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Post-Infarction Ventricular Rupture

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CASE REPORT

We report the case of a 67-year-old lady who developed apical ventricular septal rupture after suffering acute anterior myocardial infarction. Having experienced symptoms of acute chest pain three days earlier, she visited the health unit of her residence area, an Ionian sea island. Her electrocardiogram and elevated myocardial necrosis enzymes in blood tests, confirmed a presumptive diagnosis of acute anterior myocardial infarction. The patient was urgently transferred by air-ambulance to our hospital due to hemodynamic deterioration.

On her admission to our hospital, she was oliguric and mentally confused. Physical examination revealed cold skin, blood pressure at 70/40 mmHg, pulse rate of 130 beats/min, oxygen saturation of 90% in room air, moist and fine crepitant rales over the lung bases, harsh loud holosystolic cardiac murmur, best heard at the lower left sternal border accompanied by a palpable thrill. Trans-thoracic echocardiography revealed severe anterior wall hypokinesis, a large apical ventricular septal defect, not isolating pressures in the two ventricular chambers with subsequent right ventricular volume overload.

In face of further rapid hemodynamic deterioration, an intra-aortic balloon pump was inserted, while high- doses of inotropic agents were initiated. Emergency coronary angiography was subsequently performed, which disclosed single vessel coronary artery disease with complete occlusion of the left anterior descending coronary artery. A decision was made for immediate transfer of the patient by ambulance to the nearest available cardiothoracic facility for surgical treatment. The same afternoon, the patient underwent successful repair of the ventricular septal defect. Her postoperative course was uneventful and twelve days later she was discharged to a rehabilitation facility clinic.

DISCUSSION

The present case illustrates the successful management of a post-infarction VSD when the physicians involved acted aggressively and speedily and the accepting surgical team proceeded promptly to surgery without further delay. Indeed, it has become abundantly clear in the literature that in order to avoid the high morbidity and mortality associated with this disorder, patients should undergo emergent surgery. Improvements in myocardial protection techniques and new prosthetic materials have contributed greatly to successful management of post-infarction VSD. It also appears clear that the high surgical risk of early repair is accepted because of the even higher risk of death without surgery under the circumstances of hemodynamic collapse.

In general, most patients who suffer, albeit rarely nowadays in the era of primary

angioplasty, a postinfarction VSD need surgery on an emergency basis. However, in cases of either delayed referral or diagnosis, an occasional patient may have already developed multiorgan failure, and/or may be in coma and thus may not be a candidate for surgery. Such a patient will have a particularly poor outcome with surgery, and the prognosis remains grim. In such a situation, supportive medical therapy may suffice. Although some attempts with percutaneous repair of this type of VSD have had some success, in current reality, postinfarction VSD is recognized as a surgical emergency and the presence of cardiogenic shock is an indication for surgical intervention.

SUGGESTED READING

1. Cooley DA. Repair of the difficult ventriculotomy. *Ann Thorac Surg* 1990;49:150-151.
2. Komeda M, Fremes SE, David TE. Surgical repair of postinfarction ventricular septal defect. *Circulation* 1990; 82(5 Suppl): IV243-247.
3. Muehrcke DD, Daggett WM. Current surgical approach to acute ventricular septal rupture. *Adv Card Surg* 1995; 6:69-90.
4. Ellis CJ, Parkinson GF, Jaffe WM, et al. Good long-term outcome following surgical repair of post-infarction ventricular septal defect. *Aust N Z J Med* 1995; 25(4):330-336.
5. Piwnica A. Update in surgical treatment of acute post infarction VSDs and MIs. *Eur J Cardiothorac Surg* 1995; 9:117-119.
6. Landzberg MJ, Lock JE. Transcatheter management of ventricular septal rupture after myocardial infarction. *Semin Thorac Cardiovasc Surg* 1998; 10:128-132.
7. Deja MA, Szostek J, Widenka K, et al. Post infarction ventricular septal defect - can we do better? *Eur J Cardiothorac Surg* 2000; 18:194-201.