Rapid Recap

Anticoagulation FORUM | ANTICOAGULATION Centers of Excellence

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Limitations of a Platelet Count-Based Clinical Decision Support System to Facilitate Diagnosis of Heparin-Induced Thrombocytopenia (HIT)

Background: This study implemented a platelet count-based clinical decision support system (CDSS) to help clinicians identify potential HIT.
Design: This single-center evaluation implemented a CDSS for 90 days to alert providers when patients with active heparin or enoxaparin orders had a platelet count fall ≥50% from the highest count captured in the order period. Retrospectively they evaluated the number of enzyme immunoassays (EIA) ordered, patients diagnosed with HIT, and rate of thrombosis in the 8-month period before and after CDSS notifications.
Results: More EIAs and subsequent serotonin release assays (SRA) were positive among CDSS-identified patients compared to those without an alert. However, most patients identified by CDSS had low probability 4T scores. Compared to a period when CDSS was inactive, more EIAs were ordered when CDSS was active, however the number of positive EIAs was similar in both periods and the number of patients diagnosed with HIT based on SRA was the same.
Rapid Takeaway: CDSS based solely on platelet count changes may not adequately identify patients at intermediate or high-risk for HIT and adds to "alert fatigue". This is consistent with reports from two other academic medical centers in which platelet count-based CDSS did not increase HIT diagnosis. Future attempts to improve HIT identification by CDSS should also include guidance to the clinician regarding when EIA ordering is appropriate. Thromb Res. 2024 Nov:243:109171

Applying Clinical Risk Scores in Real-World Practice: The CHA_2DS_2-VASc Score in Atrial Fibrillation (AF)

There is potential for inaccurate application of clinical risk scores during routine care, and this concern is magnified when the criteria definitions outlined in clinical practice guidelines deviate from those used in the derivation and validation. While modifications to criteria definitions may by warranted over time due to changing evidence base, some definitions found in current and previous guideline iterations are not referenced with specific evidence nor are they justified. The authors highlight this problem by reviewing the evolving definition of "vascular disease" as part of the CHA_2DS_2-VASc score in the European and American AF guidelines (Table 1). Specifically, they do not support the inclusion of venous thrombosis in the 2023 ACC/AHA/HRS guidelines vascular disease criterion definition due to lack of evidence that history of VTE increases future stroke risk.
Rapid Takeaway: Clinicians and guideline authors should follow original definitions and available evidence-based updates when applying clinical risk scores. Guideline writing committees should be transparent when deviations are made and cite the literature used for those recommendations. J Am Coll Cardiol. 2024 Nov 19;84(21):2154-2156
See the Rapid Resource: CHA2DS2-VASc Score: A Clarification of Individual Components

Real-World Application of the 2023 ACR/EULAR APS Classification Criteria in a Pharmacist-Directed Anticoagulation Clinic

Background: In 2023, ACR/EULAR released a new Antiphospholipid Antibody Syndrome (APS) classification system utilizing weighted criteria with the goal of achieving high specificity for diagnosis to improve homogeneity in APS research.
Design: Single-center, retrospective evaluation of 51 patients diagnosed with APS and managed in a pharmacist-led anticoagulation clinic to determine the number meeting the new 2023 ACR/EULAR APS criteria.
Results: About 60% of the study population met the Sapporo criteria *(2006 revised)* for APS, decreasing to ~24% when evaluated under the 2023 ACR/EULAR criteria. Of the patients who newly did not meet criteria, ~39% were due to not meeting laboratory criteria, 18% clinical criteria, and ~42% both clinical and laboratory criteria.
Rapid Takeaway: APS continues to be a complex disease state with challenges in diagnosis and classification. Utilization of the new ACR/EULAR classification system may provide an opportunity for discussion regarding therapeutic management and to guide patient selection in future research. Lupus. 2024 Nov 14:9612033241301173

Left Atrial Appendage Closure (LAAC) after Ablation for Atrial Fibrillation (AF)

