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A COMMUNITY HOSPITAL REVIEW OF WATCHMAN OUTCOMES TO DETERMINE SAFE DISCHARGE PROTOCOLS

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Background: Left atrial appendage occlusion (LAAO) devices are increasingly used to decrease the risk of stroke in atrial fibrillation patients with contraindication to oral anticoagulation. Discharge protocols after this procedure are variable, and same day discharge (SDD) may improve inpatient bed utilization.

Objective: To evaluate outcomes of Watchman FLX LAAO device (FLX) patients to determine if SDD would be feasible and safe in a community hospital setting.

Methods: Single center retrospective chart review of all FLX implants from March through August 2021. Reviewed patient demographics, procedure duration, complications, length of stay (LOS), 7-day readmissions, 30-day readmissions.

Results: 38 patients aged 77.11 ± 7.86 (47.4% female) received a FLX. CHADS2VASc score was 4.5 ± 1.19. Procedure time was 92.82 ± 21.59 minutes. Figure 8 sutures were removed at 4 hours post procedure in 84.21% of cases. LOS was 1.13 ± .66 days. Two patients accounted for a longer LOS; one due to drop in hemoglobin that was deemed sheath blood loss and the other due to hypotension and atrial fibrillation. One patient required transfusion prior to discharge. Anticoagulation strategies post procedure were direct oral anticoagulant + aspirin 81.58%, warfarin + aspirin 15.79%, and dual antiplatelet 2.63%. There was one death due to stroke 4 months post procedure. One patient was re-admitted within 7 days with rapid atrial fibrillation. 5 patients (13.16%) were admitted within 30 days with a GI bleed. There were no significant pericardial effusions or device migrations. 97.4% of patients had oral anticoagulation discontinued at the time of chart review. No device related thromboses or significant leaks were seen on follow up transesophageal echocardiogram. The two patients that had longer LOS developed their symptoms within 24 hours post FLX placement.

Conclusion: During our 6-month evaluation period, placement of FLX in an elderly population with high CHADS2VASc score had a low LOS and few acute complications. With adequate risk assessment related to anemia, vital signs, and rhythm management, SDD seems feasible. These data will lead to an institutional SDD plan with protocols of careful follow up plus re-evaluation of post procedural anticoagulation strategies to limit bleeding in vulnerable patients.

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SMART WATCH SYNDROME IN PEDIATRICS - HOW WELL DOES IT PREDICT ARRHYTHMIA?

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Background: Smart watches have the capability of assessing heart rate (HR) and rhythm; some can produce a single lead ECG tracing. These features may enhance detection of atrial fibrillation in adults based on a recent study. Tachyarrhythmias in children such as supraventricular tachycardia (SVT) may also be detectable with a smart watch. Alternatively, misunderstood or inaccurate smart watch data may lead patients to seek unnecessary evaluation.

Objective: Assess the likelihood of a true arrhythmia in pediatric patients presenting with concerns about smart watch cardiac data.

Methods: Single center retrospective review of children aged 10-18 years who had ever presented to the pediatric cardiology clinic with concerns related to smart watch cardiac data. The primary study outcome was diagnosis of arrhythmia based on clinical evaluation or documentation of arrhythmia by clinical testing.

Results: There were 126 patients (mean age 15.6 ± 2.4 yrs) who presented with a smart watch based rhythm concern - tachycardia in 89%. Symptoms were present in 95 (75%); with palpitations accounting for 78% of those. Smart watch measured HRs were available in 121/126 (96%) with 45 (37%) reporting HR ≥ 190 bpm. Presenting smart watch data was sufficient to diagnose SVT in 3. Additional testing was used to confirm or rule out arrhythmia in 72 (57%). The majority, 83 (66%), were discharged after a single visit +/- testing. In all, 19 / 126 (15%) patients were diagnosed with true arrhythmia: 13 SVT, 3 Wolff Parkinson White, 2 atrial tachycardia, 1 ventricular ectopy. The odds of a true arrhythmia diagnosis with symptoms vs no symptoms was 3.2 (95%CI 0.7 - 14.5), and with HR ≥ 190 bpm vs HR < 190 was 14.3 (95%CI 3.8 - 52.8). The positive predictive value of HR ≥ 190 AND symptoms together to predict arrhythmia was only 39% (95%CI 28 - 52). The negative predictive value for arrhythmia having neither symptoms nor HR ≥ 190 was 95% (95%CI 75 - 99).

Conclusion: The likelihood of a true arrhythmia in pediatric patients presenting with a smart watch based HR concern was low. Symptoms and HR ≥ 190 improved but did not optimize the predictability of an arrhythmia. The absence of symptoms or HR > 190bp predicted no arrhythmia in 95% of patients. Rarely, smart watch EGMs or trend data was sufficient for arrhythmia diagnosis.