Data about the acute and long-term outcome of catheter ablation in patients with D-transposition of the great arteries (d-TGA) post-Mustard/Senning operation are scarce. This single-centre retrospective analysis includes 26 patients (mean age 28.7 ± 6.7 years, 8 females) after Mustard (n = 15) or Senning (n = 11) operation who underwent catheter ablation for intra-atrial re-entrant tachycardia (IART) or atrioventricular nodal re-entrant tachycardia (AVNRT) from January 2004 to May 2011. The electrophysiological studies were performed using a three-dimensional mapping system (CARTO). Remote magnetic navigation (RMN) was available since 2008. Follow-up on an outpatient basis was conducted 3, 6, and 12 months after ablation and yearly thereafter. In the 26 patients, 34 procedures were performed (one procedure n = 19, two n = 6, and three n = 1). Overall, 34 tachycardia forms (IART n = 30; AVNRT n = 4) were ablated manually (n = 25) or by RMN (n = 9). Acute success reached in 29/34 forms (85.3%). Mean fluoroscopy time (FT) was 28.2 ± 20.7 min and mean procedure duration (PD) was 290.9 ± 107.6 min. After a mean follow-up of 34.1 ± 24.5 months, 25/26 (96.2%) patients were free from IART or AVNRT. In the nine RMN ablations (mean follow-up 14.2 ± 5.8...
months) acute and long-term success was 100%. Fluoroscopy time and PD were significantly reduced using RMN compared with manual ablation (11.9 ± 6.2 vs. 34.6 ± 20.6 min, 225.7 ± 24.1 vs. 312 ± 118.2 min, P = 0.02). Catheter ablation of IART or AVNRT in patients post-Mustard/Senning operation for d-TGA has a high acute success rate. The recurrence rate for IART is about 30%; however, after a second ablation, long-term results are excellent. Remote magnetic navigation seems to improve single-procedure acute and long-term success and significantly reduces FT and PD.