Acute myocardial infarction and ischaemic cardiomyopathy are important causes of heart failure (HF). With ageing populations in developed nations, the incidences can be expected to rise in the coming decades.

Stretch of a left ventricle (LV) scar results in detrimental ventricular remodelling, LV dilatation and a change in geometry from elliptical to spherical. These result in higher wall stress and less effective ventricular contractions.

Surgical techniques to restore the shape of the remodelled ventricle were introduced in early 1980s. The RESTORE registry and others reported favourable outcomes in >5000 patients. However, the NHLBI and NIH-funded prospective randomised STICH Trial found no additional benefit of LV reconstruction in addition to coronary bypass grafting.

The STICH Trial was well conducted. The neutral findings did curb enthusiasm for LV reconstruction surgery. However, the interpretation of STICH was not incontrovertible and had sparked heated debates. Subsequent re-analysis of STICH confirmed significant survival benefit when adequate LV volume reduction was achieved.

New data from experienced centres continued to demonstrate efficacy of LV reconstruction surgery. The 2013 ACCF/AHA Guideline for the Management of Heart Failure recommended LV reconstruction for HF with reduce ejection fraction with a recommendation class IIb, level of evidence B. Unsurprisingly, the field remains confused about the role of this treatment.

In order to facilitate appropriate sizing of the LV during reconstruction, graduated balloons are now available for use as templates. A new device has been developed for less invasive off-pump LV reconstruction and a Phase 2 clinical trial is now underway.

REFERENCES

UPDATE OF LVAD THERAPY IN JAPAN
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Left ventricular assist device (LVAD) has been increasingly utilised for the treatment of advanced (ACC/AHA stage D) heart failure. Three types of implantable device (HeartMate II™, Jarvik 2000®, and EVAHEART™) are currently available as a bridge-to-transplant in Japan.