were implanted with an ICD and eleven (32.3%) were treated with beta blocker therapy mainly because of QT prolongation > 500 ms after mental stress test or previous symptoms. After a 3.6±1.8 years of follow up, no sudden cardiac death nor syncpe occurred on beta blocker therapy except for one patient implanted with an ICD after a SCA. Under beta blocker treatment the patient was asymptomatic for 5 years. After a suddenly stop of the beta blocker treatment, the patient underwent VF. For 3 years now the patient is asymptomatic under beta blocker treatment.

**Conclusion:** In our experience, CIQTP families represent 6.5% of cases of unexplained SCD and suggest systematic screening with a mental stress test for family screening after the occurrence of a SCA. Beta blocker therapy is very efficient to reduce the risk of SCA.

**PO-625-07**

**NOVEL STREAMLINED TECHNIQUE FOR LEFT ATRIAL APPENDAGE CLOSURE USING VERSA CROSS LARGE ACCESS SYSTEM**

Amin Al-Ahmad; Carola Giannini; Domenico Della Rocca; Sanghamitra Mohanty; David R. Tschopp; Rodney P. Horton and Andrea Natele

**Background:** Transseptal puncture (TSP) for left atrial (LA) access of large delivery sheaths, such as in left atrial appendage closure (LAAC), typically involves performing TSP with an 8F sheath, then “upsizing” over a wire to the device delivery sheath. This can be challenging in fibrotic or aneurysmal septa and increase the risk of air embolus.

**Objective:** Report early experience using the VersaCross Large Access (VLA) Solution (Baylis Medical) to streamline and optimize efficiency of LAAC procedures.

**Methods:** Consecutive LAAC procedures performed using the VLA system and the WATCHMAN FLX device (Boston Scientific) were retrospectively evaluated. The VLA system, consists of a 12.5F seamless sheath-dilator device, and pigtail RF wire that can be used for vascular access, TSP and WATCHMAN sheath exchange (Figure). The VersaCross pigtail RF wire (24mm) was also used to estimate the size of the left atrial appendage (LAA) and directly introduce the WATCHMAN sheath into the LAA. Contrast was injected through the WATCHMAN sheath to confirm LAA anatomy and device size. Procedural workflow efficiency was assessed in terms of the time for TSP, WATCHMAN sheath access and implant release, fluoroscopy use and procedural complications.

**Results:** A total of 12 patients underwent LAAC; 42% of patients had prior TSP for ablation. LAA morphology was 50% cauliflower and 33% chicken wing. TSP and procedure success was 100% without any intraprocedural complications. Time to TSP was 5.3 ± 3.1 mins from RF wire insertion, and 11.6 ± 3.3 min from femoral access. The 12.5F VLA device easily crossed the septum within 0.1 ± 0.3 min of TSP. Repeated passage of the seamless VLA device over the RF wire successfully dilated difficult septa (25% of cases) to confirm patency. Time to WATCHMAN release was 23.3 ± 3.4 min and overall procedure time was 26.5 ± 3.1 min. Fluoroscopy time and dose were 5.2 ± 2.3 min and 85.8 ± 42.6 mGy, respectively, with 60 ± 22.4 mL of contrast use.

**Conclusion:** The VersaCross RF system streamlined LAAC workflows, eliminating unnecessary sheath exchanges and associated risks of perforation or air embolism. The integrated 12.5F large access sheath-dilator facilitated de novo dilation of the septum for easy LA catheterization of the large bore LAAC delivery system in all patients regardless of history or septal anatomy.

**PO-625-08**

**NEW ATRIAL FIBRILLATION DURING ACUTE COVID-19 INFECTION PREDICTS DEVELOPMENT OF FUTURE CLINICAL ATRIAL FIBRILLATION**

Justin Haloot DO; Ribesh Shrestha DO and Aurora Badin MD

**Background:** While primarily known for its impact on the respiratory system, cardiovascular complications have been well described in Coronavirus Disease-19 (COVID-19) patients. The incidence of new onset atrial fibrillation (AF) in COVID-19 hospitalized patients is reported to be as high as 12.5%. It is not clear whether this represents a reversible acute episode or if it carries a prognostic value of future clinical AF.

**Objective:** To determine the risk of developing future clinical AF in COVID-19 patients that developed new AF in the acute phase of infection.

**Methods:** We conducted a retrospective study with the global medical research network database, TriNetX. This study examined adults at least 18 years old that had COVID-19 based on ICD codes of positive SARS-CoV-2 test without previous history of AF, that developed new onset AF within the same month of the COVID-19 diagnosis. These patients were then compared to COVID-19 patients without pervious history of AF, that did not develop new onset AF. Propensity score matching was done to account for age, gender, race, ethnicity, diabetes, dyslipidemia, obesity, cardiovascular disease, pulmonary disease, neurological disease, genitourinary disease, neoplasm, cardiac medications, and cardiac procedures. We examined the risk of developing clinical AF 6 months after COVID-19.

**Results:** A total cohort size of 19,877 patients with COVID-19 that developed new onset AF in the acute episode or if it carries a prognostic value of future clinical AF.

