Topic 16 – Electrophysiology, rythmology and pacing – A

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0439

Incidence of inappropriate ICD shocks and other complications in asymptomatic versus symptomatic Brugada syndrome

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Background: Brugada syndrome (BrS) requires implantation of cardioverter-defibrillator (ICD) to prevent sudden cardiac death. However, the ICD indications in asymptomatic patients are remain conflicting.

Method and Results: We compared the rate of ICD complications in asymptomatic versus symptomatic BrS patients. ICD interrogations were done every 3-6 months. Given the low prevalence of BrS in the general population, 10% of the risk α for the bilateral statistical test significance was chosen. We studied 51 patients, 86.5% male; mean age 47±11 years at diagnosis. At diagnosis, 18 patients (35%) were asymptomatic, 25 patients (49%) experienced syncope, and 8 patients (16%) had been resuscitated from ventricular fibrillation. During a mean follow-up of 78±46 months, none of asymptomatic patients experienced appropriate therapy, whereas 21.6% of symptomatic patients had ≥1 shocks. Overall complication rate was 27.4%. Inappropriate shocks (IS) occurred in 7 patients (13.7%; mean 6.57±6.94 shocks per patient), 16.14±10.38 months after ICD implantation, and lead fracture was the first cause (n=4, 57.1%). The incidence of IS was higher in the asymptomatic patients (p=0.09). Device-related complications were similar in both groups (p=1). A total of 14 patients (27.4%) had ≥1 complications. The mean interval from implantation to a complication was 13.91±12.98 months. The most frequent complication was lead failure in 9 (17.6%). The risk of IS and device-complications at 3 years was 13.7% and 21.6% respectively, and eventually remains constant over the time.

Conclusion: This study demonstrated that ICD has a high risk of complications, mainly during the early period after the device implantation. A higher rate of IS as well as a very low risk of arrhythmic events in asymptomatic BrS patients advocate to carefully evaluate this young and otherwise "healthy" population for the decision-making.

0315

Atrioventricular conduction disturbance after transcatheter aortic valve implantation: incidence and predictive factors

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Purpose: Atrioventricular (AV) conduction disturbance leading to pacemaker (PM) implantation is frequent after transcatheter aortic valve implantation (TAVI). The aim of this study was to assess the incidence and the predictors of PM implantation after TAVI.

Methods: Between 2010 and 2014, 198 consecutive patients underwent TAVI in our center. 42 patients were excluded from the study because of a pre-existing PM before TAVI. 156 patients (62 Corevalve (CV), 94 Edwards Sapiens valve (ES) were included and prospectively followed during 1 year.

Results: Complete AV block occurred after TAVI in 29 patients (19%), second degree AV block in 3 (0.05%), new left bundle branch block (LBBB) in 53 (34%). A PM was implanted in 40 patients (26%). CV patients were more frequently implanted than ES (35% vs 19%; p=0.03). Post-procedure PR, QRS duration were longer in the PM group (227 *vs* 196ms; 159 *vs* 129ms, respectively, p<0.001). LBBB was also more frequent (79% vs 53%; p=0.01). At hospital discharge, 83% of the PM group was stimulated. At 1 month, 10% were PM dependent and 4% at 6 months. At 1 month, 29% were stimulated less than 5% of the time and 25% at 6 months. Multivariate analysis showed that the predictors of PM implantation were a pre-existing RBBB (OR 4.7, IC 1.43-15.52, p=0.01), a pre-existing LBBB (OR 7.28, IC 2.34-22.6, p<0.001), a per-TAVI complete AV block (OR 4.21, IC 1.52-11.63, p=0.006), a high prosthesis/annulus diameter ratio (OR 1.1, IC 1.04-1.18, p=0.003) and post-procedure PR and QRS long duration (OR 1.03, IC 1.01-1.06, p=0.009; OR 1.04, IC 1.01-1.07, p=0.009 respectively). PM implantation had no impact on survival after TAVI (Logrank=0.92). The increase in LVEF post-TAVI was lower in PM group: 0.2 vs 8%, p=0.05 at 6 months and -5 vs 9.6%, p=0.004 at 1 year. The NYHA class was similar in both groups at follow up.

Conclusion: TAVI is associated in a great proportion of patients with AV disturbances which are mostly regressive over time. Patients with pre-existing RBBB, LBBB and high prosthesis/annulus diameter ratio are at increased risk of complete AV block. LVEF increase was lower in PM group even with a low percentage of stimulation time.

0344

Pacemaker replacement in nonagenarians: procedural safety and long-term follow-up

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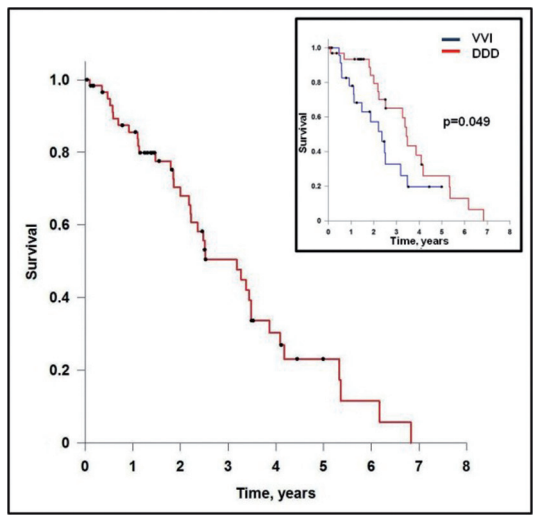
Background: The rate of pacemaker (PM) implantations is continuously growing. A large number of elderly patients is expected to be implanted in the future. We aimed at analyzing the short and long-term outcome after PM replacement in nonagenarians.

Methods: Patients aged ≥90 yo referred for PM replacement from January 2004 to July 2014 were retrospectively included. The primary clinical endpoint was total mortality.

Results: 62 patients were included (93.3±2.9yo at the time of PM replacement). During the follow-up, 37 patients (59.7%) died. Survival rates were 84.2% (95%CI:71.8-91.5%), 66.9% (95%CI:51.8-78.2%) and 22.7% (95%CI:10.6-37.7%) after 1, 2 and 5 years, respectively. Atrial fibrillation (OR 2.44, 95%CI:1.07-5.58) and non-physiological pacing, (OR 2.52, 95%CI:1.12-5.65) were independent predictors of mortality.

Conclusion: PM replacement in nonagenarians is a safe and straightforward procedure. Patients living for a median time of 30 months after the replacement.



Abstract 0344-Figure: Survival for nonagenarians after PM replacement