**P21** The Comparative Anesthetic Effects of Intramuscular Medetomidine/Tiletamine-Zolazepam and Morphine/Tiletamine-Zolazepam in Rabbits

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**Introduction**

Chemical restraint of rabbits is required for a variety of surgical procedures. Rabbits are difficult to anesthetized, and show a wide range of responses (1). There are many injectable anesthetic combinations for rabbit. The objective of this study was to compare anesthetic effects of intramuscular medetomidine/tiletamine-zolazepam and morphine/tiletamine-zolazepam in rabbits.

**Materials and Method**

10 New Zealand white rabbits were anesthetized twice with intramuscularly medetomidine 0.1 mg/kg/tiletamine-zolazepam 15 mg/kg (Med/T-Z) or morphine 0.1 mg/kg/tiletamine-zolazepam 15 mg/kg (Mor/T-Z) with at least 4-week interval. Anesthetic time, onset of anesthesia and cardiovascular variables (HR and BP) were measured. Anesthetic quality was judged by skin incision and approach to tibia bone, no attempt to perform surgery if the rabbits were not in suitable plane of anesthesia or mask supplementation of isoflurane during anesthesia if needed to complete the surgery.

**Results and Discussion**

Both Z/Med and Z/Mor combinations produced very quick induction of anesthesia within two minutes. Endotrachial intubation were not achieved because strong swallowing reflex still persisted in all rabbits. Surgery were successfully performed in Z/Med rabbits but could not even started in Z/Mor rabbits due to virulent reaction once towel clip application. Total anesthetic time in Z/Med and Z/Mor were 82 ± 9 and 78 ± 12 minutes, respectively. Heart rate, blood pressure and respiratory rate during anesthesia in both group were within normal limits.

Although combination of ketamine and alpha-2 agonist are widely used to provide short term anesthesia in rabbit, tiletamine-zolazepam-xylazine provides better effective surgical anesthesia (2). In this study, medetomidine and tiletamine and zolazepam indexed satisfactory surgical anesthesia with good muscle relaxation for at least 25 minutes duration. However, the study shown that alpha-2 agonist induce cardiac depression and a reduction of PaO2 (3). Supplementation with oxygen is recommended with the introduction of alpha-2 agonist in the anesthetic protocol.

**Table 1** Anesthetic qualities obtained from 10 rabbits anesthetized with intramuscularly Med/T-Z and Mor/T-Z.

<table>
<thead>
<tr>
<th>Group (N=10)</th>
<th>No. of rabbit at completion of surgery</th>
<th>Total anesthetic time (min)</th>
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<tbody>
<tr>
<td>Med/T-Z</td>
<td>10</td>
<td>82 ± 9</td>
</tr>
<tr>
<td>Mor/T-Z</td>
<td>0</td>
<td>78 ± 12</td>
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**References**