**ABSTRACTS - Cardiac Arrhythmias 93A**

**Poster Session 1063**

**1063-0** Improvement in Quality of Life Post Circular Mapping Guided Pulmonary Vein Isolation in Both Normal Heart and Low Ejection Fraction Patients

*Dianna Bask, Scott Rosenberg, Nassir F. Marrouche, Jens Guenther, Volker Scholppa, Ahmad Abdul-Karim, Sharan Koul, Gussama Wazni, Mustafasah Shahraou, David Martin, Alejandro Perez-Luigones, Walid Saliba, Robert Schweikert, Eduardo Saad, Eamonn Logue, The Cleveland Clinic Foundation, Cleveland, Ohio, USA*  

**Background:** To determine the impact of PV isolation on Quality of Life (QoL) in patients undergoing PV isolation for AF.  

**Methods:** Pre-operative quality of life questionnaire (QoL) was assessed in 180 (120 male, mean age 55 ± 11 years) out of 168 patients undergoing PV isolation for treatment of symptomatic AF at our institution. Thirty patients presented with impaired LV function (defined as LV EF < 45% and CHF symptoms with ≥ NYHA class III). All patients completed the SF-36 questionnaire pre- and 1-year post PV isolation. Results: Table 1 shows the pre and post PV isolation results in patients with normal (gr 1) and impaired LV function (gr ≥ 2).  

**Conclusion:** Our preliminary experience, after circular mapping guided PV isolation a significant improvement of QoL was observed in all patients regardless of the presence of left ventricular dysfunction.

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**Poster Session 1042-20**

**Implications of Anatomical Location on Success of Electrical Isolation of Pulmonary Vein by Lasso Catheter**


**Purpose:** The Lasso catheter provides a technological advancement in ablating the PV ostia. However, the optimal location of the PV ostia is not defined. Therefore, we report our observations in 70 patients (52±7 yrs) undergoing Lasso guided PV ostial ablation. Methods: The Lasso mapping catheter (LMC) was placed serially at ostia (os) of all 4 PVs. OS was defined by fluoroscopy, Intracardiac ultrasound, electroanatomic map of left atrium (LA) and electrograms consistent with PV entry recorded by LMC. Lesions (90°C, 40W) were delivered proximal to LMC pole(s) showing earliest entry (atrial followed by PV potentials). Successfull PV isolation was defined by loss of potentials (entry block) and failure to capture LA when pacing circumferentially along PV os (exit block). Number of lesions per PV: 13. Results: The success rates of PV isolation were: Left superior 90.8% (56/62), right superior 65.8% (21/32), left inferior 82.0% (29/35), right inferior 93.2% (53/57). Conclusions: Using Lasso guidance to confirm entry and exit block, ostial circumferential ablation can successfully isolate majority of (73.6%) PVs. Inferior veins require fewer lesions to achieve electrical isolation.

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**Poster Session 1042-19**

**Accuracy of Noncontact Mapping in Identifying Lines of Conduction Block as a Function of Distance**

*Saeid Niknava, Masoud Najafabadi, Jose Barat the Lasco, Iker Sorpiz, Iyaz Al., Lusti et, Sunny S. Po, Manisha Ashar, Karen J. Beckman, Nahej Lazzera, Werner M. Jackman, Cardiac Arrhythmia Research Institute University of Oklahoma Health Sciences Center, Oklahoma City, OK*

**Purpose:** To determine the accuracy of the non-contact mapping system to identify lines of conduction block as a function of distance from the probe using canine atrial models. Methods: In 6 anesthetized open chest dogs (28-45 kg), one or two right atrium free wall incisions (2.5-4 cm, median 3.2 cm) was created near the right atrial appendage (RAA). Microelectrode pacing was placed between the incisions and tricuspid annuli, and the chest was closed. A non-contact mapping system was used to map the atrial surface. Results: The isopotential map visualized the line of block with propagation around both ends in 5 of 6 incisions, located 0-4 mm (median 2 mm) from the probe. Conclusions: Non-contact mapping accurately identified lines of block within 4 mm from the probe. This supports the use for cryoablation in the treatment of atrial Flutter in close proximity to the compact AV node.

