

Orthotopic Heart Transplantation for the Treatment of Large Ischemic VSD

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Introduction

- Ischemic ventricular septal defect (VSD) is a complication of delayed presentation myocardial infarction (MI) with a high mortality.
- The gold standard of surgical repair has poor outcomes.
- In those with left ventricular (LV) dysfunction and cardiogenic shock, surgery is high risk.
- Orthotopic heart transplantation (OHT) has excellent 1 year survival rates

Case

- 61-year old male with hypertension and diabetes presented after weeks of chest pain with an anterior STEMI with large proximal LAD occlusion and nonculprit disease in other territories
- Echo revealed a large apical VSD with LVEF of 48%, consistent with delayed presentation MI
- The surgical team felt he was at high risk for mortality with surgical repair due infarct size and impaired LV function (which would worsen after VSD closure)
- A right axillary intraaortic balloon pump was implanted as a temporizing measure given rising pulmonary pressures
- He was listed and underwent heart transplant successfully.

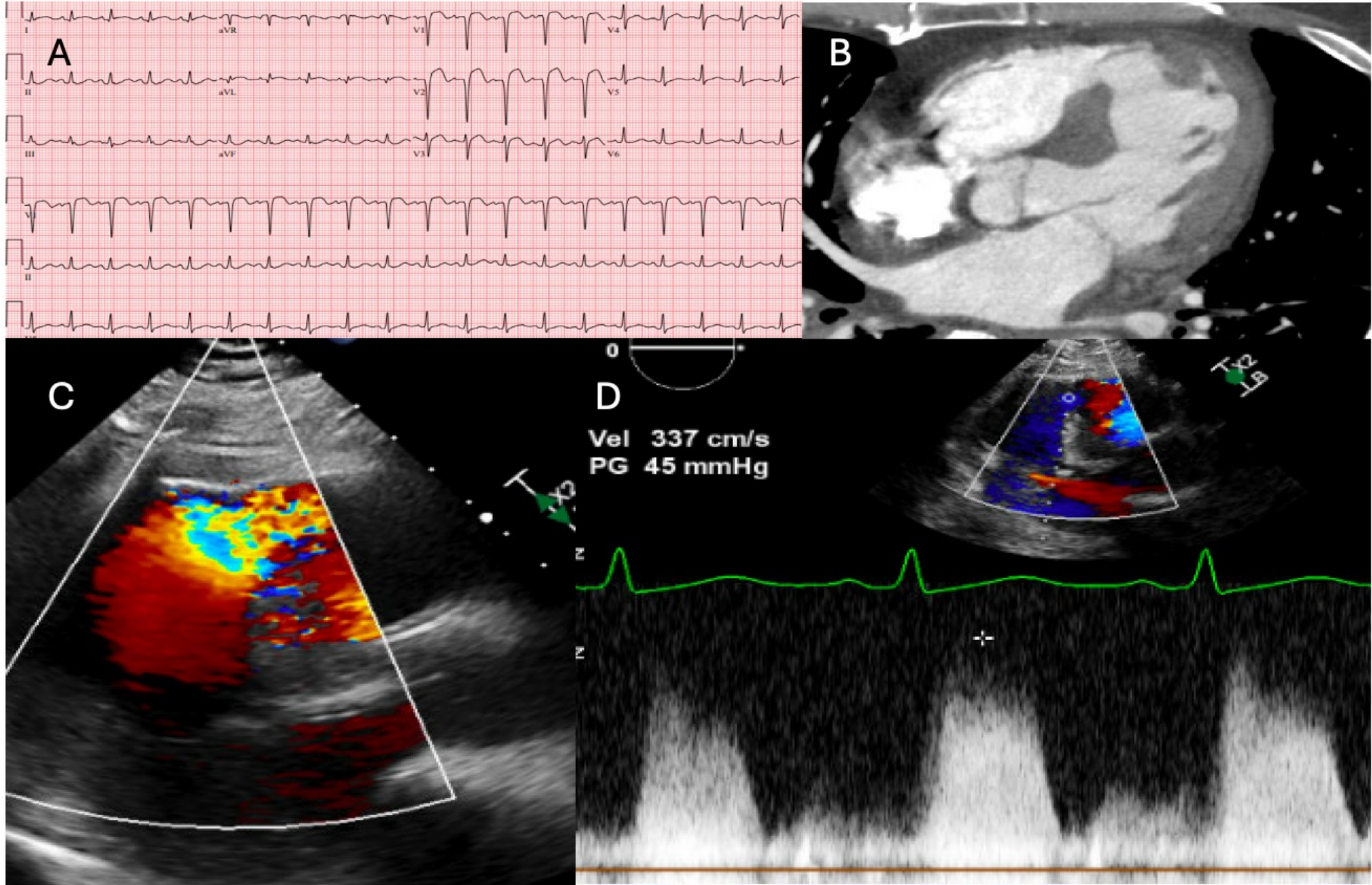


Figure 1: A – Electrocardiogram illustrating large anterior STEMI; B – Cardiac CT illustrating apical VSD; C- Echocardiogram illustrating apical VSD with significant flow and size; D- Doppler gradient of flow left to right

UWMCc

TIS1.0 MI 1.2

X5-1c

14Hz

14cm



2D

59%

C 52

P Low

HRes

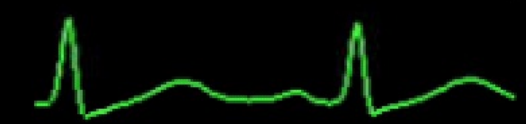
CF

48%

3200Hz

WF 320Hz

2.0MHz

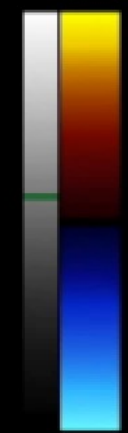


WW 256

WL 128

M3 M4

+61.6



-61.6

cm/s

93 bpm

Discussion

- Surgical repair is the historic standard; however 30-day mortality following repair remains high (20-40%)
- Heart transplantation confers 1-year survival of 91%
- Given depressed LV systolic function and extent of MI, he would likely be left with a significant cardiomyopathy post-repair.
- Importance of MCS/optimization to protect RV/Pas
- Heart transplant is a viable treatment option for selected patients after AMI complicated by an ischemic VSD.

Questions