Left ventricle penetration—A rare complication of transseptal puncture and catheter ablation for supraventricular tachycardia

Nelson Chavarria, MD, Seth Goldbarg, MD, FHRS

From the Division of Cardiology, Department of Medicine, New York Hospital Queens, affiliate of Weill Cornell Medical College, Cornell University, New York, New York.

Introduction
A transseptal puncture through the interatrial septum at or near the fossa ovalis is frequently used to access the left side of the heart for electrophysiologic procedures. Fluoroscopy and intracardiac ultrasonography are imaging modalities commonly employed to facilitate the procedure. Complications associated with transseptal puncture include pericardial bleeding when the...
The results of urgent transesophageal echocardiography revealed that the sheath had advanced into the left ventricle from the right atrium (Online Supplemental Video 1). The sheath was pulled back under transesophageal echocardiographic guidance, with no residual shunt observed. The procedure was aborted, and the patient was observed overnight with no clinical sequelae. The patient returned several weeks later and underwent successful ablation of the accessory pathway via a retrograde approach.

Acquired left ventricular and right atrial communications are rare intracardiac defects that can arise from valve operations, infective endocarditis, trauma, or ischemia. Less commonly reported are left ventricular and right atrial communications arising from transseptal puncture or radiofrequency catheter ablation. The lack of hemodynamic consequence and the absence of a residual shunt in our patient suggest that the acquired defect closed upon removal of the sheath. This case illustrates important anatomical structures contiguous with the atrioventricular septum and highlights a rare complication associated with transseptal puncture. As previously recommended in a case involving aortic root injury, the use of intracardiac or transesophageal echocardiography should be strongly considered when transseptal left heart catheterizations prove difficult with fluoroscopy alone.

Appendix

Supplementary data

Supplementary data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.hrcr.2015.03.023.

References

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