Background: Following ablation for AF, continuation of oral anticoagulation is recommended in patients at risk for stroke. LAAC is an alternative to anticoagulation. Most evidence for LAAC is compared to warfarin, and its effectiveness after ablation and in patients on contemporary anticoagulants, including DOACs, is unknown.
Design: Multicenter, randomized trial comparing LAAC to oral anticoagulation in patients with AF at increased risk of stroke and who underwent catheter ablation. The device group received oral anticoagulation plus aspirin for 90 days followed by aspirin alone through 12 months. Primary efficacy outcome was a composite of death, stroke, or systemic embolism at 36 months.
Results: 1600 patients underwent randomization, mean age of 69.6±7.7 years, 34.1% female, mean CHA2DS2-VASc and HAS-BLED scores were 3.5±1.3 and 1.2±0.8, respectively, and 95% of patients received DOAC. At 12 months, 79.7% of LAAC patients had a complete seal of the left atrial appendage (assessed by TEE or CT), and the incidence of device-related thrombus was 1.9%. The incidence of AF recurrence was similar between the groups. At 36 months, LAAC was superior in reduction of non-procedure related bleeding (8.5% v. 18.1%, p<0.001) and noninferior for incidence of death, stroke, or systemic embolism compared to OAC (5.3% v. 5.8%, p<0.001).
Rapid Takeaway: After catheter ablation, in AF patients at risk for stroke and with low bleeding risk, LAAC was associated with reduced bleeding and was noninferior to OAC for composite outcome of death, stroke, or systemic embolism at 36 months.
N Engl J Med. 2024 Nov 16.doi:10.1056/NEJMoa2408308

Antithrombotic Therapy

Antithrombotic Therapy in High Bleeding Risk, Part II: Noncardiac Percutaneous Interventions

Antithrombotic strategies in noncardiac percutaneous interventions are commonly extrapolated from the percutaneous coronary intervention literature. However, ischemic risk is different in this population and often, the patients are characterized by high bleeding risk. This review discusses the evidence for identifying and treating high bleeding risk patients receiving noncardiac percutaneous interventions.

	Carotid Stenting	Peripheral Intervention	Others (Renal, Aortic, Subclavian, etc)
No OAC Indication	1-month DAPT or aspirin alone	1-month DAPT or clopidogrel alone	**Aspirin alone** or 1-month DAPT
Indication for OAC	1-month OAC + aspirin or OAC alone	**OAC alone** or 1-month OAC + aspirin	**OAC alone** Or 1-month OAC + aspirin

OAC: oral anticoagulation; DAPT: dual-antiplatelet therapy

JACC Cardiovasc Interv. 2024 Oct 28;17(20):2325-2336

Relative Benefit of Dual Vs. Single Antiplatelet Therapy Among Patients with AF on OAC According to Time After ACS & PCI: Insights from the AUGUSTUS Trial

Background: In the AUGUSTUS trial, dual antithrombotic therapy reduced the risk of bleeding compared to triple therapy without increasing ischemic events and apixaban was superior to vitamin K antagonist (VKA).
Design: Post-hoc analysis of a multicenter, randomized, 2x2 factorial trial comparing apixaban versus VKA and aspirin versus placebo in AF patients following ACS or PCI. Patients were stratified based on enrollment time from index event (<6 days v. ≥6 days).
Results: At 30 days, aspirin reduced death or ischemic events compared to placebo in those enrolled <6 days after index event (HR 0.55 [95% CI, 0.30-0.99]), but not in those enrolled ≥6 days (HR 0.88 [95% CI, 0.54-1.43]). However, this association was not present at 180 days and the p-value for interaction between treatment effect and time to enrollment was not significant. Aspirin increased the risk of bleeding at 30 and 180 days regardless of time to enrollment.
Rapid Takeaway: The variance in guideline recommendations for time of triple therapy is based on lack of RCTs including randomization at time of ACS/PCI and an understanding of elevated platelet activation timing. This secondary review suggests there are may be a benefit in a short course of triple therapy (~6 days), especially in those undergoing PCI, before dropping to P2Y12 plus oral anticoagulation. However, they acknowledge there is still an increased bleeding risk with this strategy.
Circ Cardiovasc Interv. 2024 Nov;17(11):e013596

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- Multidisciplinary Guidance for the Management of Severe Bleeding on Oral Anticoagulation: An Algorithm for Practicing Clinicians
- Prothrombin complex concentrate for direct factor Xa inhibitor-associated bleeding or before urgent surgery

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Authors: Sarah Hanigan Lewis, PharmD, BCPS, BCCP
Editorial Team: Cecilia Gollaher, PharmD, Greg Hadlock, PharmD, Yamel Herrera, PharmD, Carlee O'Connor, DNP, Kelly Rudd, PharmD