Direct Comparison of All-Cause Healthcare Costs and Resource Utilization (HCRU) Among Patients with Non-Valvular Atrial Fibrillation (NVAF), Newly Treated with Novel Oral Anti-Coagulants (NOACs)

Adrienne Gilligan, Jessica Franchino-Elder, Xue Song, Cheng Wang, Caroline Henriquez, Amy Salinski-Nguyen, Kathleen Wilson, David Smith, Stephen Sanders

Truven Health Analytics, an IBM Company, Cambridge, MA, USA; Boehringer-Ingelheim Pharmaceuticals, Inc., Ridgefield, CT, USA

BACKGROUND

- Non-valvular atrial fibrillation (NVAF) has been linked to numerous cardiovascular (CV) events and is associated with significant morbidity and mortality.

Objective

The objective of this study was to compare all-cause healthcare costs and resource utilization (HCRU) between dabigatran and rivaroxaban and dabigatran and apixaban in a head-to-head comparison among patients who were newly diagnosed with NVAF and newly treated with a NOAC.

METHODS

Study Design

- This was a retrospective study that analyzed data from the Truven Health MarketScan® Databases spanning from April 1, 2011, to December 31, 2013.

Study Population

- Patients aged 18 years or older with at least one prescription claim for an oral NOAC (dabigatran, rivaroxaban, or apixaban) during the study period were included.

Data Sources

- MarketScan Commercial Claims and Encounters Database contains the healthcare experience of approximately 12 million employees and their dependents covered by a variety of the largest and managed care plans.

- MarketScan Medica Supplemental and Coordination of Benefits (COB) Database contains the healthcare experience of approximately 9.9 million retirees with Medicare supplemental insurance.

Study Definitions

- Dabigatran vs. Rivaroxaban
- Dabigatran patients were matched to rivaroxaban patients with a 1:1 nearest neighbor match using demographic characteristics (e.g., age, gender, health plan, region), baseline clinical characteristics (e.g., CHA2DS2-VASc and HAS-BLED scores, baseline costs and baseline hospitalization), and propensity score.
- Dabigatran vs. Apixaban
- Patients were matched to apixaban patients with a 1:1 nearest neighbor match using demographic characteristics and has to properly score matched groups were trained.
- Discontinuation was defined as the loss of subsequent claims for the index medication beyond 60 days following the exhaustion of the previous claims' supply.

RESULTS

Table 1. Demographic and Baseline Clinical Characteristics of Matched NOAC Patients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Dabigatran vs. Rivaroxaban</th>
<th>Dabigatran vs. Apixaban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>76.0 ± 12.4</td>
<td>77.0 ± 12.3</td>
</tr>
<tr>
<td>Gender (male)</td>
<td>61%</td>
<td>60%</td>
</tr>
<tr>
<td>CHA2DS2-VASc</td>
<td>2.8 ± 1.3</td>
<td>2.9 ± 1.4</td>
</tr>
<tr>
<td>HAS-BLED</td>
<td>2.6 ± 1.3</td>
<td>2.6 ± 1.3</td>
</tr>
<tr>
<td>Prior CV events</td>
<td>2.8 ± 1.3</td>
<td>2.9 ± 1.4</td>
</tr>
<tr>
<td>Prior stroke</td>
<td>1.4 ± 1.0</td>
<td>1.4 ± 1.0</td>
</tr>
</tbody>
</table>

CONCLUSIONS

- By direct comparison, among newly diagnosed newly treated patients with NVAF, dabigatran had significantly lower total, inpatient, outpatient, and outpatient pharmacy costs than rivaroxaban and apixaban.

LIMITATIONS

- Study limitations are those inherent to any retrospective claims-based studies including:
  - Data may be subject to coding and entry errors as the HCRU were not validated at diagnosis and procedure codes.
  - Medication exposure was based on filled prescriptions with the assumption that patients had taken the medication as prescribed.

ACKNOWLEDGMENTS

- The authors wish to express their gratitude to Health Health, an employee at Boehringer Ingelheim, for his editorial contributions.

REFERENCES

6. Sarich TC, et al. Outpatient medical costs included: emergency room visits, outpatient office visits, and other outpatient visit costs. Treated patients included only patients with at least one outpatient medical claim.