

2019

Family Medicine Resident Education on Perioperative Management of Patients on Anticoagulation

Hanna Mathers
University of Vermont

Follow this and additional works at: <https://scholarworks.uvm.edu/fmclerk>

 Part of the [Cardiology Commons](#), [Cardiovascular Diseases Commons](#), [Chemical and Pharmacologic Phenomena Commons](#), [Community Health and Preventive Medicine Commons](#), [Family Medicine Commons](#), [Hemic and Lymphatic Diseases Commons](#), [Medical Education Commons](#), [Other Public Health Commons](#), [Pharmacy and Pharmaceutical Sciences Commons](#), [Primary Care Commons](#), and the [Surgery Commons](#)

Recommended Citation

Mathers, Hanna, "Family Medicine Resident Education on Perioperative Management of Patients on Anticoagulation" (2019). *Family Medicine Clerkship Student Projects*. 458.
<https://scholarworks.uvm.edu/fmclerk/458>

This Book is brought to you for free and open access by the Larner College of Medicine at ScholarWorks @ UVM. It has been accepted for inclusion in Family Medicine Clerkship Student Projects by an authorized administrator of ScholarWorks @ UVM. For more information, please contact donna.omalley@uvm.edu.

FAMILY MEDICINE RESIDENT EDUCATION ON PERIOPERATIVE MANAGEMENT OF PATIENTS ON ANTICOAGULATION

FAMILY MEDICINE RESIDENCY CLINIC OF LEWISTON, MAINE

Hanna Mathers, MSIII
February 2019

FM RESIDENT EDUCATION OF PERIOPERATIVE MANAGEMENT OF PATIENTS ON ANTICOAGULATION

- FM Residents at CMMC in Lewiston, Maine manage patients in an outpatient clinic as well as on an inpatient family medicine teaching service
- Many patients in the community are anticoagulated for native valve atrial fibrillation and undergo surgical procedures both in the inpatient and outpatient setting
- Residents are often asked on to determine the necessity and timing of anticoagulation discontinuation for patients that they see
- With patients on newer oral anticoagulants and various degrees of risk, it can be a challenge to make an informed choice.
- Residents have found that they would feel more confident in perioperative management of anticoagulated patients if they have a solid foundation in the principles guiding these decisions.

PUBLIC HEALTH COST OF PERIOPERATIVE ANTICOAGULATION

- The risk associated with perioperative management of anticoagulation is a balance between thromboembolic risk of anticoagulation cessation and bleeding risk of continued anticoagulation.
- For example, atrial fibrillation is associated with a 2x increased risk of post-operative stroke. However, continuation of some anticoagulants have been found to have 3x increased risk of post-operative bleeding in seemingly minor procedures.
- Per the CDC, one of the highest rates of Medicare atrial fibrillation hospitalizations is in Central Maine. Medical costs for people who have A. Fib are about \$8,705 higher per year than for people who do not have A. Fib.
- The additional hospital costs associated with a bleed include potential transfusion, reversal agents, additional labs, surgical re-intervention, and time lost due to prolonged hospitalization.
- The additional hospital costs associated with a thromboembolic event, such as a stroke, could include physical therapy, occupational therapy, speech therapy, rehabilitation facilities, and possible permanent disability.

SUPPORT FOR PROJECT

Resident's perspective:

“Personally I feel weak in my knowledge of the pharmacokinetics of newer medications which can present a challenge when deciding to whether or not to discontinue anticoagulation and figure out a timeline for doing so.”

“As both a provider overseeing the medical management of some surgical patients and a provider who performs outpatient procedures, it is valuable to understand what goes into these decisions. I would like to be able to not only review and justify another provider's recommendations but also explain my own choices to another provider or the patient.”

