

## Long-Term Survival of a Patient with Left Ventricular Free Wall Rupture without Surgical Repair

T.P. MATHEW, M.D., MRCP, P.W. JOHNSTON, M.D., MRCP, M.M. KHAN, M.D., FRCP, A.A.J. ADGEY, M.D., FRCP

Regional Medical Cardiology Centre, Royal Victoria Hospital, Belfast, United Kingdom

### Summary

This report describes the case of a patient who developed postinfarction left ventricular free wall rupture and cardiac tamponade. He was managed conservatively, made a successful recovery, and is alive and asymptomatic 10 months after the index episode. Only 17 cases in which the patients survived subacute rupture of the ventricular free wall over the long term without surgical repair have been reported in the literature.

**Key words:** myocardial infarction, subacute ventricular rupture

### Introduction

Acute myocardial infarction (MI) is complicated by rupture of the free wall in about 6.2% of patients,<sup>1</sup> and is probably the only complication that is still almost always immediately fatal. In a substantial percentage of patients rupture occurs not as a sudden and fatal episode, but as an insidious deterioration into cardiac tamponade. This clinical form of rupture has been referred to as subacute rupture and is arbitrarily defined as survival for 1 h or more from the time of development of hemodynamic deterioration.<sup>2</sup> Various strategies for stabilization and surgical repair have been described. However, the optimal management of those patients with prompt hemody-

namic improvement after pericardial aspiration is still not clear. We present a patient with postinfarction left ventricular (LV) free wall rupture who was managed medically.

### Case Report

A 79-year-old male patient with no previous history of ischemic heart disease presented to the emergency department with acute central chest pain. Electrocardiogram (ECG) confirmed acute anterolateral myocardial infarction (MI). He was hemodynamically stable and was treated with tissue plasminogen activator followed by heparin within 3 h after the onset of symptoms. Eighteen hours later he developed hypotension (systolic blood pressure 80 mmHg) without further chest pain. He was in sinus rhythm and there were no audible murmurs. Repeat ECG showed no ST-segment shift. Emergency echocardiography demonstrated a 3 cm pericardial effusion with diastolic collapse of the right ventricular wall, and the site of rupture was visualized at the LV apex (Fig. 1).

Cardiac catheterization revealed equalization of diastolic pressures in all four chambers. Pericardiocentesis of 100 ml of bloody aspirate resulted in prompt recovery of blood pressure, and a total of 360 ml was aspirated. Subsequent LV angiogram showed apical akinesis and was suggestive of a sealed ventricular rupture. The pigtail catheter was left in situ and the patient was kept under close observation. He was treated with intravenous fluids and bed rest and required no inotropic support. Follow-up echocardiography 9 days later showed minimal pericardial effusion with no evidence of tamponade. Coronary angiogram was carried out on Day 13 post admission and showed double-vessel disease with good LV function. An exercise treadmill test (modified Bruce protocol) was carried out 2 months later: the patient exercised for 9 min, and there was no evidence of ischemia. The patient is alive and in good health 10 months after the index event, and there is no evidence of false aneurysm on repeat echocardiography.

### Discussion and Conclusion

Acute LV free wall rupture after MI almost invariably predi-

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Address for reprints:

Dr. T. P. Mathew  
Registrar  
Regional Medical Cardiology Centre  
Royal Victoria Hospital  
Belfast, N. Ireland – BT 12 6BA

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FIG. 1 Apical four-chamber view showing site of ventricular rupture (arrow).

tant mechanism of infarct-related death. However the subacute forms of this condition offer a window of opportunity for stabilization and decision on treatment option. Although there is general agreement that prompt surgical repair is the treatment of choice, there is no definite evidence that it needs to be

implemented in all patients, particularly in view of a reported surgical mortality of 24 to 35%.<sup>1,3</sup> An extensive review has shown only 17 cases of subacute rupture in which patients survived without surgical repair.<sup>2,4,5</sup> If confirmed in a larger series, medical management might emerge as an alternative to surgery in selected patients with LV free wall rupture.

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