Background and aim: The new pacemaker (PM) generations featuring extended memory functions (MF) document the occurrence of arrhythmias over periods of several months. Recordings of all atrial episodes and their characteristics contribute to the efficacious treatment of these patients. However, ventricular arrhythmia (VA) characteristics and occurrences are less well-known in this population. The goal of this study was to evaluate the percentage of MF at the ventricular level and to describe the MF-documented VAs.

Methods & Results: the study involved a continuous series of 93 pts (M 66%, aged 75±10 yrs ) implanted with SC or DC Kappa and EnPulse PMs (Medtronic, MN, USA) for AVB 41%, SD 55%. 497 visits were analyzed (follow-up at 7 months avg.) over a period from 2 to 81 months after implantation, and occurrences of VA validated by EGMs, defined by at least 5 QRS complexes >175/mn. The number of episodes and the duration and heart rate during the longest arrhythmia episodes were recorded. 24 pts (26%) average ages 74 ± 13 yrs of whom 78% males, showed ventricular arrhythmias in 88 visits (18%). The average number of episodes was 9 per follow-up (1-140), average duration was 4±4 seconds (1-27 sec), and average rate was 214±33 bpm. (174-307). The totality of the episodes were classified as non-sustained ventricular tachycardia (NSVT). The ejection fraction was 51±11%. 84% showed cardiopathy : CAD (12), HCM(4) and DCM (4). Statistical analysis showed that age, pacing indication, pacing mode and cumulated percentage of pacing are not relevant factors in NSVT.

Conclusion: VAs are observed in rt of pts implanted for standard pacing indications. A major determining factor in the occurrence of NSVT is the presence of an associated cardiopathy. FMs featuring EGM recordings are a tool for reliable diagnostic and monitoring of these events. Further studies are required to evaluate the prognostic significance of these VAs.

207

The SLEW-RATE : a predictive parameter to evaluate the interface Lead / Myocardium

Marc Hero (1), Henri Benkennoun (2)
(1) Medtronic France, CRDM, Boulogne-Billancourt, France - (2) Clinique Saint Pierre, Perpignan, France

We suggested being interested in the theoretical and practical aspect of the slew-rate measurement, to obtain an evaluation of the relation between this measure and the other measures done during implantation and follow-up such as the stimulation thresholds, the value of the EGM and the impedance. The variation of this parameter will inform us about the quality of the interface lead/myocardium.

Method: The study recruited 746 patients not selected a priori, implanted for AV block (51%) or sinus dysfunction (47%). 847 leads were retained to form 3 homogeneous and comparable groups for their physical, electric characteristics and their site of implantation for atrial and ventricular chambers. They correspond to the optimal characteristics (Gr1), acceptable (Gr2) and not acceptable (Gr3) of sensing and pacing parameters usually admitted by the literature.

Results: For auricular chamber, we retained a priori, 56 leads (Gr1), 168 for (Gr2) and 15 for (Gr3); the factorial discriminate analysis (FDA) was realized from the variables of slew-rate, sensing per and post-op and threshold per and post-op gives us a result of 83.7% of individuals good classified.

For the ventricular chamber, we retained a priori, 183 leads (Gr1), 168 (Gr2) and 9 (Gr3); the FDA realized from the same variables gives us a result of 80% of individuals good classified.

The comparison of the averages between groups for every variable shows a significant difference between these groups as well as in the atrial and the ventricular chambers. The data of the others leads (atrium n=94 and ventricle n=154) were affected by the FDA calculation.

Conclusion: The results shown a correlation between slew-rate and electric parameters per and post-op for the 3 groups for atrial and ventricular chambers; a new standard for sensing, pacing and slew-rate values were defined as optimal, acceptable and no-acceptable.

208

Reappearance of the preexcitation syndrome after ablation : significance


CHU de Brabois, Cardiologie, Vandoeuvre Les Nancy, France

Accessory pathway (AP) ablation is the treatment of choice of symptomatic patients (pts) with a Wolff-Parkinson-White (WPW) syndrome or pts with a malignant form at electrophysiological study (EPS). WPW can reappear after ablation. The purpose of this study was to look for the risk factors of AP reappearance and the clinical consequences.

