haemodynamically stable patients with multiple risk factors for operative death, but without multiple organ failure, to have delayed surgery. A lower-risk elective procedure can then be performed at a later time, allowing myocardial scar tissue to form, facilitating PIVSR repair.

CLINICAL BOTTOM LINE

The timing of surgical repair depends on patients' haemodynamic status. If the patient is in cardiogenic shock, due to pulmonary to systemic blood flow ratio shunt rather than infarct size, immediate surgery should follow resuscitation measures and cardiac support. If the patient is haemodynamically stable, surgery could be performed after 3–4 weeks of medical optimization with inotropic and mechanical cardiac support. If there is clinical deterioration, immediate surgery is indicated.

Conflict of interest: none declared.

REFERENCES

- [1] Dunning J, Prendgast B, Mackway-Jones K. Towards evidence based medicine in cardiothoracic surgery: best BETS. *Interact CardioVasc Thorac Surg* 2003;2:405–9.
- [2] Di Summa M, Actis Dato GM, Centofanti P, Fortunato G, Patane F, Di Rosa E *et al.* Ventricular septal rupture after a myocardial infarction: clinical features and long term survival. *J Cardiovasc Surg* 1997;38:589–93.
- [3] Dalrymple-Hay MJ, Monro JL, Livesey SA, Lamb RK. Postinfarction ventricular septal rupture: the Wessex experience. *Semin Thorac Cardiovasc Surg* 1998;10:111–6.
- [4] Cerin G, Di Donato M, Dimulescu D, Montericchio V, Menicanti L, Frigiola A *et al.* Surgical treatment of ventricular septal defect complicating acute myocardial infarction. Experience of a north Italian referral hospital. *Cardiovasc Surg* 2003;11:149–54.
- [5] Mantovani V, Mariscalco G, Leva C, Blanzola C, Sala A. Surgical repair of post-infarction ventricular septal defect: 19 years of experience. *Int J Cardiol* 2006;108:202–6.
- [6] Coskun KO, Coskun ST, Popov AF, Hinz J, Schmitt JD, Bockhorst K *et al.* Experiences with surgical treatment of ventricular septal defect as a post infarction complication. *J Cardiothorac Surg* 2009;4:3.
- [7] Arnaoutakis GJ, Zhao Y, Timothy JG, Sciortino CM, McCarthy PM, Conte JV. Surgical repair of ventricular septal defect after myocardial infarction: outcomes from the society of thoracic surgeons national database. *Ann Thorac Surg* 2012;94:436–44.
- [8] Papalexopoulou N, Young C, Attia R. What is the best timing of surgery in patients with post-infarct ventricular septal rupture? *Interact CardioVasc Thorac Surg* 2013;16:193–7.
- [9] Antman EM, Anbe DT, Armstrong PW, Bates ER, Green LA, Hand M *et al.* ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction-executive summary: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *Circulation* 2004;110:588–636.
- [10] Szkutnik M, Bialkowski J, Kusa J, Banaszak P, Baranowski J, Gasior M *et al.* Postinfarction ventricular septal defect closure with Amplatzer occluders. *Eur J Cardiothorac Surg* 2003;23:323–7.
- [11] Thiele H, Kaulfersch C, Daehnert I, Schoenauer M, Eitel I, Borger M *et al.* Immediate primary transcatheter closure of postinfarction ventricular septal defects. *Eur Heart J* 2009;30:81–8.
- [12] Costache VS, Chavanon O, Bouvaist H, Blin D. Early Amplatzer occluder closure of a postinfarct ventricular septal defect as a bridge to surgical procedure. *Interact CardioVasc Thorac Surg* 2007; 6:503–4.

Conflict of interest: none declared

References

eComment. The use of mechanical assistance devices in post-infarction ventricular septal defects

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We read with great interest the paper by Papalexopoulou *et al.* regarding the best timing for surgery in patients with post-infarct ventricular septal defects (PVSD) [1]. As outlined by the authors, the patients' haemodynamic status, particularly when the pulmonary-to-systemic (Qp/Qs) shunt ratio is high, dictates the timing of surgery. The majority of patients, up to 89% in the presented series, were operated within the first week from diagnosis. Their mortality was reported to be high, ranging from 31%–75%, as opposed to the more favourable outcome in those operated later (0–18.4 %). It is intuitive that if feasible, reparative surgery should be delayed, while the patient is supported with both drugs and devices. The intra-aortic balloon pump (IABP) is the preferred short-term mechanical circulatory support (MCS), used up to 76% preoperatively in the presented series.

In a relatively recent era, the good results of MCS other than IABP as a bridge-to-transplantation support, has led clinicians to extend their use to patients with acute cardiogenic shock related to PVSD. Although promising, the early experience with PVSD patients was not as good as expected. Meyns *et al.* [2] reported sudden

eComment. Percutaneous closure of post-myocardial infarction septal defect

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We read with great interest the paper by Papalexopoulou *et al.* regarding the best timing of surgery in patients with post-infarct ventricular septal rupture [1]. After carefully reviewing the literature, the authors conclude that the best strategy is to delay the surgery by 3–4 weeks if the haemodynamic status of the patient allows. However, current guidelines advocate immediate surgical closure of the ventricular septal defect (VSD) irrespective of the patient's haemodynamic status to circumvent further haemodynamic decline [2].

First described by Lock *et al.* in 1988, the transcatheter closure of VSD has gained a widespread use, and devices originally intended to close the patent foramen