Results: During a mean FU of 32±12 (12–53) mo, 9 pts (12%) received appropriate ICD therapy (TPE-group). Two pts (3%) survived MI and there were 9 CD (12%) (MI-or-CD-group). In total, 20 pts (27%) experienced at least 1 event (TSE-group). Mean HMR-e and HMR-I values were 1.68±0.20 and 1.56±0.19 in TPE-group, and were not significantly different from no-event-group (1.71±0.27, 1.56±0.25), TSE-group, and MI-or-CD-group. However, in 15 of 53 pts without any event, HMR-e values, reaching up to 2.23, were above the maximal values found in TPE-group (1.91), TSE-group (1.91), and MI-or-CD-group (1.85). Also, in 8 of 53 pts without any event, HMR-I values, reaching up to 2.15, were above the maximal values in TPE-group (1.81), TSE-group (1.82), and MI-or-CD-group (1.82); 1 of them had not high HMR-e value. Altogether, high MIBG uptake above the level defined for the used system (in our setting it was HMR-e >1.91 and HMR-I >1.82) identified part (16/53, 30%) of the pts with low risk for dangerous arrhythmias which require ICD interventions as well as pts with low risk of MI or CD during 1–4yrs after ICD IMPLANT.
Conclusions: In the population of pts with IHF qualified for ICD in PP, high HMR values achieved from early and/or late MIBG images seem to be helpful in selection of pts who will not benefit from ICD. These are HMR values similar to values identifying also the pts with low risk of MI or CD.
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P2922
Ventricular tachyarrhythmia incidence in coronary heart disease patients with implanted cardioverter-defibrillator according to cardiac sympathetic status

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Introduction: Sudden cardiac death (SCD) remains the leading cause of death. Ventricular tachyarrhythmias (VTA) are the main cause of SCD. The incidence of VTA and SCD in coronary artery disease (CAD) patients still is a hot spot in cardiology. Myocardial ischemia is recognized as a trigger for VTA. Revascularization that alleviates ischemia reduces the incidence of VTA. Nevertheless, the implantable cardioverter-defibrillator (ICD) is the main method of SCD prevention. However, only 15–25% patients after ICD implantation have VTA events. So it's necessary to find out new predictors of VTA.
Purpose: To evaluate VTA incidence in patients with cardiac sympathetic denervation, CAD and ICD, as well as to identify SCD potential predictors in these patients.
Methods: Patients with CAD, myocardial infarction and indications for the ICD implantation were examined. Before ICD implantation, patients underwent echocardiography and cardiac ^{12}I-metaiodo-benzylguanidine (123I-MIBG) scintigraphy. All patients were treated with antiarrhythmic therapy (beta-blockers and amiodarone). During 6-th month follow-up, VTA events were documented.
Results: There were 50 patients (male-41, age-65,3±8,4 years) enrolled. The 1-st group consisted of 37 (74%) patients who had VTA events. Effective antitachypacing was in 13 (35,1%) patients and 24 (64,9%) patients had nonsustaine VTA. Average number of VTA episodes were 1,45±0,8 (min-1, max-4), VTA duration-9,08±4,81 sec. For 18 (48,6%) patients ICD was implanted for primary, and 19 (51,4%) one for secondary SCD prevention. The 2-nd group consisted of 13 (26%) patients without VTA events during 6 months after ICD implantation. For 3 (23%) patients of them ICD was implanted for primary, and 10 (77%)-secondary SCD prevention. There were statistically significant differences between groups before ICD implantation in terms of: left ventricle ejection fraction (LVEF)-41,4±11,9 and 56,3±15,8% (p=0,007), accumulation defect index of 123I-MIBG on early scintigrams (SSe)-30,64±16,23 and 8,46±3,61% (p<0,00001) and delayed scintigrams (SSd)-34,86±16,41 and 11,84±5,38% (p<0,00001), heart/mediastinum on early scintigrams (H/Me)-1,82±0,46 and 2,14±0,51 (p=0,03), respectively. In 1-st group number of VTA correlate with SSe (p<0,05 R=0,717), SSd (p<0,05 R=0,701), washout rate (WR) (p<0,05 R=-0,296) and LVEF (p<0,05 R=-0,432). VTA duration correlate with SSe (p<0,05 R=0,676) and SSd (p<0,05 R=0,692).
Conclusion: VTA occur more frequently in patients with larger defects of 123I-MIBG in early and late scintigrams. VTA incidence is more frequent when accumulation defect index of 123I-MIBG higher and WR and LVEF lower. Myocardial sympathetic innervation disorders assessed by cardiac 123I-MIBG scintigraphy can be used for identification of SCD highest risk group in patients with CAD.

