7.3 ONE TRANSSEPTAL FOR ABLATION OF ATRIAL FIBRILLATION IN A LARGE COHORT OF PATIENTS

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Background: To atrial fibrillation catheter ablation a second transseptal puncture is usually advocated to perform the procedure.

Aim: To report a retrospective data about a single transseptal puncture for AF ablation.

Methods: A thousand patients were recruited in whom ablation of (AF) was performed. After the transseptal puncture a guidewire was then anchored in the left atrium, and the transseptal assembly pulls back to the right atrium. Then a catheter was advanced approaching the septum parallel to the guidewire and guiding the crossing. After the catheter was positioned in the left atrium, the transseptal system was advanced to the left atrium over the guidewire.

Results: In 5/1000 (0.5 %) cases a second transseptal puncture was required. Neither complications of the transseptal were reported nor was catheter properly manoeuvred. In a year follow up no persistent atrial defect were observed.

Conclusions: This data on a large cohort of pts shows that single transseptal puncture AF ablation is a highly successful and safe maneuver with a very low mortality risk. This can avoid potential complications related to a second transseptal puncture.

7.4 TRANSEPTAL APPROACH FOR LEFT ATRIAL ARRHYTHMIA ABLATION IN PATIENTS WITH MITRAL VALVE PROSTHESIS

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Some concerns exist in performing transseptal approach (TP) in patients with mitral prosthesis. Between January 2002 and December 2004 we performed 114 TP, in 7 cases in patient with mitral valve prosthesis (3 biological and 4 mechanical). All the patients had incisional, drug refractory, atrial tachycardia. Before procedure all patients were evaluated by transesophageal echocardiogram (TEE) and in case of difficulty also the procedure was performed under TEE guidance. We avoided mapping directly the posterior valve ring, using the reference of the coronary sinus signals only.

TP was successful in all of the seven patients. In four cases TEE was necessary (57% in front of only 2.4% of TP in routine cases). The clinical arrhythmia was successfully ablated in 6 patients (85.7%, 5 cases in left atrium, 1 in right side of septum) and one procedure was suspended because of atrial fibrillation. Only one mild complication (TIA) verified.

Patients with valve prosthesis and severely symptomatic drug resistant arrhythmias can be considered candidate for TP and left atrial mapping-ablation. The procedure difficulty is surely higher than standard TP due to the peculiar septum anatomy and thromboembolic risk valve related. TP in patients with prosthetic valve appear to be safe, but it requires experienced operators. TEE guidance should be available.

7.5 PULMONARY VEIN ANTRUM ABLATION FOR ATRIAL FIBRILLATION IN PATIENTS WITH IMPAIRED LEFT VENTRICULAR FUNCTION

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Background: Atrial Fibrillation (AF) can be a major factor in the exacerbation of left ventricular dysfunction (LVD). Reduction of AF recurrences in these patients may be beneficial.

Methods: 210 patients with AF underwent pulmonary vein (PV) antrum isolation, 15 pts (age 54±11 yrs) had LVD (EF: 36±6%; NYHA II-III). Ablation was guided by 3D mapping system (Nav-X) to achieve complete PV isolation and left and right isthmuses. Retrospective analysis included changes of EF, AF recurrences, hospitalizations and Quality of Life (QoL).

Results: Complete PV isolation and bidirectional right isthmus line were achieved in all patients, complete left isthmus line in 12/15 pts (80%). Three patients (20%) underwent a second procedure because of occurrence of atypical atrial flutter. No procedure related complications occurred. Mean follow up: 14±2 months, 13/15 pts (86%) were arrhythmia free, 5 patients without antiarrhythmic drugs. EF increased from 36±3% to 45±2%, p<.05; no hospitalization for heart failure was reported in patients in sinus rhythm and a significant improvement of QoL occurred (46.4 vs 77.8, p.05).

Conclusions: PV antrum ablation can be effective in eliminating AF in pts with LVD, reducing hospitalizations for heart failure and improving significantly QoL. AF ablation may be considered an effective treatment in selected patients with LVD and AF.

7.6 RADIOFREQUENCY ABLATION OF AFib: RESULTS THAT PERSIST DURING YEARS

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Radiofrequency (RF) atrial fibrillation (AF) ablation is becoming a good therapeutic option for drug resistant AF but the long term results of these procedures are still unknown.

Methods: We present our 4 years experience about 100 patients who underwent RF AF ablation for drug resistant paroxysmal/persistent AF. They were treated with different approaches (electrophysiological PV isolation or ablation with linear lesions around PV ostia) according to individual patient’s characteristics. AF recurrences during the first three months after the procedure were not considered a procedure failure. Only 15% patients underwent a 2nd procedure.

Results: At a 4 years follow up 80% of the patients are in sinus rhythm (SR), 65% without and 35% with low doses of antiarrhythmic drugs. TAO was interrupted only in a few patients with complete atrial function recovery and no stroke risk factors.

Conclusion: AF RF ablation is effective in the majority of AF patients. Positive results obtained 6 months after the procedure are predictive of SR maintenance at an intermediate-long term follow up (4 years).

7.7 12-LEAD REMOTE ECG MONITORING IN FOLLOW-UP OF PULMONARY VEIN ABLATION

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Aim: to assess usefulness of a 12-lead remote ECG monitoring system (12LREC) in the follow-up of pts after pulmonary vein ablation (PVA) for atrial fibrillation (AF).

Method: 5 consecutive pts (4 M, age 52±13 yrs) who underwent PVA for recurrent, drug refractory AF. Four pts with idiopathic AF, one with post-surgical AF for atrial septal defect closure. The 12LREC is a portable recording device (Aerotel, Heart View 12), transtelephonically downloadable through a call center (Tesan, Vicenza) to a server (Globalcardio), accessible via Internet to authorized personnel. The pts recorded an ECG every day for 40 days after discharge, and in case of palpitations.

Results: 222 ECG were recorded, all of good quality. AF was documented in 3/5 pts. Pt 1, in a single 12REC, with spontaneous sinus rhythm restoration. Pt 2, recurrence of asymptomatic persistent AF preceded by atrial bigeminism from the right superior pulmonary vein. Pt 3, with post-surgical AF, multiple recurrences of paroxysmal AF with few symptoms.

Conclusions: The 12LREC is a useful system for the follow-up of pts after PVA, easy to use and with a quality good enough in discriminating arrhythmia morphology.

7.8 NONCONTACT VOLTAGE MAPS OF SVC MYOCARDIAL SEGMENTS AND RA CONNECTIONS

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Myocardial segments (MOY) can extend into the superior vena cava (SVC) from the RA. To characterize entry and exit sites and course of MOY, the SVC and SVC-RA junction were mapped with noncontact multielectrode array catheters in 9 patients (pt) during sinus rhythm and RA pacing. Discrete MOY were found in all pt. Multiple segments with RA connections were identified in 5 pt: 3 had postero-medial and antero-lateral connections, 1 had anterior, lateral and postero-medial connections, 1 had posterior and medial connections. In 4 pt activation conducted into the SVC along the posterior segment and out the SVC along a second segment. A single discrete postero-medial segment was identified in 4 pt. MOY course was straight (n=6) or spiral around the SVC (n=3); in 4 pt MOY branched distally. Segments extended 3-6cm into SVC. No pt had a completely circumferential segment. In 3 pt tachycardia originated in an anterior segment 1-2cm into SVC.

Conclusions: SVC MOY have complex anatomy often with multiple segments and RA connections. These can be sites of reentrant circuits and ectopic foci driving atrial tachycardia.