MAQI² Michigan Anticoagulation Quality Improvement Initiative

Anticoagulation Update

October 16th, 2019

Anticoagulation is an evolving area with frequent new medications, changing indications, and new or updated guidelines. Keeping up with these high-stakes medications is difficult but important for patient safety. The Michigan Anticoagulation Quality Improvement Initiative (MAQI²), a Blue Cross Blue Shield Michigan-sponsored initiative to improve anticoagulation care in the state, is sharing four key updates to guidelines and valuable lessons learned that providers can actually implement in their own clinics.

1. The new class of anticoagulants called Direct Oral Anticoagulants (DOACs: apixaban, dabigatran, rivaroxaban, and edoxaban) are now recommended over warfarin in non-valvular atrial fibrillation patients, according to many guidelines, including the 2019 American Heart Association/American College of Cardiology (AHA/ACC) guidelines. Warfarin, however, is still recommended for those with moderate to severe mitral stenosis or mechanical valves.(1) Clinical trials have shown that DOACs are as effective for stroke prevention as warfarin, but with less major bleeding (especially intracranial). Patients on warfarin with poor international normalized ratio (INR) control do worse, so efforts should be made to improve INR control (i.e. monitoring, adherence, and diet) or to switch patient to a DOAC.

- Lesson Learned: Initial DOAC dosing can be complicated, as each patient is dosed individually depending on many patient and other factors e.g. clinical indication, renal function, and concurrent medications. As with research from other groups, MAQI² data shows that nearly 1 of 8 DOAC patients was started on an *improper* dose or should not be on DOACs at all due to contraindications.
- Pilot: MAQI² is piloting an EMR based reporting system to quickly identify DOAC patients within the health system with dosing issues or other safety concerns.

  Provider Tip: If unsure about proper DOAC dosing or which is the best anticoagulant, MAQI² recommends consulting with a pharmacist or anticoagulation clinic, or to closely review package inserts.

2. New guidelines are available concerning frequency of renal monitoring in patients on DOACs. Renal monitoring is important as DOAC levels can accumulate with kidney disease and lead to increased bleed risk. The 2019 AHA/ACC guidelines for atrial fibrillation patients recommend testing at least every year. The 2018 American Society of Hematology Guidelines for venous thromboembolism (VTE) patients recommend testing every 6-12 months for creatinine clearance (CrCl) ≥50, and every 3 months for CrCl <50.(2) Such close monitoring can quickly detect a need for DOAC dose adjustment or a switch to a different anticoagulant to reduce bleeding risk.

- Lesson Learned: About 1 out of 7 DOAC patients do *not* have a documented serum creatinine within the past year, per MAQI²data.

  Provider Tip: Providers should develop protocols and processes to ensure that DOAC patients have adequate renal monitoring. Anticoagulation clinics that manage DOAC patients can help providers track renal monitoring, where available.

3. The 2019 AHA/ACC anticoagulation guidelines to reduce stroke risk among patients with atrial fibrillation now define gender-specific CHA_2DS_2-VASc score thresholds. Providers *should consider* oral

anticoagulation for scores ≥1 for men or ≥2 for women, *while anticoagulation is recommended* for scores ≥2 for men or ≥3 for women. These guidelines no longer mention aspirin alone as an option for low-risk atrial fibrillation.

4. The 2019 AHA/ACC guidelines say aspirin use for primary prevention of atherosclerotic cardiovascular disease (ASCVD) should no longer be routine and should now only be considered in patients with the highest ASCVD risk and no increased bleeding risk (e.g. concomitant use of anticoagulants) due to lack of a clear net benefit. (3)

- Lesson Learned: Nearly 1/3 of patients on warfarin + aspirin or DOAC + aspirin combination therapy have no history of ASCVD, according to MAQI² data. Yet these patients on unnecessary aspirin have twice the rate of major bleeding with no clear reduction in new ASCVD events. A quality improvement intervention at participating MAQI² hospitals aims to reduce such unnecessary aspirin use. These hospitals are reviewing patient records to identify patients that are unnecessarily on aspirin, and contacting providers to see if it can be discontinued.
  Provider Tip: Providers can perform a similar intervention to reduce unnecessary aspirin use in their clinics.

5. Nuisance bleeding -- nose bleeds, bleeding gums, and bruising -- is common in patients on anticoagulants but rarely life-threatening. However, more than 50% of costly emergency room visits in such patients are related to nuisance bleeding. Although a recent study found that nuisance bleeding does not predict future serious bleeding (4), such minor bleeds can prompt patients and providers to stop anticoagulant therapy even though guidelines do support continued anticoagulation after nuisance bleeding in most patients. (5)

- Lesson Learned: Many patients consider nuisance bleeding an emergency situation, and do not often utilize effective home measures to treat or prevent this type of bleeding. MAQI² found that patients rarely contact a provider about the minor bleed before going to the emergency room, missing an important triage opportunity. Participating MAQI² hospitals have reduced emergency room utilization through staff training and development of new patient education materials.
  Provider Tips: MAQI² suggests that providers encourage their patients to continue anticoagulation in spite of nuisance bleeding, if an indication for anticoagulation still exists, and to diligently work to identify and mitigate any contributing factors. Providers are encouraged to educate patients about nuisance bleeding, home treatment and prevention strategies, and about needing to call the provider before going to the ED so that treatment can be provided in the most cost-effective manner. For nose bleeds, providers can refer patients to the following video developed by MAQI²: https://www.youtube.com/watch?v=3pSKRvIlVZ4. For recurring nose bleeds, a referral to an otolaryngologist may be appropriate.

To help providers stay current with changing guidelines and evidence-based practices within anticoagulation, we have developed the MAQI² Anticoagulation Toolkit. This comprehensive toolkit covers a range of topics around anticoagulation management and is regularly updated by participating MAQI² clinics and anticoagulation experts. Patient education materials, including home treatment and prevention of nuisance bleeding, are also found on: www.anticoagulationtoolkit.org

References:

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2. American Society of Hematology 2018 guidelines for management of venous thromboembolism: optimal management of anticoagulation therapy. Blood Advances 2018 2:3257-3291. https://doi.org/10.1182/bloodadvances.2018024893
3. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease. Journal of the American College of Cardiology (2019). https://doi.org/10.1016/j.jacc.2019.03.010