

# POST INFARCTION VENTRICULAR SEPTAL RUPTURES DURING THE COVID-19 PANDEMIC: A CASE SERIES

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Category : Case Vignettes

The current COVID 19 pandemic has led to a reduction of hospitalizations for cardiovascular complaints as patients have feared coming to the hospital. In this paper, we present a series of 2 patients who presented with chest pain and an ST elevation MI during the pandemic that was associated with late post-MI complications (hemodynamically significant ventricular septal defects).

Case 1

The first patient was a 92 year old gentleman with a history of coronary artery bypass grafting who presented with chest discomfort. His EKG showed ST elevations in the inferior leads for which a coronary angiogram was performed. An emergent angiogram showed obstructive disease in the left main and right coronary arteries with a patent LIMA and occluded grafts to obtuse marginal and RCA. A right heart catheterization demonstrated a significant left to right shunt and a ventriculogram confirmed a ventricular septal defect. The right atrial saturation was 60.7% and a pulmonary artery saturation of 91%. An Impella and intra-aortic balloon pump were inserted for hemodynamic support and to augment coronary perfusion. A transthoracic echocardiogram identified a 1.2cm ventricular septal defect in the inferobasal segment with left to right shunting.

Case 2

The second patient was a 62-year-old female who presented with left sided chest pain that began six hours prior to arrival. EKG showed ST elevations in the inferior leads. Invasive angiography showed a mid RCA stenosis, which was treated with a drug eluting stent. During the procedure, the patient became hypotensive and required intravenous Norepinephrine. An echocardiogram showed an ejection fraction of 70-75% with inferior wall hypokinesis, as well as a dilated and hypokinetic right ventricle. A repeat physical exam now appreciated a 3/6 holosystolic murmur at the left lower sternal border. There was a step up in venous saturations from 49% in the RA to 79% in the PA, suggesting an intra-cardiac shunt at the ventricular level. A repeat echocardiogram showed a large VSD in the basal aspect of the inferoseptum with a severe decrease in right ventricular function.

Conclusion

Ventricular septal ruptures are associated with an overall in hospital or 30-day mortality of 42.9% with a decrease in mortality with delayed repair. The optimal timing, role for mechanical support as bridge to closure, and methodology of closure (open surgical versus percutaneous) of VSR closure is still controversial and (understandably) without randomized data to help guide these decisions.