A463 - Retrospective review of argatroban use and dosing in critical care.

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Introduction:
This study reviewed argatroban use in patients in a tertiary hospital critical care unit. Argatroban is a direct thrombin inhibitor approved for use in proven or suspected heparin-induced thrombocytopenia (HIT) in patients with renal dysfunction.

Methods:
This was a retrospective cohort study in a medical and surgical ICU in a tertiary teaching hospital. Data was collected for adult patients treated with argatroban for proven or suspected HIT April-August 2016, excluding patients requiring ECMO. We scored patients using the 4T score and compared this to an ELISA immunoassay optical density score which quantifies the PF4/H antibody level. Also noted was use of continuous haemodialysis and organ failure using the Sequential Organ Failure Assessment (SOFA), scoring ≥3 defines failure.

Results:
16 patients were treated with argatroban for proven or suspected HIT. 15/16 patients had a positive ELISA. There was no relationship between 4T score and ELISA optical density. Infusions were commenced at either the manufacturer recommended dose of 2µg/kg/min or a reduced dose of 0.5 µg/kg/min. Patients receiving the reduced dose had a median of 2 organs failing compared to 1 in the standard regimen. The time taken to the first APTR in range was longer with the reduced dose regimen, however, the time to a stable APTR was less. In 2 patients the dose of argatroban never stabilised. 1 died and 1 was very sensitive to argatroban and required cessation of the infusion for interventions. In the reduced regimen group, there were 2 episodes of bleeding, 1 minor PR bleed in a patient with 3 organs failure and 1 upper GI bleed.

Conclusion:
In this population of ICU patients the 4T score did not correlate with the ELISA optical density score, as found previously. Patients with multi-organ failure mostly received the reduced starting dose. However, the bleeding events were still confined to this group. This correlates with previous studies that organ dysfunction necessitates a dose reduction for argatroban..

Table 1:

<table>
<thead>
<tr>
<th></th>
<th>Standard Regimen (n=5)</th>
<th>Reduced dose regimen (n=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argatroban dose at stabilisation (mcg/kg/min)</td>
<td>0.59</td>
<td>1.06</td>
</tr>
<tr>
<td>Median time to first APTR in range (hours)</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Median Time to stable APTR (hours)</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td>Episodes of bleeding</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
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Argatroban dosing and bleeding rate

Image 1:
4T score plotted against ELISA optical density score