A 45-year old man with drug refractory paroxysmal atrial fibrillation (AF) was admitted to our hospital for the purpose of catheter ablation (CA). Preoperative chest computed tomography 17 days previously revealed his esophagus existed at left side of vertebral. The esophagography during the procedure revealed esophagus presented at right side of his vertebral tortuously behind the right pulmonary vein (PV). Extensive encircling pulmonary vein isolation (EEPVI) using open irrigated tip catheter with CARTO system was selected for the procedure. Radiofrequency were delivered at a target power of 25-30W for 30 seconds at each site around pulmonary veins except posterior side of right PVs (20W) to avoid esophageal injury. All PV isolation was confirmed under isoproterenol (2 γ') infusion and ATP (30mg) bolus, and AF was not induced by left atrial burst pacing up to 2:1 atrial capture. Six months later, he was admitted to our hospital to treat the recurrence of AF. On the day of RFCA 2nd session, esophagography revealed esophagus presented at left side of his vertebral. The conductions between left atrium and around right PV were re-connected. Because the esophagus did not exist behind right PV, radiofrequency delivery of 25-30W could be safe and, PVs were re-isolated successfully. During the follow-up of six months, he does not suffer from AF. The esophagography in every CA session is important to decide the ablation strategy and to avoid esophageal complication.

Keywords: ablation, esophagus, strategy