Surgeon's perspective:

“The residents tend to be a critical link between the surgeon and the patient. They are familiar with the patient's risk tolerance and can serve as both the patient's advocate and educator when it comes time to make these difficult decisions. The residents already do such a great job communicating openly with the surgeons, so their overall patient care could only be enhanced further by their endeavors to gain experience within this topic.”

INTERVENTION AND METHODOLOGY

- Create a one page handout covering the basic principles guiding anticoagulation in the perioperative patient
 - Small enough to be carried or saved on phone for quick future reference
 - Includes pharmacokinetic information on anticoagulants used
 - Includes a few simple examples of procedures and timelines

INTERVENTION AND METHODOLOGY

- Survey residents pre and post-intervention to determine their confidence in perioperative anticoagulation decisions
 - How confident are you in
 - Deciding whether or not a patient's anticoagulation needs to be stopped for a procedure
 - Deciding when to stop anticoagulants pre-operatively
 - Deciding when to restart anticoagulants post-operatively
 - Deciding when to use a bridging agent
 - Scale
 - Not at all confident
 - A little confident
 - Somewhat confident
 - Confident
 - Very confident

RESULTS

- Pre-intervention
 - Surveyed a mixture of family medicine residents, including at least 2 from each class year
 - 75% of residents surveyed felt not at all confident, a little confident, or somewhat confident on 3 or more of the questions
 - The question with the highest number of confident or very confident answers was deciding whether or not anticoagulation needs to be stopped for a procedure
 - When asked to comment on this topic, residents felt like they typically had enough patient experience, particularly when on inpatient services, to know when a procedure would require discontinuation of anticoagulation.

EFFECTIVENESS AND LIMITATIONS

- Evaluate effectiveness of intervention
 - After giving residents the handout, reassess their confidence using the same questions after 1 week and 1 month
- Limitations of intervention
 - Information provided is a very basic guide geared towards patients with native valve atrial fibrillation
 - Does not encompass other diseases that may require anticoagulation
 - Does not encompass other patient factors that play a role in these decisions

RECOMMENDATIONS FOR FUTURE INTERVENTIONS

- Incorporate a lecture with cases on this topic within the resident curriculum
 - Consider linking with surgeons from various subspecialties and outpatient providers who do procedures, including dental care
- Continue to encourage open discussion between surgeons and primary care providers to enable unified care for patients in the perioperative period

REFERENCES

- Agency for Healthcare Research and Quality. Weighted national estimates. HCUP National Inpatient Sample [online]. 2012.
- Bensi C. et al. Postoperative bleeding risk of direct oral anticoagulants after oral surgery procedures: a systematic review and meta-analysis. *International Journal of Oral and Maxillofacial Surgery* , Volume 47 , Issue 7 , 923 – 932
- Doherty J. et al. 2017 ACC expert consensus decision pathway for periprocedural management of anticoagulation in patients with nonvalvular atrial fibrillation. *Journal of American College of Cardiology*. 2017.
- Douketis J. et al. Perioperative management of patients receiving anticoagulants. *UpToDate*. 2019.
- January CT, Wann LS, Alpert JS, Calkins H, Cigarroa JE, Cleveland JC Jr, et al. 2014 AHA/ACC/HRS guideline for the management of patients with atrial fibrillation. *Journal of the American College of Cardiology*. 2014;64(21):2246–80.
- Kaatz S, Douketis JD, Zhou H, Gage BF, White RH. Risk of stroke after surgery in patients with and without chronic atrial fibrillation. *J Thromb Haemost* 2010; 8: 884–90.
- Kirley K, Qato DM, Kornfield R, Stafford RS, Alexander GC. National trends in oral anticoagulant use in the United States, 2007 to 2011. *Circ Cardiovasc Qual Outcomes*. 2012;5(5):615-21.
- Mozaffarian D, Benjamin EJ, Go AS, Arnett DK, Blaha MJ, Cushman M, et al. Heart disease and stroke statistics—2015 update: a report from the American Heart Association. *Circulation*. 2015;131:e29–e322