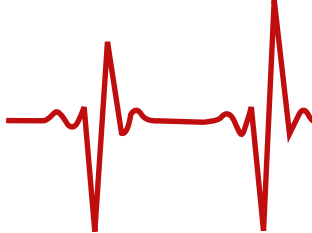


UPGRADING A RELAZIONI





UPGRADING A RELAZIONI

GIOVEDI' 11 APRILE 2019

15.00-15.15

SALA ROSSA 1

IMAGING

Imaging e Aritmie

HIGH-DENSITY MAPPING AND VISUALIZATION OF THE AVNRT CIRCUIT INSIDE THE KOCK'S TRIANGLE

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BACKGROUND: Atrial activation during typical atrioventricular nodal reentrant tachycardia (AVNRT) exhibits anatomic variability and spatially heterogeneous propagation inside the Kock's Triangle (KT). The mechanism of the reentrant circuit has not been elucidated yet.

PURPOSE: The purpose of the present study was to perform detailed mapping and visualization of the AVNRT circuit in the KT during both sinus rhythm (SR) and tachycardia in patients who underwent ablation.

METHODS: The 3-D KT geometry was created during both SR and tachycardia from the basket mapping catheter IntellaMap Orion and the Rhythmia Mapping System (Boston Scientific). The earliest atrial activation during SR and tachycardia was mapped using automated annotation. The KT was divided into 8 distinct regions, and the fast pathway (FP) and the slow pathway (SP) were localized. Activation sequences and propagation maps were carefully evaluated to discern pathway physiology and the presence of collision points (LOC).

RESULTS: 20 consecutive successful SP ablation cases of AVNRT were included. Mean number of acquired points of RA=6000±1100 (mean RA mapping time=12±5 minutes); 275±63 inside the KT, mean KT area=29±3mm². During SR, the site of earliest atrial activation within the KT was anterior in 80% of patients whereas a mid-septal activation occurred less frequently (20%). In SR the wavefront rose up from the sinus node region splitting into 2 wavefront, one along the lateral wall toward the crista terminalis, the second superiorly around the ostium of the SVC. The waves activating the ostium of the SVC fused at the level of the septal wall and approached and spanned the KT above the LOC in a superior-inferior direction without any conduction block at the level of tendon of Todaro (TT). The lower part of the KT was activated in an inferior-superior direction by the wavefront arising from the lateral side. The 2 wavefronts, moving in opposite directions, collided in the inferior portion of the KT. During tachycardia in all the cases the wavefront descended from the FP (from the anterior limbus in an anteroposterior-superior to inferior- direction) and it rose through the SP. In 16 (80%) cases an additional portion of the wavefront slid posteriorly to the coronary sinus and ascended around the tricuspid valve. The TT represented in all patients a marked slowing conduction area. Abolition of the SP was reached at the first procedure with a mean of 3.3±1 RF ablations. No complications occurred. After an average 6 months of follow-up, no patients had recurrence of AVNRT.

CONCLUSIONS: The new findings of the present study have several practical implications. High-density electroanatomic mapping of small local tachycardia circuits represent a safe and effective option for successful AVNRT ablation. Fast target site selection and accurate mapping of the AV node with stable ablation at a safe distance, could reduce RF application and help avoid AV nodal injury.

VENERDI' 12 APRILE 2019

10.45-11.00

SALA ITALIA

ELETTROSTIMOLAZIONE

La terapia di Resincronizzazione Cardiaca 25 anni dopo

HIS BUNDLE PACING PLUS LV LEAD IN CRT PATIENTS

L. Marcantoni, G. Pastore, E. Baracca, M. Zuin, M. Carraro, M. Rinuncini, C. Picariello, A. Maddalozzo, S. Giatti, D. Lanza, K. D'Elia, S. Aggio, L. Roncon, F. Zanon

