5. All hemodynamic and Doppler parameters were obtained in healthy dogs in sinus rhythm at rest. Because LAA occlusion is considered in patients with heart disease in atrial fibrillation, an increase in heart rate during exercise might well result in an inappropriate increase of the LA pressure because of impaired LA reservoir function.

In conclusion, there is still no proof that LAA occlusion prevents stroke,⁵ but hemodynamically, this procedure might even do harm and should therefore not be performed in patients with atrial fibrillation.

Claudia Stöllberger, MD^a
 Birke Schneider, MD^b
 Josef Finsterer, MD^c
 Krankenhaus Rudolfstiftung^a
 Wien, Austria
 Klinik für Kardiologie^b
 Lübeck, Germany
 Krankenhaus Rudolfstiftung^c
 Wien, Austria

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Reply to the Editor:

We appreciate the response of Drs Stöllberger, Schneider, and Finsterer to our work¹ and thank them for their comments. Here are our responses to their specific questions:

1. The left atrial appendage (LAA) area was not included when measuring the

left atrial (LA) area. Slight changes in LA area and volume measurements might be expected due to the effect of the LA body shape change caused by occlusion of the LAA orifice. However, we have not detected any statistically significant decreases in the LA area or volume after LAA exclusion.

2. Although we did not measure the size of the LAA in this series, we did measure it in a more recent series of 16 dogs. The width and thickness of the LAA orifice were 27.1 ± 4.8 mm (mean $\pm$ standard deviation) and 12.2 ± 4.3 mm, respectively. As indicated by relatively small standard deviations, there is not a great variation in the LAA size in dogs.
3. Although we did not measure natriuretic peptide levels in this series, we did measure atrial natriuretic peptide and B-type natriuretic peptide levels in a more recent series. There were no significant changes in atrial natriuretic peptide level (32 ± 20 pg/mL at baseline and 41 ± 34 pg/mL after 30 days, $P = .60$) or B-type natriuretic peptide level (always <5 pg/mL). We did not observe any weight gain caused by fluid retention.
4. The investigated dogs were all killed on the day of the terminal study. During our follow-up period, we did not observe any significant decrease in stroke volume.
5. The effects of LAA occlusion on hemodynamics in patients with heart disease and in atrial fibrillation have to be carefully investigated in the future.

We disagree with their conclusion that hemodynamically LAA occlusion might even do harm and should therefore not be performed in patients with atrial fibrillation. There is no solid evidence to suggest that exclusion of the LAA in patients with atrial fibrillation does harm. In fact, there is good evidence suggestive to the contrary^{2,3}; much of this has been gathered from patients undergoing mitral valve surgery or surgical ablation. However, it is also clear that surgical LAA ligation with current techniques and technology is sometimes incomplete. Such incomplete ligation might be responsible for an increased risk of thromboembolic events after attempted ligation.⁴ Our focus is on the development of a method for reliable, complete, and simple occlusion

of the LAA. With such an approach, we will have the ability to study the clinical effects of LAA exclusion. At this time, we believe that such effects have not been fully elucidated.

Keiji Kamohara, MD^a
 Zoran B. Popović, MD, PhD^b
 A. Marc Gillinov, MD^c
 Kiyotaka Fukamachi, MD, PhD^a
 Department of Biomedical Engineering^a
 Department of Cardiovascular Medicine^b
 Department of Thoracic and Cardiovascular
 Surgery^c
 Cleveland Clinic
 Cleveland, Ohio

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Selection of dialysis patients for bilateral thoracic artery grafts

To the Editor:

I enjoyed the recent brief communication "Gastric conduit staple line after esophagectomy: To oversee or not?"¹ This work detailed two patients who had a minimally invasive esophagectomy. During the procedure, the gastric conduit staple line was not oversewn or inverted. The first patient's staple line leak occurred on postoperative day 1 and may have been related to a stapler malfunction. The second staple line leak occurred during the second postoperative week and was probably due to multiple factors.

