardioplegia cannula [3] on surgical etiologies are myocardial infarction, post percutaneous coronary intervention, radiofrequency ablation, blunt trauma, mechanical cardiac compression during cardiopulmonary resuscitation, cardiac amyloidosis, collagen vascular disease, mitral annular calcification and idiopathic [4]. Broad spectrum of the disease varies from small self limited dissection to large progressive dissection with circulatory collapse. Risk factors after mitral valve surgery are excessive posterior annular or subvalvular apparatus debridement, over sizing of the prosthesis; inappropriate suturing or excessive traction [5]. Dissection is more common in posterior wall due to more chances of calcification and less fibrous tissue in posterior annulus [6]. Circulatory collapse occurs due to mitral inflow occlusion or pulmonary venous obstruction. Patients commonly present from just coming off CPB to almost two decades with clinical features of chest pain, dyspnea, dysphagia, palpitation, fatigue, syncope, and cardiac arrest. After diagnosis by transesophageal or transthoracic echocardiography operative intervention is needed in almost all patients. After evacuation of hematoma from the false lumen it should be obliterated with suture and it is better to identify the entrypoint. As mitral leaflet or annulus is friable bovine pericardium or biogluce may be needed [3]. In case of haemodynamically stable patient conservative management can be done. Overall mortality is 13.8% with chances of recurrence after repair [2].

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