Ospedale S. Maria della Misericordia, Rovigo, Italy

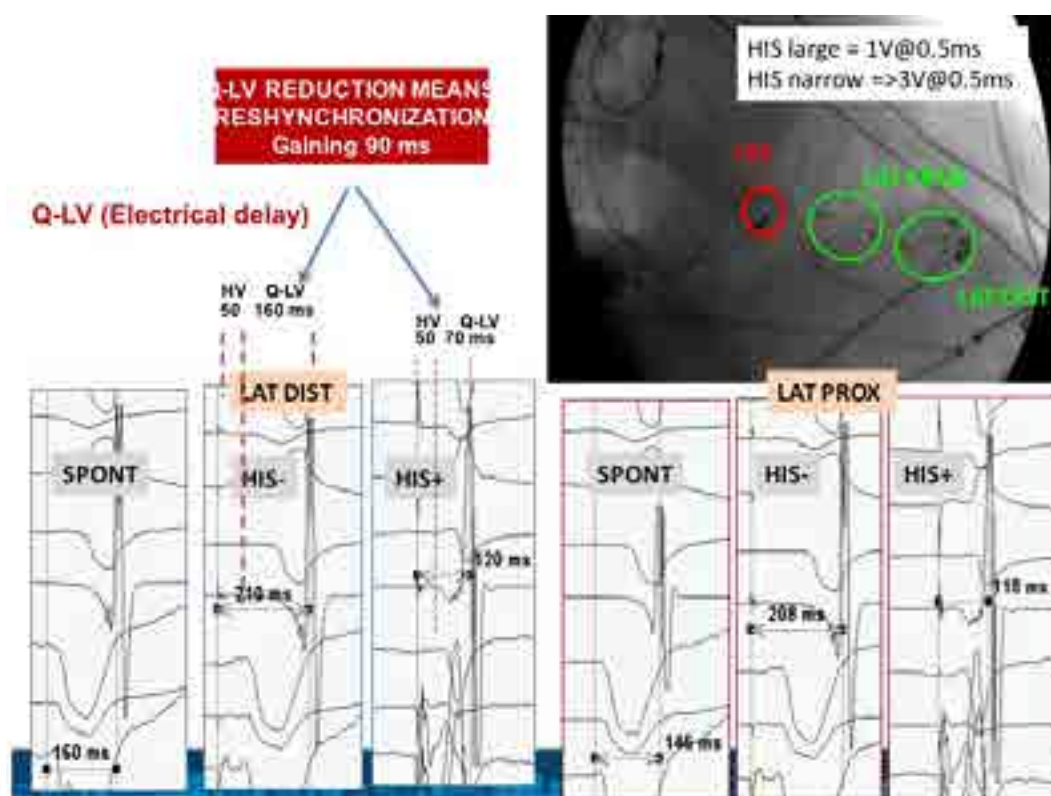
BACKGROUND: His-bundle pacing (HBP) in LBBB pts can recruit latent conduction system resulting in QRS narrowing/normalization thus shortening the Q-LV. Recently HBP has been evaluated as an alternative to CRT with positive results.

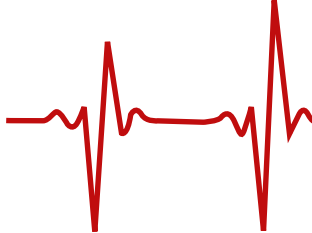
OBJECTIVE: The purpose of this study was to assess the clinical, echo and QRS response to permanent HBP added to standard LV pacing in CRT-indicated patients.

METHODS: we retrospectively analyzed 27 patients (mean age 76 ± 7 years; 19 males) with standard indication for cardiac resynchronization therapy. Basal mean QRS duration was 155 ± 29 ms, basal mean EF $30 \pm 5\%$ and basal mean NYHA class 2.8 ± 0.5 . AV-block was present in 7 (26%) patients. All patients received the lead in the hisian area (15 S-HBP and 12 NS-HBP) and the LV lead via coronary sinus (0 MPP). 14 patients (52%) had ischemic cardiopathy; 22 patients (81%) had hypertension, 13 patients (48%) had diabetes and 5 (18%) patients had severe kidney disease. A CRT-D device with coil in the RV apex or septum was implanted in 4 patients; in these cases HB lead was plugged into the atrial port. The remaining patients received CRT-P devices with HB lead plugged in the RV port. We set V-V interval to 0 ms.

RESULTS: All the patients were checked yearly with in-clinic visit and echo. Mean follow-up was 4.2 ± 2.8 years. At the end of follow up mean QRS duration was 131.4 ± 22 ms ($P 0.03$); mean EF $39 \pm 10\%$ ($P 0.003$). 9 (33%) patients were classified as 'super-responders' with final EF more than 45%. In two cases EF decreased. Median VP was $>99\%$. 11 patients showed an high burden of AT/AF ($>50\%$). The mean longevity of the devices was 4.1 ± 1.5 years. During the first year of follow-up 4 patients (15%) patients experienced heart failure episodes.

