LEFT VENTRICULAR FREE WALL RUPTURE AFTER MYOCARDIAL INFARCTION: STILL A CHALLENGING COMPLICATION

To the Editor:

In their retrospective study, Okamura and colleagues[1] highlight their experience about the sutureless repair technique for postinfarction left ventricular free wall rupture (LVFWR). Okamura and colleagues[1] analyzed data on 35 consecutive patients between 2001 and 2016. Most of these patients (n = 25; 71%) presented with cardiogenic shock, and preoperatively, 15 patients (43%) required an intra-aortic balloon pump or extracorporeal membrane oxygenation (ECMO), the latter in 4 patients (11.4%). The mean interval between the onset of acute myocardial infarction and the diagnosis of LVWFR was 2.6 ± 2.4 days. An oozing lesion was observed in 33 patients (94%), whereas a blowout LVFWR was found in 2 patients. Okamura and colleagues[1] reported an in-hospital mortality of 17.1% (n = 6) and the occurrence of rerupture in 6 patients, 2 of whom presented with blowout lesions. All operations were performed without cardiopulmonary bypass, and the techniques consisted in the application of hemostatic collagen sponges (Tachosil; Nycomed, Zurich, Switzerland) to cover the tear and the infarcted area. Five-year survival was 68.6%, and Cox multivariate analysis revealed that age and rerupture were independent predictors of reduced survival. Okamura and

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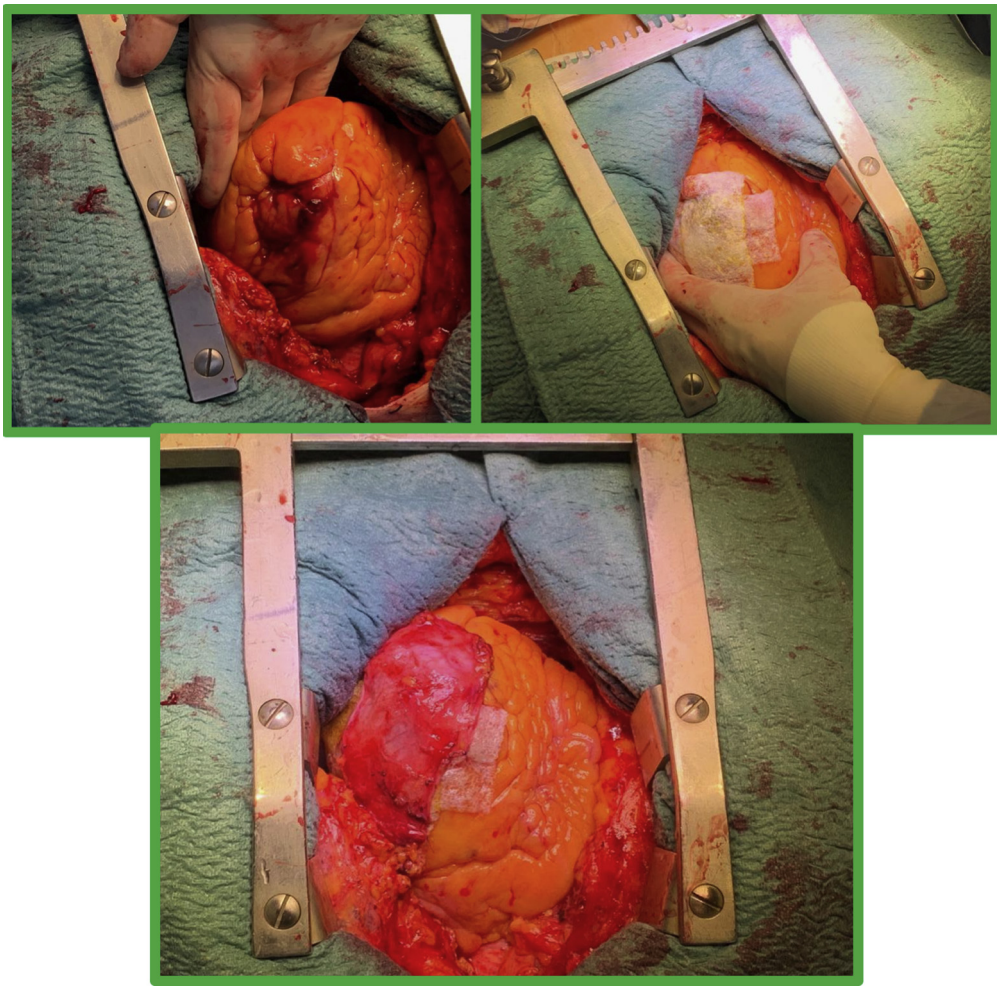

FIGURE 1. The "patch and glue" technique involves the application of 2 crossed collagen sponges and the subsequent application of autologous pericardium fixed with glue; the border of the pericardial patch is then fixed on the epicardium with some polypropylene 4-0 single stiches.

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colleagues[1] concluded that collagen patch sutureless repair of LVFWR is a safe surgical technique in selected patients.

Okamura and colleagues[1] are to be congratulated for their excellent results in this very challenging disease. Their impressive data, however, still deserve some comments.

Randomized control trials on LVFWR surgery are missing, and most existing data come from single small retrospective trials or case reports.[2-6] It is therefore difficult to define the best surgical technique, although it is recognized that sutureless repair is the best treatment for oozing LVFWR. Okamura and colleagues[1] commented that autologous pericardium generally undergoes calcification in the long term. As we have recently reported,[2] we preferred to use the ''patch and glue'' technique through the application of 2 crossed collagen sponges and the subsequent application of autologous pericardium fixed with glue; the border of the pericardial patch is then fixed on the epicardium with some polypropylene 4-0 single stiches (Figure 1). With this technique, we have no reported cases of rerupture in either early or midterm follow-up; however, we recognize that we know nothing about the possible calcified degeneration in the long term.

Another interesting issue of this article is the application of ECMO support in 11.4% of patients. We have reported a higher use of ECMO support during the preoperative and postoperative periods (34.3% and 31.4%, respectively) with an acceptable early outcome; ECMO may offer valid and immediate support and stabilization mainly for patients who present with cardiac tamponade or cardiac arrest and even for those patients who had LVFWR in a referring center.[7] Midterm survival is another interesting issue of this trial. Okamura and colleagues[1] have reported an encouraging midterm survival at 5 years. We have observed a 5-year survival of 74.7% among patients survived the operation. Okamura and colleagues[1] have not reported these data, and we believe that they should be described to demonstrate that the LVWFR should be promptly managed to obtain acceptable midterm and long-term outcomes.

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REPLY: PATCH AND UNLOAD

Reply to the Editor:

We read with interest the letter of Formica and colleagues,[1] who discuss the article by Okamura and associates.[1,2] Formica's group are to be similarly congratulated on their recently published series, which reports excellent results with the difficult problem of left ventricular free wall rupture.[3] Formica and colleagues[1] share their similar technique of 2 perpendicularly crossed collagen sponges, on which is placed a layer of bovine pericardium fixed with glue. Their letter raises some interesting points.

It is unclear whether the use of a pericardial patch in addition to the collagen improves stability. Formica and colleagues reported no reruptures, whereas Okamura and colleagues,[2] who used the collagen patches alone, reported