P2923
Sudden cardiac death, heart failure and arrhythmias due to acute zika myocarditis

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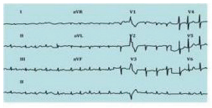
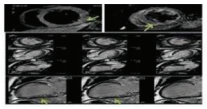
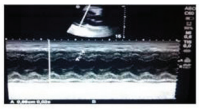
Background: Zika virus infection (ZIKV) is a mosquito-borne disease that has been considered the worst outbreak of the 21ST Century and has become a global Health Hazard. There is only one report of Heart Failure (HF) and arrhythmias associated with ZIKV and none of sudden cardiac death (SCD).
Purpose: This study sought to describe severe cardiovascular manifestations of Zika myocarditis.
Methods: We enrolled 13 cases that developed acute myocarditis within 10 days of disease onset in a prospective observational multicenter study. Acute ZIKV was confirmed with specific PCR and IgM antibody. Potentially simultaneous infection including Dengue, Chikungunya and other virus or parasitic infections were ruled out.
Results: Of the 13 patients 8 (69%) were females with a mean age of 53±17 years. Two patients died suddenly within the first week of the disease, both had previous history of Dengue. Acute HF was present in 7 cases, 6 presented with low ejection fraction and one with preserved ejection fraction and moderate to severe pericardial effusion. New arrhythmias were detected in 12 patients including new onset atrial fibrillation in 4 cases, atrial tachycardia in 6 cases, ventricular arrhythmias in 4 patients and new Left bundle branch block in 1 patient.



Atrial fibrillation



cMRI. T2-weighted images demonstrate the presence of patchy focal edema in the subepicardium of the inferolateral wall. T1-weighted images presence of subepicardially distributed late gadolinium enhancement.



Transthoracic Echocardiographic findings. Parasternal long-axis view and M mode across base of left ventricle. Showing **pericardial effusion**(arrow). Estimated ejection fraction of 60%

Figure 1. Zyka myocarditis, ECG, cMRI, TTE

Conclusion: Zika myocarditis can be lethal and severe with HF and serious arrhythmias. Physicians should be aware of these complications.
This is the first report of SCD due to Zika Myocarditis.

SUBCUTANEOUS ICD

P2924
Short-term effect of external cardioversion on patients with pacemakers and atrial fibrillation/flutter

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Background: Previous case reports have demonstrated increased threshold and exit block due to external cardioversion (ECV).
International guidelines from 2006 recommend that ECV is performed with anterior-posterior paddle orientation, that the anterior paddle is placed with minimum distance of 8 cm from the pulse generator, and that the cardiac device is interrogated before and after ECV. Currently, there are to our knowledge no larger studies that have examined the effect of ECV on pacemakers.
Purpose: The aim was to describe potential adverse outcomes in pacemakers after ECV in patients with atrial fibrillation (AF).
Method: We conducted a retrospective study describing the short-term effect of ECV in pacemakers using data from a Department of Cardiology, Denmark. All patients undergoing ECV with AF and a pacemaker from 2007 to 2017 were eligible to enter the study. We identified 299 patients with devices. But only 68 patients with pacemakers had records of threshold, impedance and sense values registered before and after ECV. All patients received ECV with an energy amount equivalent to 50–200 Joules. Two measurements were collected before ECV and one within 24 hours after. For handling, potential variance inhomogeneity and non-normality bootstrap with 5000 repetitions was used.
Results: Threshold, impedance values and sense values showed a statistical significant change after ECV (Table 1). It is expected that the atrial sense (P sense) value is low and will increase when the patient converts into sinus rhythm. Pacemakers of the remaining 231 patients were also interrogated and were registered as functional without any clinical relevant change in test values. But these values were not registered. None of the pacemakers were reprogrammed or replaced.

Table 1

N=68	Mean difference after ECV	95% CI	p- value	p-value Patient age*	p-value Device age*
Atrial Threshold, V/ms	0.033	-0.03; 0.10	0.322	0.903	0.042
Ventricular threshold, V/ms	0.050	0.01; 0.09	0.011	0.904	0.186
R sense, mV	-0.496	-1.28; 0.29	0.215	0.188	0.321
P sense, mV	0.470	0.04; 0.90	0.035	0.290	0.677
Atrial impedance, Ω	-40.370	-54.42; -26.31	0.000	0.102	0.162
Ventricular impedance, Ω	-32.416	-53.41; -11.421	0.002	0.356	0.025

*p-value addresses effect modification from patient and device age.

Conclusion: No clinical relevant changes are seen in device measurements following ECV of AF. This suggest that ECV can be performed safely without routine periprocedural device interrogation and testing.
Funding Acknowledgements: AF-study group, Aalborg University Hospital