CONCLUSION: HBP associated to LV pacing in HF patients showed a positive effect in cardiac remodelling. 71% patients resulted 'responders' of which 33% were 'super-responders' with a final EF more than 45%. QRS duration and clinical outcomes significantly improved.





VENERDI' 12 APRILE 2019

16.30-16.45

SALA BIANCA

ELETTROFISIOLOGIA

La chiusura dell'auricola per la profilassi antitrombotica nei pazienti con controindicazioni alla terapia anticoagulante orale: luci e ombre

STANDALONE TOTALLY THORACOSCOPIC LEFT ATRIAL APPENDAGE EXCLUSION IN AF PATIENTS WITH ABSOLUTE CONTRAINDICATION TO ORAL ANTICOAGULATION THERAPY

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INTRODUCTION: Left atrial appendage(LAA) is the source of more than 90% of thrombi in patients with atrial fibrillation (AF). ESC guidelines 2016 state as class IIB indication LAAexclusion in patients with contraindication to oral anticoagulation therapy(OAT). The largest studies on percutaneous LAAexclusion tested the non-inferiority of this procedure to warfarin but contraindication to OATwas the major exclusion criteria for enrollment. On the surgical side a recent study has shown the efficacy of LAAexclusion concomitant to open chest cardiac surgery and the largest cohort study up to day analyzing combined Totally Thoracoscopic(TT) Maze and LAAexclusion with Atriclip Pro II has shown the safety and efficacy of this procedure. Both these studies are biased by being combined procedures and the second study by the high rate of sinus rhythm restoration after surgery. Furthermore, in these studies all patients were on anticoagulation or antiplatelet therapy at discharge. In our study we tested the safety and the efficacy of a TT LAAexclusion in non-valvular AF patients that had contraindication to OAT or at high risk of life threatening hemorrhage on antiplatelet therapy.

METHODS: 20patients (16male, aged between53-87years, CHAD-VASC3-7, HASBLED3-6) with non-valvular AF and contraindication to OAT or antiplatelet therapy (13 cerebral hemorrhages, 7 non cerebral life threatening hemorrhages, 1 Rendu-Osler-Weber syndrome, 4 GI angiodysplasia, 2 urologic malformation/neoplasia), underwent stand alone TT LAA exclusion with the Atriclip Pro II device (Atricure). All patients were screened preoperatively with 3D CT scan, trans-esophageal echocardiography, spirometry and cerebrovascular doppler ultrasound. Intraoperative Atriclip Pro II positioning and LAA exclusion were guided and confirmed by trans-esophageal echo. All patients were not on anticoagulation nor antiplatelet therapy at the time of surgery, at discharge and at control visit. Follow-up (range 6-12-18months) included CT scan or TEE at 6-12month to document complete LAAexclusion in all cases. Perioperative mortality and early and late morbidity in addition to freedom from neurological events at follow up were analyzed by chart evaluation and full outpatient neurological examination including filling out the Questionnaire for Verifying Stroke Free Status (QVSFS) as validated screening tool.

RESULTS: Mean duration of surgery "skin to skin" was 62 minutes; all patients were extubated shortly after the procedure. There were no deaths nor need for blood transfusion or pulmonary procedure related morbidities, only one case of pericarditis treated with colchicine till complete resolution was documented. On CT or TEE follow-up (6-18month) 100%of patients had complete exclusion of the LAA with residual stumps less than 1 cm and no dislodgement of the clip detected. Freedom from neurological events in all patients was documented in absence of anticoagulation or antiplatelet regime from the time of surgery to the time of the follow-up visit and questionnaire filling.

CONCLUSION: TT LAAexclusion with Atriclip Pro II device is a safe, expeditious and effective procedure in preventing AF related stroke in patients with contraindication to OAT. Our data contribute to suggest that this procedure may be considered as first alternative treatment option in patients unsuitable for percutaneous LAAexclusion or at high risk hemorrhage if on anticoagulant or antiplatelet therapy.