Objective: To evaluate the impact of using ICE during AF ablation on mortality, arrhythmia recurrence and hospital readmission

Methods: All patients >18 years of age who underwent AF ablation (cryo and radiofrequency), with and without use of ICE from 2010-2017 were included. Data were abstracted using International Classification of Diseases-9th and 10th Revision-Clinical Modification from the Nationwide Readmissions Database (N RD). Patient demographics, presence of comorbidities, and the reason for readmission were also evaluated.

Results: A total of 51,129 patients underwent AF ablation between 2010-2017. ICE was used in 8,005 (15.7%) patients. In-hospital mortality at readmission was significantly higher in the patients without ICE use (2.9% vs 1.7%, p = 0.02). Length of stay (LOS) at readmission was significantly higher in non-ICE (days [95%CI]: 3 [2-6] vs 2 [3-5] days, p = 0.0001) with similar healthcare associated costs (HAC) in both the groups ($95%CI$: $7,507.30 [4,057.80-15,474.20] vs $7,339.4 [4,024.80-15,191.60], p = 0.43). Readmission was 12% lower (HR[95%CI]: 0.88 [0.83-0.94], p < 0.0001) with the use of ICE at 90-day follow-up. Additionally, heart failure (HF)-related admissions at follow-up were 24% lower in the ICE-group (HR[95%CI]: 0.76 [0.60-0.96], p = 0.02), although readmissions for AF on follow up were similar with or without the use of ICE (HR[95%CI]: 1.09 [0.96-1.23], p = 0.20).

Conclusion: The use of ICE during AF ablation is associated with a reduction in mortality, reduction in LOS at readmission, but with similar HAC.

ABSTRACT CE-544:
Arrhythmias in the Community: Risk factors, Detection and Management

Sunday, May 1, 2022
2:15 PM - 3:15 PM

CE-544-01
SUDDEN CARDIAC DEATH DURING SPORTS ACTIVITY IN OLDER ADULTS

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Background: Sudden cardiac death (SCD) is a major public health problem and the majority (60%) occur among the elderly (age >65). In the last 2 decades, there has been a significant rise in prevalence of sports activity among the elderly but there is little data regarding SCD associated with sports.

Objective: To investigate the prevalence and characteristics of sudden cardiac arrest (SCA) during sport activity in adults over 65 years of age.

Methods: The study population was drawn from the Oregon SUDS and the Ventura PRESTO studies. These prospective studies have ascertained all out-of-hospital SCAs from the Portland OR metro area (2002-2017), and Ventura County (2015-2021). In the present substudy, we investigated SCAs in subjects over 65 years of age. Information on the preceding circumstances and clinical characteristics were obtained by assessment of EMS reports and lifetime medical history. Subjects who had SCA during sport activity or within 1 hour of cessation of sports activity were considered as sport associated SCA.

Results: From a total of 3,690 SCAs in subjects over 65 years, 60 were sports associated events (1.6%). Mean age of these subjects was 75±8 and 87% were male. The most common types of sport activity were biking (n=11), running (8), working out (8), golf (7), and tennis (7). In the subset with information on prior medical history (n=44), 43% had previously diagnosed coronary artery disease whereas 21% had previously diagnosed heart failure. Two subjects had an implantable cardioverter defibrillator and four had a pacemaker. In sports associated SCAs, initial rhythm was VF/VT in 75%, PEA in 10%, asystole in 8%, bradycardia in 3%, and unknown in 3%. Sports associated SCA was witnessed in 87% of the cases, 75% received bystand CPR, and 40% survived to hospital discharge. Survival to hospital discharge was 12% among all SCAs in subjects over 65 years.

Conclusion: In older adults a small minority of SCA (1.6%) occurred in the setting of sports activity and survival following resuscitation was high (40%). These findings suggest that the proportion of SCA associated with sports is extremely low among the elderly and benefits of exercise by far outweigh any associated risks.

CE-544-02
THE PREVALENCE OF TYPE-1 BRUGADA PATTERN AT MAYO CLINIC: A LARGE POPULATION STUDY FROM THE UNITED STATES

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Background: The prevalence of Type-1 Brugada pattern in the United States has been estimated to be 4.9 per 100,000 in 162,590 patients between 1992 to 2009 at a single tertiary care medical center in New York. Whereas the pooled prevalence of Type-1 Brugada pattern in the Europe has been estimated to be more common at 10.0 per 100,000.

Objective: This study aims to identify the prevalence of Type-1 Brugada pattern at Mayo Clinic.

Methods: Medical records of 1,179,792 patients ages 18 years old or older with at least one 12-lead electrocardiogram (ECG) performed at Mayo Clinic locations (Arizona, Florida, Minnesota, Wisconsin, and Iowa) between January 1, 2011 to December 31, 2020 were included. Mayo Database Explorer software was used to identify 2,243 patients with keywords (Brugada pattern, Brugada ECG, Brugada Type-1, or Brugada syndrome) documented in the electronic medical record. The 12-lead ECGs were retrospectively analyzed by 2 cardiologists. Any inconsistencies were reviewed by a third cardiac electrophysiologist. Type-1 Brugada pattern was diagnosed according to the recent Heart Rhythm Society Expert Consensus Statement.

Results: Among 1,179,792 patients (51.2% males, 92.1% Caucasian, and 1.7% Asian), 122 patients (mean age 47.8±15.3 years, 79.5% males, Caucasian 86.1%, and Asian 6.6%) had Type-1 Brugada pattern documented on at least one 12-lead ECG. The prevalence of Type-1 Brugada pattern in this large patient population of Mayo Clinic was 10.3 per 100,000. The prevalence of Type-1 Brugada pattern in Caucasians and Asians were 9.8 per 100,000 and 38.8 per 100,000 respectively. Nine patients (7.4%) had at least one major arrhythmic event at 6.8±6.1 years follow-up.

Conclusion: The prevalence of Type-1 Brugada pattern in the United States is similar to the pooled prevalence of European studies. Type-1 Brugada pattern is two-times more common at Mayo Clinic compared to previous data from New York, likely due to increased awareness of Brugada syndrome over time.