**Conclusion:** The VersaCross RF system streamlined LAAC workflows, eliminating unnecessary sheath exchanges and associated risks of perforation or air embolism. The integrated 12.5F large access sheath-dilator facilitated de novo dilation of the septum for easy LA catheterization of the large bore LAAC delivery system in all patients regardless of history or septal anatomy.

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Conclusion: COVID-19 patients that develop new onset AF, without a history of AF, are associated with increased risk for developing future clinical AF. Further studies and more intensive monitoring are needed to determine the exact burden and risk of stroke and anticoagulation implication in this patient population.

PO-626-01
PERFORMANCE AND ACCURACY OF A SMART WATCH SINGLE-LEAD ECG: A PILOT STUDY
David Harmon MD; Jennifer Dugan CRC; Rickey Carter PhD; Anthony Kashou MD; Zachi Izhak Attia MSEE, PhD and Paul A. Friedman MD, FHRS

Background: Prior studies have evaluated the accuracy of the Apple Watch single-lead ECG for the detection of atrial fibrillation and other arrhythmias. However, no study to date has analyzed the watch ECG morphology and interval characteristics compared to a standard 12 lead ECG, important in assessing patients on medications and for physician overreads.

Objective: To analyze the characteristics of single-lead ECGs collected by an Apple Watch compared to a clinical 12 lead ECG.

Methods: All Mayo Clinic ECG lab patients > 18 years old were invited to participate in this study. Participants underwent a 30 second single-lead ECG recording with an Apple Watch Series 5 in a seated position within 5 minutes of 12 lead ECG (12 L). The collected ECGs were manually interpreted by physician staff. PR, QRS, QT intervals were manually calculated, and RR interval determined by computer.

Results: Seventy-four patients were included with 12 L ECG and Apple Watch ECG pairs. The cohort was 44.6% female (N=33) and 91.6% white (N=68) with an average age of 59.2. Six patients were in atrial fibrillation at the time of recording and six patients had pacemakers. The average differences between 12 L ECG and Apple Watch ECG intervals (in milliseconds) were: PR 23.3 ±18; QRS 18.9 ±16.3; QT 22 ±17.3; RR 79 ±70. Bland-Altman plots were created to visualize interval variation (Figure 1). Eleven patients were able to be identified due to absence (i.e. atrial fibrillation) or other conditions (significant AV block, sinus bradycardia, low P amplitude in L1). Apple Watch ECG result interpretation was complicated by 1) aberrant inflection points before and after QRS complexes, 2) attenuation of P waves, 3) disappearance of pacemaker spikes and 4) significant artifact from a patient’s tremor (Figure 2).

Conclusion: Apple Watch ECG processing can result in peri-QRS artifact, P-wave amplitude reduction, and pacemaker spike elimination. The Apple Watch single-lead ECG appeared most reliable in determining the QT interval and least reliable in determining the PR interval (Figure 1). The findings suggest that different processing or access to raw, unfiltered Apple Watch data may facilitate expert over-reads of these signals when applied for medical use.

PO-626-02
COMPARATIVE ARRHYTHMIA PATTERNS OF IBRUTINIB AND NON-IBRUTINIB TYROSINE KINASE INHIBITORS
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Background: Ibrutinib, a Bruton’s tyrosine kinase inhibitor (TKI), used primarily for hematologic malignancies, has been associated with increased incidence of atrial fibrillation (AF), but there is limited data on its association with ventricular arrhythmias (VAs). How the arrhythmia patterns of patients on ibrutinib compare to those on non-ibrutinib TKIs is unknown.

Objective: We sought to comprehensively analyze atrial and ventricular arrhythmia burden in patients on ibrutinib vs non-ibrutinib TKIs. We hypothesized that long term event monitors could reveal a high burden of both in patients on TKIs.

Methods: A single center retrospective analysis was conducted to identify consecutive patients who had 14 day event monitors while on TKI therapy.

Results: A total of 108 patients with hematologic malignancies were included (n=72 on ibrutinib and n=36 on non-ibrutinib TKI) (Figure A). The non-ibrutinib TKIs at the time of event monitoring were Imatinib (n=12), Dasatinib (n=12), Ruxolitinib (n=5), Nilotinib (n=3), Bosutinib (n=2), and Ponatinib (n=2). During ibrutinib therapy, the most common arrhythmias seen on 14-day event monitors were SVT (n=32, 44.4%), AF (n=32, 44%), and NSVT (n=31, 43%). In comparison, the non-ibrutinib TKI group had significantly lower rates of documented AF (n=7, 19%; p=0.01) and NSVT (n=8, 22%; p=0.03). The rates of non-AF SVT were not significantly different between the groups. There were non-statistically significant trends toward increased >1% PAC burden (18% (n=13) vs 8% (n=3)) and >1% PVC burden (22.2% (n=16) vs 11% (n=4)) in the ibrutinib group (Figure B). TKI therapy was held in 25% (n=18) of patients on ibrutinib vs.