Introduction: Direct-acting oral anticoagulants (DOACs) are becoming a more popular alternative to warfarin due to fewer drug interactions and less need for monitoring. However, dose adjustments need to be made based on renal function, weight, and age. In addition, there is limited data available regarding the rates of bleeding in elderly patients taking a DOAC, although there have been sub-group analyses conducted from major approval trials.

Goal: This study will evaluate prescribing practices for elderly patients started on apixaban, a DOAC, as an inpatient to determine dose appropriateness based on FDA product package labeling.

Methods: A retrospective chart review and descriptive analysis of patients 65 years of age and older admitted to a general medicine service at Brigham and Women’s Hospital who were prescribed apixaban from June 2015 to January 2017 were included in our analysis. This study received approval from the Partners/Brigham and Women’s Hospital Institutional Review Board.

Inclusion Criteria:
- All patients > 65 years old admitted to the ITU, GMS, or PACE service

Exclusion Criteria:
- Age < 65 years old, admitted to a service that is not designated as general medicine, and indication for apixaban includes venous thromboembolism prophylaxis or off-label.

Ongoing Research: We will evaluate if patients have been readmitted for an adverse event.

Appropriate dosing for the FDA approved indications of apixaban is 5 mg orally twice daily. However, a dose reduction is recommended if the patient meets at least 2 out of the 3 following characteristics: age > 80 years, weight < 60 kg, and serum creatinine of > 1.5 mg/dL.

Appropriate initial dosing of apixaban can decrease the risk for adverse effects while on this agent. Such adverse effects consists of nausea, contusion, anemia, syncope, and hemorrhage.

Although studies are done to assure the safety and efficacy of these medications, the situations they are tested in are very controlled and thus do not represent real world conditions where a patient may have multiple health conditions.

Also, apixaban was FDA-approved in 2012 so there is limited clinical data available in this population.

Results

<table>
<thead>
<tr>
<th>Average of Baseline Characteristics</th>
<th></th>
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</thead>
<tbody>
<tr>
<td># of Males</td>
<td>46</td>
</tr>
<tr>
<td># of Females</td>
<td>49</td>
</tr>
<tr>
<td>Age (years)</td>
<td>78.5 (66-92)</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>76.9</td>
</tr>
<tr>
<td>Serum Creatinine (mg/dL)</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Notes:
Some patients were not dosed appropriately due to clinical judgement made by the healthcare team in cases where the patient had reduced renal function or a recent GI bleed.

Definitions and Abbreviations:
1. A-Fib: Atrial Fibrillation is a quivering or irregular heartbeat (arrhythmia) that can lead to blood clots, stroke, heart failure and other heart-related complications.
2. VTE: Venous Thromboembolism is a blood clot that starts in the vein. It consists of two types, a DVT and a PE.
3. DVT: Deep Vein Thromboembolism is a clot in a deep vein, usually in the leg.
4. PE: Pulmonary Embolism occurs when a DVT clot breaks free from a vein wall, travels to the lungs and blocks some or all of the blood supply.
5. TTP: Thrombotic thrombocytopenic purpura is a condition where blood clots form in small blood vessels throughout the body.

References