of AF ablation to large numbers of patients, including those with isolated or lone AF.

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Reply to the Editor:

Gillinov and colleagues have commented on our article describing esophageal perforation following unipolar radiofrequency ablation of the left atrium. These authors from the Cleveland Clinic have a vast experience in atrial fibrillation ablation techniques and have also reported esophageal injury following unipolar radiofrequency ablation. Although esophageal perforation is an uncommon complication of this procedure, it is also a very serious and potentially lethal one.

We agree with the authors that bipolar and epicardial radiofrequency ablation are promising techniques that may eliminate the possibility of esophageal injury. However, these procedures may carry an increased risk of circumflex artery or coronary sinus injury when creating the lesion line down to the mitral annulus. Ultrasound ablation is another promising technique but very little clinical data is available at this time.

Atrial fibrillation ablation surgery is an area of intense research and marketing activity at this time. We completely agree that the honest reporting of favorable and unfavorable results will ultimately deter-

mine which treatment modality is the most safe and effective.

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Atrioesophageal fistula: Is it an unavoidable complication of radiofrequency ablation?

To the Editors:

The article by Doll and colleagues¹ was of great interest. We want to share a similar experience where a patient (1 of 42) died of an atrioesophageal fistula.

Clinical Summary

A 58-year-old female patient with rheumatic valve disease, ostial stenosis of the right coronary artery (RCA), chronic atrial fibrillation, and a dilated left atrium (78 mm) was operated through a median ster-

notomy for the replacement of the aortic and mitral valves with mechanical prostheses, De Vega annuloplasty of the tricuspid valve, bypass graft to the RCA, and a left atrial radiofrequency ablation (RFA) using the Cobra RF System (Boston Scientific, Boston, Mass) with the technique of Melo and colleagues.² The patient was discharged on postoperative day 7 with no complication but paroxysmal atrial fibrillation despite amiodarone.

On the postoperative day 22, she was readmitted with fever, shivering, and numbness of the right arm. Echocardiography revealed a left atrial thrombus. The next day the patient suddenly lost consciousness and was immediately operated for thrombectomy from the left atrial cavity. After easy weaning from cardiopulmonary bypass (CPB), we noted a massive hemorrhage through the nasogastric tube. Esophagoscopy showed a 15-mm laceration on the anterior wall, 33 cm from the incisors. We restored CPB. Air bubbles could be noticed within the left atrium. A fistula between the esophagus and the laceration on the atrial wall between the right and left pulmonary vein orifices was detected. The defect was repaired with pericardial-pledgeted sutures. At the end of the operation the patient was transferred to the

Figure 1. A, The connecting points of 2 overlapping circles (arrows) around right and left pulmonary veins are the stress points receiving twice the dose of RF, thus are the most vulnerable points in the posterior wall of the left atrium neighboring the esophagus. B, Connecting line between 2 circles should be as high as possible to avoid heat injury of the esophagus (the hatched area represents the posterior wall of the left atrium in close neighborhood with the esophagus). RSPV, Right superior pulmonary vein; RIPV, right inferior pulmonary vein; LSPV, left superior pulmonary vein; LIPV, left inferior pulmonary vein.