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**Poster Session 1042-8**

**A Prospective Randomized Study Comparing Transvenous Cryoenergy and Radiofrequency Ablation in the Triangle of Koch: Preliminary Data**

*Geert Kimman, Dominic Theuris, Tamas Szili-Torok, Marcoen Scholten, Jan Res, Luc Jordans, Erasmus Medical Centre, Rotterdam, The Netherlands*

**Background:** Transvenous catheter ablation of tachyarrhythmias with radiofrequency (RF) energy is effective and safe, in most studies and registries on arrhythmogenic right ventricular nodal reentrant tachycardia (AVNRT), a 1-3% incidence of complete heart block is mentioned. Cryothermal energy has the ability to create reversible lesions, thereby demonstrating the potential success of prospective ablation sites without inducing permanent injury. Aim: To study advantages and additional shortcomings of both energy forms. This prospective, randomised study (Cryoenergy versus Radiofrequency Ablation in AV junctional Tachycardias) will address both AVNRT and (para)septal (PS) pathways, which were either ablated in a separate procedure or the compact AV node in the triangle of Koch. The line of block was confirmed on the isopotential map using the Lasso catheter (LMC). Methods: In this prospective, randomised trial, 36 patients were included. In all patients a 3D navigation system (LocaLisa) was used. The lesion was assessed with additional imaging in subgroup. After a diagnostic EP study, AVNRT remained the diagnosis in 31 patients, right sided PS pathways were present in 5 cases. 18 AVNRT and 2 PS patients were randomised to RF ablation. This was compared with cryoablation in 13 AVNRT and 3 PS patients. A cross over of energy occurred in 2 RF patient to cryo, and in one cryo patient to RF. Follow-up is done with event recording to have long term success data. Results: Acute success was achieved in 90% in the RF group versus 88% in the cryo group. The median number and range of applications in all treated patients was 7 (1-24) in the RF, and 2 (1-13) in the cryo group (p<0.05). The procedure and fluoroscopy times for pure AVNRT were 172 and 49 min in the RF group versus 174 and 46 min for the cryo group (NS). One patient in the cryo group had a temporary complete heart block with restoration of AV conduction 4 seconds after immediate termination of cryoablation. Long term follow-up was similar in both groups. Conclusion: These preliminary data show that cryoablation is as effective and safe as RF ablation. Significantly less applications are necessary. This supports the use for cryoablation in the treatment of tachyarrhythmias in close proximity to the compact AV node.

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**Poster Session 1042-1**

**Electrical Isolation of Pulmonary Veins by Lasso Catheter Guided Subtotal Circumferential Ostial Ablation**

*Ahmad Abdul-Karim, Sharat Koul, Oussama Wszni, Mustafasah Shaaraoui, David J. Callans, John J. Araujo, Joseph W. Poku. Yadavsndra S. Rsjawat, Hemal M. Nayak, David J. Callans, Andrew J. Jackman, Cardiac Arrhythmia Research Institute University of Oklahoma Health Sciences Center, Oklahoma City, OK*

**Purpose:** To determine the success rates of PV isolation using the circular mapping approach. Methods and Results: In 6 anesthetized open chest dogs (28-45 kg), one or two right atrium free wall incisions (2.5-4 cm, median 3.2 cm) was created near the right atrial appendage (RAA). An epicardial pacing electrode was placed between the incisions and tricuspid annuli, and the chest was closed. A non-contact mapping system was used to map the atrial surface. The tip of MEA was positioned in the superior vsna cava (SVC) in 5 dogs. The isopotential map visualized the line of block with propagation around both ends in 5 of 6 incisions, located 0-4 mm (median 2 mm), compared to 0-2 mm (median 1 mm) using CARTO. Virtual electrograms exhibited double atrial potentials 5-33 mm from the location of the line of block. Conclusions: Non-contact mapping accurately identified line of block within 13 mm from the surface of the MCA. Results: Right Superior PV (N=58): Left Superior PV (N=60): Right Inferior PV (N=20): Left Inferior PV (N=60): Total Ablation Lesions 13.2±7.4 13.2±7.8 0.4±7.9 0.9±6.6

**Poster Session 1042-11**

**Quality of Life Questionnaire (QoL) after Transvenous Cryoablation and Radiofrequency Ablation in Patients with Atrial Fibrillation**

*Dianna Bask, Scott Rosenberg, Nassir F. Marrouche, Jens Guenther, Volker Scholppa, Ahmad Abdul-Karim, Sharan Koul, Gussama Wazni, Mustafasah Shaaraoui, David Martin, Alejandro Perez-Luigones, Walid Saliba, Robert Schweikert, Eduardo Saad, Eamonn Logue, The Cleveland Clinic Foundation, Cleveland, Ohio, USA*

**Purpose:** To determine the quality of life patients undergoing pulmonary vein isolation (PV isolation) using the circular mapping approach. Methods and Results: Quality of life questionnaire (QoL) was assessed in 180 (120 male, mean age 55 ± 11 years) out of 168 patients undergoing PV isolation for treatment of symptomatic AF at our institution. Thirty patients presented with impaired LV function (defined as LV EF < 45% and CHF symptoms with ≥ NYHA class III). All patients completed the SF-36 questionnaire pre- and 1-year post PV isolation. Results: Table 1 shows the pre and post PV isolation results in patients with normal (gr 1) and impaired LV function (gr ≥ 2). Conclusion: Our preliminary experience, after circular mapping guided PV isolation a significant improvement of QoL was observed in all patients regardless of the presence of left ventricular dysfunction.