Incidence of anti-reflux therapy in patients concomitantly utilizing either warfarin or dabigatran etexilate

STONY BROOK UNIVERSITY MEDICAL CENTER

Andrew Kaplan, Pharm.D. • Edmund Hayes, Pharm.D., M.S. • Jeannene Strianse, R.Ph., M.S. • John Asheld, M.D.

Stony Brook University Medical Center, Stony Brook, New York, USA

Background

- Warfarin and dabigatran etexilate are anticoagulants commonly used to reduce the risk of stroke and systemic embolism in patients with atrial fibrillation (AF)[2,3]
- In a large clinical trial, dabigatran etexilate was associated with more gastrointestinal (GI) bleeds, as well as nausea, bloating, and dyspepsia. It is thought that the tartaric acid component of the capsule, which creates an acidic microenvironment necessary for absorption may cause this GI irritation[1]
- Patients who experience GI upset will often be given anti-reflux medications (ARM), such as antacids, histamine-2 receptor antagonists (H2-RAs), and proton pump inhibitors (PPIs)
- Pharmacokinetic studies have shown that use of a PPI decreased the oral bioavailability of dabigatran etexilate[4]
- The purpose of this review was to see if patients using dabigatran etexilate upon admission to Stony Brook University Hospital (SBUH) were more likely to be using ARM

Objectives

- Determine the use of ARM in patients who are admitted to SBUH while on either warfarin or dabigatran etexilate
- Determine the use of ARM among the subgroup of patients who were not already taking a medicine which may cause GI upset by itself (GI upset medication [GUM])
- Describe the prevalence of ARM and GUM in the same patients during their admission to SBUH

Methods

- Retrospective chart review of all patients admitted to SBUH between January 20th, 2010 and November 15th, 2011
- To be included, the patient must have been 18 years or older and contained within their admit medications either warfarin or dabigatran etexilate
- The patients' medication list were perused to determine if they were using medications known to cause reflux symptoms (GUM) or medications used to treat reflux symptoms (ARM)
- The number of patients in each group was tabulated; the difference between the groups was calculated using the fisher's exact test in Microsoft Excel 2010

Results

- Total patients – 750 (42 on dabigatran etexilate, 708 on warfarin)

- Primary analysis – ARM on admission in groups with/without GUM:
  - Presence of GUM on admission – 257 (34.3%)
    - Patients on dabigatran etexilate – 12
      - Patients using ARM on admission – 3 (25%)
      - Patients without ARM on admission – 9 (75%)
    - Patients on warfarin – 463
      - Patients using ARM on admission – 91 (37.1%)
      - Patients without ARM on admission – 154 (62.9%)
  - P=0.54

- Primary analysis – ARM on admission in groups with/without GUM:
  - Patients without GUM on admission – 493 (65.7%)
    - Patients on dabigatran etexilate – 30
      - Patients on ARM on admission – 4 (13.3%)
      - Patients without ARM on admission – 26 (86.7%)
    - Patients on warfarin – 463
      - Patients on ARM on admission – 76 (16.4%)
      - Patients without ARM on admission – 387 (83.6%)
  - P=0.80

- Secondary analysis - change in prescribing habits of hospital stay versus admit:
  - Medications which cause gastointestinal discomfort
    - Presence of GUM on admit – 257 (34.3%)
    - Lack of GUM on admit – 493 (65.7%)
    - Presence of GUM during admission – 471 (62.5%)
    - Lack of GUM during admission – 279 (37.2%)
  - P=<0.0001

  - Medications used to mitigate symptoms of reflux
    - Presence of ARM on admit – 174 (23.2%)
    - Lack of ARM during admission – 576 (76.8%)
    - Presence of ARM during admission – 526 (70.1%)
    - Lack of ARM during admission – 224 (29.9%)
  - P=<0.0001

Conclusion

- Among all patients, dabigatran etexilate was not associated with an increased usage of ARM; this relationship was consistent regardless of presence of GUM upon admission
- There was a statistically-significant increase in the use of both GUM and ARM during admission to SBUH for these patients
- This analysis did not show an increased usage of ARM in patients taking dabigatran etexilate, and current data do not show any decreased efficacy of dabigatran etexilate in patients taking ARM. However, large, well-designed, randomized controlled trials should be used to evaluate the relationship, if any exists, between ARM and dabigatran etexilate

Disclosure

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

Andrew Kaplan: Nothing to disclose
Edmund Hayes: Nothing to disclose
Jeannene Strianse: Nothing to disclose
John Asheld: Nothing to disclose

References

1. Connolly SJ, Ezekowitz MD, Yusuf S, et al. Dabigatran versus warfarin in patients with atrial fibrillation. N Engl J Med. 2009;361:1139-51.
2. Hart RG, Pearce LA, Aguilar MI. Meta-analysis: antithrombotic therapy to prevent stroke in patients who have nonvalvular atrial fibrillation. Ann Intern Med. 2007;146(12):857
3. Pradaxa Prescribing Information. Ridgefield, CT: Boehringer Ingelheim Pharmaceuticals; 2010 Oct.
4. Stangier J, Stähle H, Rathgen K, Fuhr R Pharmacokinetics and pharmacodynamics of the direct oral thrombin inhibitor dabigatran in healthy elderly subjects. Clin Pharmacokinet 2008; 47 (1): 47-59