P089
TEMPORAL TRENDS OVER 13 YEARS IN CARDIAC ELECTRONIC DEVICE INFECTION RATES AND PREVENTION OF ARRHYTHMIA DEVICE INFECTION TRIAL (PADIT) SCORES

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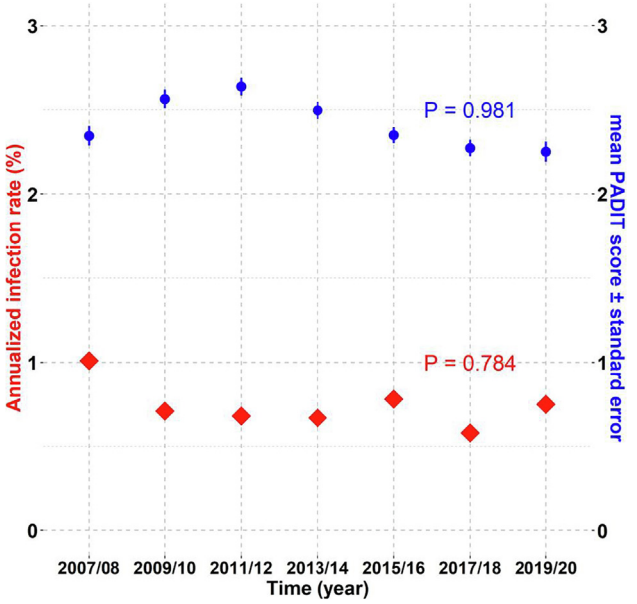
BACKGROUND: Cardiovascular implantable electronic device (CIED) infection is associated with significant patient morbidity and mortality. The PADIT device infection prediction score was recently described. The PADIT score can range from 0 to 15 and includes prior procedures [P], age [A], depressed renal function [D], immunocompromise [I], and procedure type [T]. The PADIT score classifies patients into low (0-4), intermediate (5-6), and high (≥7) risk groups for device infection. We sought to assess the temporal trends in PADIT score and rates of CIED infections over time. We hypothesized that the average PADIT score (and infection rates) would increase over time due to increasing relative frequency of device upgrades / pulse generator changes and patient co-morbidity.

METHODS AND RESULTS: A prospective registry of all CIED implant procedures was started at our institution in Jan 2007. The registry was initiated in collaboration with our hospital infection prevention team and had a specific focus on prospectively identifying all potential CIED infections. All potential CIED infections were independently assessed by two physicians. A third physician adjudicated if necessary. Device infection was defined as pocket infection, bloodstream infection, and endocarditis. Antibiotic use and periprocedural care were consistent in all procedures as per institutional protocol. We calculated the PADIT score for each CIED implant and determined the mean ± standard error with infection rate for each 2-year time interval. Over a 13-year period 14,063 procedures were completed (mean age 72 ± 14 years, female 35%, new implants 70%, pulse generator changes 18%, and upgrades 11%). There were 102 infections between 2007 and 2020. The infection rate over the 13 years was 0.73% with range from 0.58- 1.01% in each 2-year time interval. The mean PADIT score with standard deviation was 2.4 ± 2.4. We found no significant difference in mean PADIT scores or the proportion of infections with time.

CONCLUSION: Our data suggests no significant change in the rate of infections or mean PADIT score over time. The overall low rate of infection in our study was likely due to operator experience and use of standardized guideline directed perioperative care. Fig. 1: Annualized CIED infections and mean PADIT score for all implanted CIED per 2-year time interval. Two-sided t-test comparing mean PADIT score or infection rate to 2-year interval data.



P090
THE EFFECT OF NURSE PRACTITIONER-LED CARE IN TERTIARY CARE ON HEALTH-RELATED QUALITY OF LIFE IN ADULT PATIENTS WITH ATRIAL FIBRILLATION- RESULTS OF A RANDOMIZED CONTROLLED TRIAL

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BACKGROUND: Atrial fibrillation (AF) is associated with significant morbidity, mortality & healthcare resource utilization. The prevalence of AF is increasing with an aging population, and timely access to specialized cardiovascular care is a concern. Nurse practitioner (NP)-led care may improve access and quality of care, but requires formal assessment. The purpose of this study was to assess the effect of NP-led care, compared to usual general cardiologist care on health-related quality of life (HRQOL) in patients with AF.

METHODS AND RESULTS: We conducted a randomized controlled trial comparing NP-led care vs. usual care in patients referred to our tertiary cardiology centre for AF. Inclusion criteria: consenting adults with documented nonvalvular AF and ability to complete questionnaires. Exclusion criteria: referred for electrophysiology (EP) intervention, clinically unstable, or unable to attend follow-up. We randomized patients 1:1 prior to their first clinic visit. Intervention: NP care (history, physical exam, treatment plan, patient education, and follow-up at 3 and 6 months). Control (usual care): General cardiologist consultation and follow-up as per their usual practice. Primary outcome was difference in change in Atrial Fibrillation Effect on Quality of Life (AFEQT) scores at 6 months between groups. Secondary outcomes were: difference in change of EuroQOL EQ-5D-3L scores at 6 months, difference in composite outcomes of death

from cardiovascular (CV) cause, hospitalizations and emergency department visits, and patient satisfaction measured by Consultant Satisfaction Questionnaire (CSQ) at 6 months (all compared between groups). We enrolled 150 patients; demographics were similar between groups, with an average age of 64 years, 62% males, and overall AFEQT baseline score of 66.45 +/- 4.86. NP-led care led to more rhythm monitoring and referrals made to EP. AFEQT scores, EuroQOL EQ-5D-3L, and CV outcomes were not different at 6 months. NP-led care showed higher patient satisfaction (CSQ Professional care [76.32 +/- 11.32 vs 65.75 +/- 15.45, p=0.0006]).