I routinely oversee gastric staple lines because of an experience with a young patient with renal failure, insulin-dependent diabetes, intravenous drug use, and supra-

ventricular arrhythmias who required an esophagectomy for persistent bleeding and sepsis. Because of the patient's hemodynamically compromised status and sepsis at the time of operation, I did not oversee the gastric staple line. The lesser curve staple line dehiscence 2 weeks later, which I attributed to a combination of diabetes, peripheral vascular disease, hypotension at time of operation, and sepsis. The staple line along the lesser curve of the stomach separated for almost its entire length. The patient was treated with reoperation including muscle flap closure and drainage. The dehiscence was eventually healed, and she was discharged, but she returned within several months and eventually died of respiratory failure.

Based on this experience, I agree with the authors' recommendations to oversee all gastric staple lines.

Frank A. Baciewicz, Jr, MD
Professor of Cardiothoracic Surgery
Wayne State University
School of Medicine
Detroit, MI

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Ring, string, chordal cutting: All or nothing?

To the Editor:

We read with interest the article by Langer and Schäfers.¹ We congratulate the authors

for performing this study regarding this on-focus topic. This new procedure described is a step forward in the surgical treatment of ischemic mitral regurgitation (IMR). Nevertheless, we would like to point out the following issues.

The first issue is regarding the patient population; indeed, 12 patients presenting with severe IMR ($\geq$ level III) were included in the study. Unfortunately, the follow-up showed unfavorable evolution of the mitral regurgitation despite the surgery in this category of patients.² It is therefore difficult to evaluate the benefit of this procedure in such a patient population. We believe that moderate IMR at rest worsened on exercise could be the best indication.

Second, the nature of IMR treated is highly important to point out. Acute IMR with a high troponin level should be distinguished from chronic IMR to correctly analyze the outcomes. The benefit of mitral surgery in comparison with myocardial revascularization is difficult to evaluate in acute IMR.

The third remark is related to the nature of the tenting mechanism itself: Was it an anterior or anterior and posterior mitral valve tenting phenomenon?

The interpretation of echocardiographic results is also of great importance. The short-term reported results are interesting. Residual mitral regurgitation varied between levels 0 and I by combining the "ring and string" procedure. Nevertheless, these results should be evaluated on exercise for 2 reasons. First, the myocardial behavior on effort could be different than at rest, despite myocardial revascularization.³ Second, the small diameter of mitral rings used in this study (average of 28 mm) needs to

be evaluated on exercise to measure the gradients and to eliminate any tendency to mitral stenosis that could be associated to the small diameter of used rings.

Inspired by Messas and colleagues' work,⁴ we previously reported the first clinical case of chordal cutting through aortotomy⁵ (Figure 1). Since then, we have performed this procedure in patients using the same method with and without associating annuloplasty in chronic IMR with anterior leaflet tenting. In all cases this procedure considerably reduced the tenting phenomenon. All patients were evaluated postoperatively by exercise treadmill echocardiography protocol, showing favorable results. Therefore, "chordal cutting" should be considered as an effective technique to treat IMR because our results show the feasibility, the effectiveness (consistent reduction of IMR), the absence of secondary marginal chordal rupture, and the absence of delayed ejection fraction alteration. One of the explanations for this favorable effect could be the avoidance of undersizing mitral annulus strategy that we have adopted, allowing optimal opening of the anterior mitral leaflet.

The main advantage of the "string" technique is to offer a "seat belt" for the left ventricle, limiting deleterious remodeling. Therefore, this technique could be considered complementary to the "chordal cutting," especially because both could be achieved through aortotomy.

The multiplication of surgical treatment options offered in case of IMR clearly shows that it is still a difficult and highly debated subject that is far from being closed. None of the isolated reported techniques are subject to

Figure 1. Operative view, before chordal cutting procedure, through aortotomy showing the retracted anterior mitral valve and the anterior (A) and posterior (B) basal chordae (1). The coronary and noncoronary aortic leaflets (stars).