Hemoptysis

Déjà Vu for Cryoballoon Use for Pulmonary Vein Isolation for Atrial Fibrillation Ablation

To the Editor:

In a recent issue of CHEST (January 2014), Martí-Almor et al elegantly described a case report of pulmonary hemorrhage after cryoballoon ablation for atrial fibrillation. At Maastricht University Medical Centre, we also came across patients with similar presentations. There has been an upsurge in similar, but sporadic case reports other than the references provided by Martí-Almor et al.2,3 Weig et al4 observed coughing and hemoptysis for three of 83 patients for up to 1 week secondary to a CT scan-documented frozen lung complication. They also observed that hemoptysis was seen only among the patients whose minimum freezing temperature of cryoballoon was $-55^\circ C$. Vogt et al5 observed development of cough with reversible hemoptysis in five of 293 patients. In their study, CT scan of the lungs revealed hematomas and edema around a pulmonary vein due to freezing of lung tissue. Notably, the cryoballoons were used for two applications of 6 min per vein. Avitall et al6 electrically isolated pulmonary veins using cryoballoon ablation in dogs. However, within 24 to 48 h, hemoptysis developed in most of the animals due to freezing extension from the left atrium to the lungs. In an earlier animal study, after thoracotomy, Neel et al7 froze lung tissue with a freezing probe without penetrating the lung. After thawing, hemorrhagic infarctions were observed. The treating physicians need to be cautious about hemoptysis not only during cryoballoon ablation but also during patient follow-up.

Narendra Kumar, MD
Carl Timmermans, MD, PhD
Laurent Pison, MD, PhD
Harry Crijns, MD, PhD
Maastricht, The Netherlands

REFERENCES


Financial/nonfinancial disclosures: The authors have reported to CHEST that no potential conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

Correspondence to: Narendra Kumar, MD, Department of Cardiology, Maastricht University Medical Centre and Cardiovascular Research Institute Maastricht, The Netherlands: e-mail: drnarendra007kr@gmail.com

© 2014 American College of Chest Physicians. See online for more details.

DOI: 10.1378/chest.14-0236