CONCLUSION: We found no difference between NP-led care and usual cardiologist care in AFEQT score at 6 months. NPs working to their full scope resulted in higher patient satisfaction with care compared to usual cardiologist care.

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P091
VARIABILITY IN NOAC DOSE ELIGIBILITY AND ADJUSTMENT ACCORDING TO RENAL FORMULAE AND CLINICAL OUTCOMES IN AF PATIENTS WITH AND WITHOUT CKD: INSIGHTS FROM ORBIT AF II

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BACKGROUND: Non-Vitamin K Oral Anticoagulants (NOACs) are used for prevention of thromboembolism in patients with atrial fibrillation (AF). Guidelines recommend dose adjustment based on kidney function.The most common estimates of kidney function employed in clinical practice are derived from glomerular filtration rate (eGFR), however, product monographs recommend the use of the Cockcroft-Gault creatinine clearance equation (eCrCl) for dose adjustment. We sought to evaluate misclassification of NOAC renal dosing using eGFR versus eCrCl.

METHODS AND RESULTS: We included patients enrolled in Outcomes Registry for Better Informed Treatment of Atrial Fibrillation AF II (ORBIT-AF II) trial. eGFR was calculated using both the Modified Diet in Renal Disease (MDRD) and Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) formulae. Dose adjustments and eligibility were based on landmark trials, with eCrCl of 30-50ml/min for rivaroxaban, eCrCl of 30ml/min for dabigatran, and eCrCl of 25 ml/min for apixaban. Dosing was considered inappropriate when use of eGFR resulted in a lower (under-treatment) or higher (over-treatment) dose than that recommended by eCrCl. Agreement in NOAC dosing between eCrCl and eGFR was assessed. The primary outcome of major adverse cardiovascular and neurological events (MACNE) was a composite of cardiovascular death, stroke or systemic embolism, new-onset heart failure (HF), and myocardial infarction. Sensitivity analysis was performed for the subgroup of patients with CKD (eCrCl $<$ 60 ml/min.) Among 8,727 in the overall cohort (median age: 71 (64, 78); medianCHADS2score: 2), agreement between CrCl and eGFR(MDRD and CKD-EPI) was observed in 93.5-93.8% of patients. Among 2,184 patients with CKD, the agreement between eCrCl and eGFR (MDRD and CKD-EPI) was 79.9-80.7%. Dosing misclassification was observed in 11.5% of rivaroxaban and 1.1% of dabigatran and apixaban treated patients. Patients receiving an inappropriate NOAC dose had a lower mean eCrCl and eGFR. Undertreated patients were older and of lower body weight compared to overtreated and appropriately dosed patients. Dosing misclassification was more frequent in the CKD population (41.9% of rivaroxaban, 5.7% of dabigatran and 4.6% apixaban patients). At one-year, undertreated patients in the CKD group had significantly greater MACNE [adjusted HR 2.90 (1.09-7.75) compared to appropriate NOAC dosing group p = 0.03].

CONCLUSION: The prevalence of NOAC dosing misclassification NOACs was high when using eGFR, particularly among those with CKD. Among patients with CKD, potential undertreatment due to inappropriate and off-label renal formulae may result in worse clinical outcomes. These findings highlight the importance of using eCrCl, and not eGFR, for dose-adjustment in all AF patients receiving NOACs.

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P092
WAIST-HIGH COMPRESSION GARMENTS REDUCE ORTHOSTATIC TACHYCARDIA IN PATIENTS WITH POSTURAL ORTHOSTATIC TACHYCARDIA SYNDROME IN A COMMUNITY SETTING

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BACKGROUND: Postural orthostatic tachycardia syndrome (POTS) is a common form of orthostatic intolerance. POTS patients have excessive tachycardia, and debilitating symptoms, when upright. There are no approved medications for use in POTS. Compression garments are a non-pharmacological treatment. We have previously demonstrated a reduction in heart rate (HR) and symptoms with body compression in an acute laboratory setting, using a proof-of-principle waist-high compression garment (WHC). We sought to determine the effectiveness of commercially available WHC in a community setting (real-life environment). We evaluated acute response to compression, and response after several hours to determine if benefits are sustained over time.

METHODS AND RESULTS: POTS patients completed 4 x 10 minute standing tests with WHC (ON) and without WHC (OFF), in the morning (AM; acute effects) and afternoon after several hours of use (PM; sustained effects) on one study day (Test 1: AM-OFF, Test 2: AM-ON, Test 3: PM-ON, Test 4: PM-OFF). Test 4 was included as a PM baseline due to