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Introduction:
There is a paucity of literature describing the relationship between clevidipine and its impact on intracranial pressure (ICP). The safety of clevidipine in patients with intracranial hemorrhage is often extrapolated from studies using nicardipine, which has demonstrated a neutral effect on ICP [1]. The objective of this study was to determine if there was a relationship between clevidipine initiation and changes to cerebral hemodynamic parameters.

Methods:
This study was a retrospective analysis of adults admitted to Hennepin County Medical Center between July 2012 and July 2017. Individuals were included if they had intracranial bleeding and ICP data recorded prior to initiation of a clevidipine infusion. Baseline demographic data was collected, including age, gender, type of injury, and initial Glasgow Coma Score (GCS). Data was collected to evaluate ICP, cerebral perfusion pressure (CPP), systolic blood pressure (SBP), and clevidipine infusion parameters. Cerebral hemodynamic parameters and blood pressures were evaluated using a paired t-test. Results were considered statistically significant if P < 0.05.

Results:
A total of 14 patients with 17 encounters qualified for inclusion. The median age was 48 years (range 18-77). Males comprised 78.6% of the population. The most common injury was intracranial hemorrhage, occurring in 69.2% of the population. The median initial GCS was 6 (IQR 3-14). Mean results for cerebral hemodynamic parameters and blood pressures are reported in Table 1. The mean clevidipine dose was 9.2 mg/hour (range 1-21 mg/hr). The average duration of data collection for the clevidipine infusion was 9.36 hours (range 3.97-11.95 hours).

Conclusion:
These results suggest clevidipine is effective in reducing blood pressure and does not have a negative impact on cerebral hemodynamic parameters.

References:

Table 1:

<table>
<thead>
<tr>
<th>Perfusion Parameter (mm Hg)</th>
<th>Pre-Clevidipine</th>
<th>Post-Clevidipine</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ICP</td>
<td>11.31</td>
<td>11.69</td>
<td>0.837</td>
</tr>
<tr>
<td>Mean CPP</td>
<td>77.53</td>
<td>69.88</td>
<td>0.004</td>
</tr>
<tr>
<td>Mean SBP</td>
<td>149.88</td>
<td>136.41</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Table 1. Results