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Once again, we appreciate the comments and questions by Zhang and colleagues.

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Rebuilding the Physiological Ellipse: Are All Left Ventricles the Same?

To the Editor:

The evolution of techniques of surgical ventricular restoration (SVR) refocuses on optimization of surgical techniques in restoring near normal form.

A recent study by Cirillo and colleagues [1] reinforces the concept of physiologic left ventricular (LV) restoration. Using a long linear prosthetic patch within the LV cavity to exclude the infracted scar tissue at the borderzone from the viable myocardium, they restored the LV to a more ellipsoid form.

Their mean LV end diastolic volume (EDV) was 191 ± 67 mL, (EDVi [indexed], 108 ± 38 mL). The results of SVR by linear repair have been found to be less favorable than SVR by geometric repair [2].

In smaller LVs, using a narrow patch may simulate a linear repair [2]. Buckberg and colleagues [3] have advised that the use of a wider patch (2–3 cm) would be more beneficial in building a more physiological ellipse. This may especially be true in smaller LVs. A rectangular endoventricular patch measuring 2.5 to 3 cm wide and 9 to 11 cm long has been used in patients with smaller LVs (mean LV EDV, 140.3 ± 38 mL; EDVi, 88 ± 15 mL) [4]. This technique, by virtue of its uniform reduction in LV volume from its base, helps to build a more conical apex with normalization of apical rotation [5]. The patch dimensions need individualization to the preoperative LV.

In patients with large LVs and aneurysms, a narrow endoventricular patch may suffice, as will linear repair without an endoventricular patch. However, in smaller LVs with aneurysm, it may be prudent to use a slightly wider endoventricular patch for optimal LV restoration.

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