Methods: AP ablation was performed in 327 pts aged from 8 to 77 years (37±16), with a WPW. Ablation failed in 6 pts. In other pts, the anterograde and retrograde conduction disappeared after AP radiofrequency ablation. reappearance of AP occurred in 48 pts from several hours to several years. Their data were studied.

Results: There were no significant clinical differences between pts with and without reappearance of AF, concerning the age (33±16 years vs 36±16), the gender (male gender 28/48 vs 166/280), the reason of ablation (spontaneous malignant form: 10/48 vs 70/280; spontaneous AV reentrant tachycardia (AVRT): 29/48 vs 176/280, asymptomatic with electrophysiological signs of malignancy: 9/48 vs 38/280), the location of AP (left lateral AP: 21/48 vs 125/ 280, posteroseptal AP: 22/47 vs 119/280, anteroseptal: 5/47 vs 27/280). During the follow up, among 9 of 45 pts asymptomatic before ablation but with only inducible rapid AF at EPS, 2 pts became symptomatic and had inducible AVRT at the control. 29 of 202 pts with spontaneous AVRT presented recurrences of AVRT, except one and a 2nd procedure was required. Among 10 of 79 with syncope and signs of malignancy or spontaneous rapid AF, 2 pts have lost the signs of malignancy at 24th EPS; 2 pts who presented only with rapid AF, had an AP with long refractory period but developed incessant AVRT’s; 6 pts had still signs of malignancy, requiring a second procedure.

Conclusions: There was no significant clinical or electrophysiological cause that explains the reappearance of AP after ablation. The reappearance of conduction is generally associated with reappearance of all properties of AP associated with malignancy or AVRT, except in some cases. Pts without AVRT before ablation may become symptomatic and develop this AVRT after AP ablation.

209

Arrhythmic storm in non ischemic patients treated with ICD device for primary prevention. Long-term follow-up and prognosis

Althanasios G Manolis (1), Kostas Kouvelas (1), George Nikitas (1), Theo Dragios (1), Valadis Psathas (2)
(1) Hellenic Red Cross Hospital of Athens, Cardiology, Athens, Grèce - (2) Hellenic Red Cross Hospital of Athens, Athens, Grèce

Background: Arrhythmic storm (AS) was defined for the purpose of the present study as the occurrence of frequent episodes (more than 3/day) of hemodynamically destabilizing ventricular tachycardia or ventricular fibrillation requiring immediately electrical cardioversion or defibrillation. The aim of this study was to determine the prevalence, causes and long-term prognosis of AS in patients with dilated cardiomyopathy, in whom an ICD was implanted for primary prevention.

Methods: This observational study compromised 135 pts (114 M, 21 F, 69±20 years old). The NYHA class was II (20pts), III (105pts), IV (10pts). The LVEF was 30 ±8%. The F.U period was 25±15 months.

Results: AS occurred in 8 (6%) pts at an average of 18±7 months after ICD implantation. The mean number of arrhythmic episodes constituting AS in patients with dilated cardiomyopathy, in whom an ICD was implanted for primary prevention.

Methods: This observational study compromised 135 pts (114 M, 21 F, 69±20 years old). The NYHA class was II (20pts), III (105pts), IV (10pts). The LVEF was 30 ±8%. The F.U period was 25±15 months.

Results: AS occurred in 8 (6%) pts at an average of 18±7 months after ICD implantation. The mean number of arrhythmic episodes constituting AS in patients with dilated cardiomyopathy, in whom an ICD was implanted for primary prevention.

Methods: This observational study compromised 135 pts (114 M, 21 F, 69±20 years old). The NYHA class was II (20pts), III (105pts), IV (10pts). The LVEF was 30 ±8%. The F.U period was 25±15 months.

Results: AS occurred in 8 (6%) pts at an average of 18±7 months after ICD implantation. The mean number of arrhythmic episodes constituting AS in patients with dilated cardiomyopathy, in whom an ICD was implanted for primary prevention.