Abstract

Introduction: We compare results of a hybrid monopolar vs. a hybrid bipolar thoracoscopic approach employing radiofrequency (RF) sources for the surgical treatment of lone atrial fibrillation (LAF).

Methods: From January 2008 to June 2010, 19 patients (35.1%) underwent RF monopolar/monolateral RF ablation, whereas 35 (64.9%) had RF bipolar/bilateral thoracoscopic ablation. One-year time-related prevalence of postoperative AF was 13.3 (11.0–17.4) and 5.2% (4.2–6.7), in monopolar and bipolar groups, respectively (P < 0.001). It was 21.1 (17.6–24.9) vs. 8.2% (5.1–11.6) in long standing persistent (P < 0.001), 13.2 (10.6–17.8) vs. 3.8% (1.4–6.9) in persistent (P < 0.001) and 5.6 (2.8–8.3) vs. 3.2% (1.0–6.5) in paroxysmal AF (P = 0.64). At 12 months, estimated prevalence of anti-arrhythmic drugs was 26 (22.4–30.1) and 18.0% (15.5–21.7, P = 0.04), whereas prevalence of Warfarin use was 48.2 (44.2–52.2) and 29.0% (26.2–33.1, P = 0.04), in the monopolar and bipolar groups, respectively. Left atrial (LA) reverse remodelling occurred in 47.3% of monopolar patients (n = 9) and in 77.1% of bipolar patients (P = 0.03).

Results and conclusions: The hybrid bilateral approach with a bipolar device for the treatment of LAF showed a good 1-year success rate independently of the AF type and seems to be the better choice for longstanding persistent and persistent LAF.