ARTEMIS, A Real-World Evidence Trial Examining the Use of Oliceridine, a Biased Agonist at the μ(Mu) Receptor, in Patients Requiring Post-Surgical Pain Control

Todd L. Wandstrat, PharmD1, Annie N. Simpson, PhD2, Kate N. Simpson, DrPH3, Mark A. Demitrack, MD4, Amit Saha, PhD5, Doug Jaffe, MD6, Nataya S. Disher, BS7, Ashish K. Khanna, MD8

1Trevena Inc., Chesterbrook, PA, USA, 2Medical University of South Carolina, Charleston, SC, USA, 3Wake Forest University, Baptist Medical Center, Winston Salem, NC, USA, 4Wake Forest School of Medicine, Winston Salem, NC, USA

Presented at the American Society of Anesthesiologists Annual Meeting October 13-17, 2023 San Francisco, California

RESULTS

Hospital LOS: Overall Population

<table>
<thead>
<tr>
<th>Variable</th>
<th>Oliceridine (N=96)</th>
<th>Control (N=96)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean LOS (days)</td>
<td>2.9 (3.3)</td>
<td>2.3 (3.3)</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Averaged per patient and per group for the first 24 hours; cumulative time, CCI, or ASA between the two groups

The propensity score–matched sample included 96 patients

Methods

The ARTEMIS trial is a multi-site, non-interventional, observational, post-operative, electronic medical record (EMR) analysis

In a second phase, numerical pain ratings and total opioid consumption were compared between groups

Hospital pain rating scores were based on a 10-point numerical rating scale (1 = not at all to 10 = worst possible pain)

The pain scores were based on the visual analog scale (VAS)

Overall hospital LOS was 1.8 days shorter among oliceridine-treated patients compared with control-treated patients (P=0.001)

The adjusted odds of a patient in the control group having a diagnosis of delirium or altered consciousness was a 1.25 times greater compared with the oliceridine group through this analysis was not statistically significant

International Classification of Disease (ICD) Subgroups: Incidence and LOS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Oliceridine (N=96)</th>
<th>Control (N=96)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean LOS (days)</td>
<td>2.9 (3.3)</td>
<td>2.3 (3.3)</td>
<td>0.001</td>
</tr>
</tbody>
</table>

There was a slightly reduced average duration of vomiting (in hours) among IV oliceridine-treated patients (0.91, SD:0.83) compared to other opioid-treated patients (1.1, SD:1.39, compared to other opioid-treated patients) (P=0.039, NS)

There was a slightly reduced average duration of time vomiting in (hours) among IV oliceridine-treated patients (0.91, SD:0.83) compared to other opioid-treated patients (1.1, SD:1.39, compared to other opioid-treated patients) (P=0.039, NS)

There was no difference in the incidence of vomiting between the IV oliceridine-treated and other opioid-treated groups (P=0.4748)

There was a slightly reduced average duration of time vomiting (in hours) among IV oliceridine-treated patients (0.91, SD:0.83) compared to other opioid-treated patients (1.1, SD:1.39, compared to other opioid-treated patients) (P=0.039, NS)

There was no difference in the incidence of vomiting between the IV oliceridine-treated and other opioid-treated groups (P=0.4748)

There was no difference in the incidence of vomiting between the IV oliceridine-treated and other opioid-treated groups (P=0.4748)

There was no difference in the incidence of vomiting between the IV oliceridine-treated and other opioid-treated groups (P=0.4748)