Anticoagulant Therapies in the Prevention and Treatment of Arterial and Venous Thromboembolism: An Educational Needs Assessment

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Introduction

- Attributable fibrillation (AF), acute coronary syndromes (ACS), and venous thromboembolism (VTE) are major healthcare problems in the US, each accounting for significant morbidity, mortality, and healthcare costs. ACS results in 1.5 million hospitalizations and 600,000 deaths annually. Approximately 2.3 million people are presently diagnosed with AF, which confers a 4- to 5-fold increase in stroke risk. VTE affects another 1 million patients annually, with 600,000 deaths from pulmonary embolism (PE); one-third of these are fatal. These facts persist despite the availability of effective antithrombotic agents and published guidelines.

- To better understand this healthcare problem, Duke University School of Medicine and Med-IQ developed a robust educational needs assessment on the prevention and management of arterial and venous thrombosis among diverse medical specialties and practice environments. Knowledge gained may be used to develop more focused educational initiatives to improve and enhance the care practices of clinicians who treat and manage patients with or at risk of ACS, AF, and VTE.

Needs assessment goals:

- Identify current practice patterns and assess knowledge of the prevention and treatment of arterial and venous thromboembolism
- Identify clinician concerns over currently available anticoagulants and potential barriers to their optimal use
- Assess knowledge of emerging anticoagulant classes
- Identify gaps in knowledge and key areas for future educational activities to improve clinician understanding of current and emerging anticoagulants.

Methods

Qualitative and quantitative data were collected through four strategies:

1. Expert faculty roundtable:
   - Seven experts in cardiology, hematology, and internal medicine convened for 1-day live roundtable to identify potential barriers to the use of and educational needs regarding anticoagulant therapy and the prevention and management of VTE, AF, and VTE.
   - Faculty reconvened through teleconferences to review results and develop conclusions

2. Literature review:
   - Identified published care gaps in the prevention and management of VTE, AF, and VTE as well as the related anticoagulant therapies

3. National surveys of physicians:
   - Series of five surveys assessing knowledge, practice patterns, and educational needs of cardiologists, oncologists, orthopaedic surgeons, and hospital-based internists (HBIs) on the use of current and emerging anticoagulants in ACS, AF, and VTE
   - Pilot tested by target audience members
   - Multi-step recruitment to maximize response rate (target: 60%)

4. In-practice research (IPR) site visits:
   - IPR hospital site visits conducted to discern frontline practice behaviors and educational needs
   - Data gathered through focus groups, interviews, and questionnaires of physicians, nurses, pharmacists, and quality improvement (QI) staff

Results – Surveys

- 647 responses received – overall response rate 87%
  - Individual survey response rates:
    - ACS: 59% from cardiologists
    - AF: 57% from cardiologists
    - VTE: 72% from cardiologists
  - Practice sites: 37% private practices, 31% community hospitals, 24% academic institutions, 5% community-based outpatient clinics, and 3% “other”

- Although most physicians reported high confidence in both their understanding of guideline recommendations and their ability to manage antithrombotics in patients with or at risk of ACS, AF, and VTE, specific knowledge of guideline recommendations was low (Table 1):
  - ACS: lowest confidence – applying guidelines to special populations
  - AF: lowest confidence – ability to use the CHADS2 risk score in assessing stroke risk and reliability of the score to assess risk
  - VTE: lowest confidence – identifying absolute contraindications to anticoagulants and appropriate candidates for prophylaxis

- Overall use of published practice guidelines was low; <50% reported using guidelines frequently in their decisions regarding antithrombotics

- There was low confidence among cardiologists in understanding of guideline recommendations and their ability to manage antithrombotics in patients with or at risk of ACS, AF, and VTE

- Respondents reported fairly limited knowledge of emerging anticoagulants

- Highest desire for education on emerging agents was on efficacy data, bleeding risks, and relative place in therapy

Results – In-Practice Research

- Researchers met with more than 60 healthcare professionals and QI staff between 5 hospitals
- IPR site characteristics:
  - 252-bed community hospital; mid-sized city; West
  - 300-bed academic hospital; suburban setting; Midwest
  - 750-bed academic hospital; mid-sized city; Midwest
  - 198-bed community hospital; rural; East
  - 281-bed community hospital; suburban; East

- Physicians were asked which of the following agents would be reasonable options as the sole anticoagulant in PCI patients with a creatinine clearance of less than 30 mL/min:
  - Fondaparinux
  - Enoxaparin
  - Argatroban
  - Hirudin

- About the current ACC/AHA guideline recommendations for the treatment of VTE in patients with or at risk of ACS, AF, and VTE:
  - 52% recommended to anticoagulation was bleeding risk
  - 48% believed anticoagulation was optimal for patients with a creatinine clearance of less than 30 mL/min

- Anticoagulants in special populations (eg, obese, elderly, and renal impaired patients) – focus on efficacy, safety, dosing, and monitoring parameters in those patient groups

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- Strategies to improve care following hospital discharge

- ACS: selection and combination of antithrombotic agents
  - AF: appropriate patient candidates for thromboprophylaxis and use, benefits, and limitations of the CHADS2 scoring system
  - VTE: appropriate patient candidates for thromboprophylaxis

- The application of technology and other strategies to optimize the use of anticoagulants – include QI staff and administration in education

- Importance of well-designed, standardized policies and protocols well integrated into point-of-care practice

- Practical strategies for improving VTE prophylaxis

- Nurses should be a focus of educational activities that:
  - Help build critical-thinking skills and confidence regarding anticoagulants
  - Improve communication between healthcare professionals to empower support staff to make decisions
  - Assist with discharge counseling

- Due to limited knowledge, education on emerging anticoagulants was highly desired by physicians – focus education on safety data, efficacy data, and relative place in therapy

Conclusions and Recommendations

- Results of this needs assessment provide insights into the current beliefs, attitudes, and practices, as well as the key educational and knowledge gaps. The findings directly influence the care and treatment of patients receiving anticoagulants for arterial and venous thromboembolism

- Recommendations for focus of future educational initiatives:
  - Continued education and guideline recommendations is needed – education should simplify guideline recommendations and reconcile guideline differences when possible
  - Focused education on true bleeding risks of anticoagulants, strategies for minimizing and monitoring for adverse effects, and practical strategies for improving VTE prophylaxis

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- Strategies to improve continuity of care following hospital discharge

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