Esophageal Diverticulum Illustrated by Barium Swallow During Left Atrial Catheter Ablation for Atrial Fibrillation

Sujoya Dey, MD; Eric Good, DO; Fred Morady, MD; Hakan Oral, MD

Left atrial radiofrequency catheter ablation guided by a 3-dimensional electroanatomic mapping system (CARTO, Biosense-Webster, Diamond Bar, Calif) was performed in a 67-year-old woman with paroxysmal atrial fibrillation. To avoid delivery of radiofrequency energy near the esophagus, the patient was asked to swallow 5 cm³ of barium paste (E-Z-EM, Lake Success, NY) before conscious sedation, as described previously.¹ The esophagram delineated a previously undiagnosed esophageal diverticulum (Figure 1). The location of the esophagus relative to the posterior wall of the left atrium was tagged on the electroanatomic map (Figure 2). The diverticulum was 20 mm long and 17 mm wide.

This case illustrates the importance of the complete visualization of the esophageal lumen during a left atrial ablation procedure and demonstrates the limitations of using an esophageal probe to monitor the position of the esophagus. If barium paste had not been swallowed, radiofrequency energy may have been delivered unknowingly over the diverticulum, putting the patient at risk of esophageal injury and atrioesophageal fistula.²

Disclosures
Drs Oral and Morady are founders of Ablation Frontiers, Inc, and have an ownership interest. They also serve as consultants to Ablation Frontiers, Inc. Drs Oral and Morady have consulted for Biosense-Webster. The other authors report no conflicts.

References

Figure 1. Barium swallow (posteroanterior projection). The esophageal diverticulum is shown (arrow). A multipolar ring catheter and an ablation catheter are seen in the right superior pulmonary vein.

Figure 2. Electroanatomic 3-dimensional depiction of the left atrium in the posteroanterior projection. The course of the esophagus was marked along the posterior left atrium (pink tags). The area overlying the esophageal diverticulum is marked with an arrow and circle. LS indicates left superior; LI, left inferior; PV, pulmonary vein; RS, right superior; RM, right middle; LAA, left atrial appendage; and RI, right inferior.
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