significant risk of VT/VF supports the current common practice of continuing ICD use or implanting an ICD prior to initiation of HIT.

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Short-and-long term outcomes of ventricular tachycardia substrate ablation incorporating hidden slow conduction analysis
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Introduction: Ventricular tachycardia substrate ablation (VTSA) incorporating hidden slow conduction (HSC) analysis allows further arrhythmic substrate identification.

Purpose: To analyze whether the analysis and elimination of HSC-electrograms (HSC-EGM) during VTSA procedures results in better short-and long-term outcomes.

Methods: Consecutive patients (n=70, 63% ischaemic, 64±14.6 years) undergoing VTSA were prospectively included. Bipolar EGMs with >3 deflections and duration <133 ms were considered as potential hidden slow conduction EGMs (HSC-EGM) if located within/surrounding the scar area. Whenever a potential HSC-EGM was identified, a double ventricular extrastimulus was delivered. If a local potential showed up as a delayed component, it was annotated as HSC-EGM. The incidence of HSC-EGM in core, border-zone, and normal-voltage regions was determined. Ablation was delivered at conducting channel entrances and HSC-EGMs. Procedure time, radiofrequency time, VT inducibility after VTSA and VT recurrence at 12 months after the procedure were compared with data from a historic control group (n=45, 60±12 years).

Results: 5076 EGMs were analyzed. 1029 (20.2%) qualified as potential HSC-EGM, and 453 of them were tagged as HSC-EGMs. Scars in patients with HSC-EGMs (n=43, 61.4%) were smaller (39.6±28.2 vs 69.4±38.2 cm2; p=0.005) and more heterogenous (core/scar area ratio 0.24±0.2 vs 0.43±0.17; p=0.03). 29.6% of HSC-EGMs were located in normal-voltage tissue; 83.5% were targeted for ablation. Procedure time, radiofrequency time, VT inducibility after VTSA and VT recurrence at 12 months after the procedure were compared with data from a historic control group (n=66, 70%, ischaemic, 65.2±12 years).

Conclusion: VTSA incorporating HSC analysis allowed further arrhythmic substrate identification (especially in normal-voltage areas) and increased VTSA efficiency by a delayed component, it was annotated as HSC-EGM. The incidence of HSC-EGMs was 10.4% (60 years) and 4.3% (70 years), whereas older patients are more frequently females. Cardiac symptoms and diagnosis prior to death is reported in 1 in 4 individuals suggesting that SCD is often the first manifestation of the disease.

Abstract 999 Figure.

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Causes of sudden cardiac death according to age among persons aged 1-49 years: a nationwide study of 14,294 deaths in Denmark
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Funding Acknowledgements: This work was supported by the Novo Nordisk Foundation.

Introduction: Knowledge of burden and causes of sudden cardiac death (SCD) according to age is important in clinical decision-making and to lower the risk of SCD in family members of SCD victims.

Purpose: The aim of this study was to report SCD incidence rates and causes according to age in persons aged 1 to 49 years.

Methods: The study population consisted of all persons in Denmark aged 1-35 in 2000-09 and 36-49 in 2007-09, which equals 27.1 million person-years. All deaths in the 10-year period were included. Danish death certificates, autopsy reports, data from nationwide registries, discharge summaries, and in selected cases medical records were used to identify all SCD cases. The SCD cases were divided into 10-year age groups and a group including those aged 41-49 years.

Results: In the 10-year study period, there were 14,294 deaths, of which we identified 1,363 (10%) SCD cases. Annual incidence rate of SCD per 100,000 person-years increased with age: 0.7 (95% CI, 0.5-0.9) in those aged 1-10 years, 1.5 (95% CI, 1.2-1.8) in those aged 11-20, 3.6 (95% CI, 3.1-4.1) in those aged 21-30, 7.4 (95% CI, 6.7-8.2) in those aged 31-40, and 31.2 (95% CI, 28.9-33.7) in those aged 41-49 years. Autopsy rate was 74% among cases aged 1-10 years and declined to 41% among persons aged 41-49 years. Among autopsied cases sudden arrhythmic death syndrome was the most common cause of death among persons aged 1-40 years, and was a frequent cause of death across all age groups (ranging from 24 to 49% of all deaths) (Figure 1).

Abstract 1000 Figure.
Coronary artery disease was the most predominant cause of death among persons aged 41-49 years.

**Conclusions:** Annual incidence of SCD increased with age and was approximately 45 times higher in those aged 40-49 years compared to persons aged 1-10 years. The proportion of sudden arrhythmic death syndrome among autopsied decedents remained high in the highest age groups, while autopsy rates declined dramatically with age. These data support conduction of autopsy in all SCD cases below the age of 50 in order to identify family members at increased risk of SCD.

Abstract 1001 Figure. Distribution of causes of death