was determined by relating heart weight to body weight at sacrifice. Dogs in sinus rhythm

Conclusions: While electrical remodeling and susceptibility to drug-inducedtorsade de Pointes-arrhythmias are evocable. Heart weight of 0 and 2 is

Results: Abnormal increase in MAP was present at 2 and 5 weeks (see figure), at that time torsade de pointes-arrhythmias are evocable. Heart weight of 0 and 2 is

Methods: We used whole-cell patch configuration to record action potentials (APs) and membrane currents in epicardial cells isolated from pig and human ventricles, and compared the AP morphology and related currents responsible for the phase 1 repolarization of the AP.

Results: No significant difference was observed in resting membrane potential and action potential duration in the two types of cells. Amplitude of phase 1 of the APs was larger in pig (58.2 ± 3.5 mV, n = 9) than in human (25 ± 3.1 mV, n = 6) hearts (P < 0.01). Duration of the phase 1 lasted longer in pig (21.2 ± 2.1 ms) than in human (6.9 ± 1.2 ms, P < 0.01) cardiac cells, suggesting differential ion current contributions. The Ca2+-

Methods: The whole-cell patch-clamp techniques were applied to 16 atrial myocytes isolated from 15 patients with atrial fibrillation or flutter. Atria were excised from pig hearts and isolated during AF, 20 ± 10 min, or during sinus rhythm, 21 ± 8 min (P = 0.8). After 120 ± 80 days of follow-up, AF recurred in 4 of 12 patients (33%) who had PV isolation in AF, and in 15 of 40 patients (38%) who had delivery of RF in sinus rhythm (P = 0.08).

Conclusions: Recurrent AF may complicate PV isolation procedures. RF delivered at axial sites with a rapid AF activity and exit block to the left atrium is effective in terminating or eliminating recurrences of AF. Application of RF during AF is not associated with additional RF applications and is useful in patients with recurrent AF during the isolation procedure.


corresponding currents were measured in pig and human cardiac cells. The 4-AP-sensitive (4-AP) sensitive K+ current (Ito) with linear V-I relation was recorded in pig epicardial cells by 300-ms steps between -40 and -80 mV from -90 mV, while no Ito was observed in human cells. The 4-aminopyridine (4-AP) sensitive K+ current (Ito) with linear V-I relation was recorded in human cells (n = 7), but it was not detected in cells from pig heart under identical conditions (n = 9). The "spike and dome" of the APs was abolished by 3 mM 4-AP in human heart cells (n = 6), but not in pig heart cells. Interestingly, the spike and dome in pig coronary cells were abolished by reducing [Ca2+], in pig cardiac cells, and was not affected in human cardiac cells.

Conclusion: There is no Ito in pig, and no Ito in human heart cells. The 4-AP-sensitive Ito contributes to phase 1 repolarization of human atrial cardiac currents, whereas Ito is responsible for the fast repolarization of pig cardiac action potential, indicating that cellular electrophysiology is different in pig and human ventricles.

JACC March 6, 2002

ABSTRACTS - Cardiac Arrhythmias 105A

POSTER SESSION

1136 Ablation of Supraventricular Arrhythmias: New Methods and Approaches

Monday, March 18, 2002, 3:00 p.m.-5:00 p.m.

Georgia World Congress Center, Hall G

Presentation Hour: 4:00 p.m.-5:00 p.m.

1137-103 Segmental Isolation of Pulmonary Veins During Atrial Fibrillation

Hakan Oral, Bradley P. Knight, Hiroshi Tada, Mehmet Ozuydilm, Radmira Greenstein, Amir Chugh, Christoph Scharr, Schall Hassan, Frank Pelesi, Jr., S. Adam Strickberger, Fred Morden, University of Michigan, Ann Arbor.

Background: Segmental isolation of pulmonary veins (PV) usually is performed during sinus rhythm or pacing from the coronary sinus. If there were recurrences of AF despite antiarrhythmic therapy with beta-blocker and amiodarone, RF energy was delivered during AF at Lasso catheter sites that showed rapid PV activity with exit block to the adjacent left atrium. RF energy delivered at the earliest activation site within the PVs. However, in some patients, sinus rhythm cannot be maintained due to recurrences of atrial fibrillation (AF) during the procedure.

Objective: To determine the feasibility and clinical outcome of segmental PV isolation during AF.

Methods: In 45 men and 13 women (mean age 50 ± 53 ± 12 years) with paroxysmal AF (duration < 6.7 ± 6.7 months; 16 ± 12 episodes per month), 185 PV's were targeted for isolation by identification of PV potentials recorded with a decapolar Lasso catheter during sinus rhythm or pacing from the coronary sinus. If there were recurrences of AF despite antiarrhythmic therapy with beta-blocker and amiodarone, RF energy was delivered during AF at Lasso catheter sites that showed rapid PV activity with exit block to the adjacent left atrium. RF energy delivered at the earliest activation site within the PVs. However, in some patients, sinus rhythm cannot be maintained due to recurrences of atrial fibrillation (AF) during the procedure.

Results: Of the 185 PV's, 15 PV's (8%) were isolated during AF. AF terminated during RF delivery in 4 of these 15 PV's (27%). After restoration of sinus rhythm with cardioverter- defibrillator electric shocks or medications, AF recurred in 2 of 35 patients (5%) who had PV isolation in AF, and in 13 of 43 patients (30%) who had delivery of RF in sinus rhythm (P = 0.08).

Conclusions: Recurrent AF may complicate PV isolation procedures. RF delivered at axial sites with a rapid PV activity and exit block to the left atrium is effective in terminating or eliminating recurrences of AF. Application of RF during AF is not associated with additional RF applications and is useful in patients with recurrent AF during the isolation procedure.

1137-104 Epicardial Foci of Atrial Arrhythmia Apparently Originating in the Left Pulmonary Veins

Demosthenes Katritsis, Eleftherios Giaitsoglou, Soarees Korovesis, George Paxinos, John Ioannidis, Constantin F. Angelopoulos, John a. Chen, Athens European, Athens, Greece, St. George's Hospital Medical School, London, United Kingdom.

Background: Connections between left atrium, pulmonary veins (PV) and coronary sinus (CS) can be identified epicardially, through the CS or following a pericardiocentesis, by epicardial PV potentials recorded with a decapolar catheter. epicardial PV potentials recorded with a decapolar catheter. epicardial PV potentials recorded with a decapolar catheter.

Methods: Forty patients (pts), aged 45-62 years, subjected to catheter ablation for paroxysmal AF, were studied by means of epicardial mapping through the distal, supracoronary CS. Arrhythmogenic focus were identified by recording specific potentials during sinus rhythm or proarrhythmic CS pacing and/or by demonstrating consistent triggering of the arrhythmogenic focus.

Results: In 19 pts at least one consistent arrhythmia focus was encircled mapped to originate in the left superior (LSPV) or inferior PV (IPV). Catheterization of distal CS in