Management of Atrio-esophageal Fistula Induced by Radiofrequency Catheter Ablation in Atrial Fibrillation Patients

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Introduction: Atrio-esophageal fistula (AEF) is a dreadful complication of radiofrequency catheter ablation (RFCA) of atrial fibrillation (AF). Surgery is strongly recommended and if left untreated, survival is unlikely. However, little is known about which repair method is the best. We aimed to evaluate the clinical results of different repair strategies.

Methods: Patients who developed AEF after RFCA in a single institution were screened and retrospectively reviewed.

Result: A total of five patients underwent either surgical or endoscopic repair of AEF. Endoscopic repair was unsuccessful despite multiple attempts and the patient died. One patient underwent primary esophageal repair only and lethal cerebral air embolism occurred 2 days after surgery. Three patients underwent primary repair of both left atrium (LA) and esophagus. Only one patient who underwent on-pump, open heart surgery with internal repair of LA survived without additional surgery. The remaining two patients who underwent off-pump surgery with external repair of LA died or had to undergo redo surgery. Veno-arterial extracorporeal membrane oxygenation (VA-ECMO) was applied while ventricular fibrillation (VF) was induced to attenuate air embolism in one patient in whom no neurologic consequence was present at the time of discharge.

Conclusion: Surgical correction is the preferred method to correct AEF. On-pump, open-heart surgery with internal repair of LA seems to be an acceptable surgical approach. Cerebral air or septic embolism may be prevented with VA-ECMO application accompanied by artificial induction of VF.