The cuff inflated quickly and then deflated at a constant rate, capturing the pressure. Blood pressure results for this study were reported as a combined mean (with standard errors) for both sexes. Analysis of variance was used to compare blood pressure responses among the treatment groups.

RESULTS

Comparison of Post-Dose Tail Pressures From NBP and Telemetry. Blood pressure, at specific post-dose time points for a representative study of four dogs, are shown in Table 1. The systolic blood pressure values for this study were compared to the latest NBP and oscillometric method and invasive tail cuff (2). Systolic blood pressure consistently increased during the treatment period and returned to baseline at the conclusion of the study. This process can be repeated every 3 minutes. A filter was then applied to the cuff pressure signal to remove the constant component, leaving only the pressure pulses for analysis. This analysis consisted of finding oscillation in cuff pressure to pulse amplitude. Software was developed for use in the NIBP blood pressure analysis. Additionally, filtered pressure was saved in a CSV file over time to ensure each pulse had a corresponding ECG waveform (Figure 4).

Table 1. Blood Pressure Measurements

<table>
<thead>
<tr>
<th>Animal</th>
<th>MABP (mmHg)</th>
<th>DBP (mmHg)</th>
<th>MAP (mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>116.9 (10.2)</td>
<td>93.1 (11.3)</td>
<td>107.0 (12.8)</td>
</tr>
<tr>
<td>2</td>
<td>123.4 (8.0)</td>
<td>97.1 (11.6)</td>
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<td>100.2 (13.0)</td>
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DISCUSSION

To determine whether the tail cuff articles were appropriate to meet the objectives of the study, the appropriate dose levels were selected and compared with the blood pressure values from tail cuffs provided by third parties. The tail cuffs were used to measure the blood pressure of the dogs before and after dosing. The results indicated that the tail cuffs were effective in measuring the blood pressure of the dogs. The tail cuffs were able to measure the blood pressure of the dogs accurately and consistently, which was important for the study.

REFERENCES

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Figure 3. Mean Systolic Blood Pressure in response to each treatment in the ambulatory oscillometric method and implantable tail cuff method for each animal and vehicle. Systolic blood pressure was determined to be significantly different between the two methods after the start of the study. Additionally, basal blood pressure was determined to be significantly different between the two methods. The measurement of systemic blood pressure is dependent upon the location within the arterial tree where the pressure is measured. Systemic pressure progressively increases in magnitude at increased distances from the heart. Furthermore, the magnitude of the pressure wave will differ from one site to another because of variation in distal resistance and capacitance. Therefore, for the most accurate measurements, the tail should be placed in a major vessel located above the sensor (located in the transmitter) placed in the dog's abdomen. This result is shown in Figure 3.

Figure 4. Mean Systolic Blood Pressure in response to each treatment in the ambulatory oscillometric method and implantable tail cuff method for each animal and vehicle. Systolic blood pressure was determined to be significantly different between the two methods after the start of the study. Additionally, basal blood pressure was determined to be significantly different between the two methods. The measurement of systemic blood pressure is dependent upon the location within the arterial tree where the pressure is measured. Systemic pressure progressively increases in magnitude at increased distances from the heart. Furthermore, the magnitude of the pressure wave will differ from one site to another because of variation in distal resistance and capacitance. Therefore, for the most accurate measurements, the tail should be placed in a major vessel located above the sensor (located in the transmitter) placed in the dog's abdomen. This result is shown in Figure 3.

CONCLUSION

The doses of each test article used in this study were chosen to exploit the differences in pharmacodynamic profiles and duration of action to allow for comparison to the baseline. The NIPP system was used in combination with oral and IV dosing protocols. The results indicated that the NIPP system was effective in measuring the blood pressure of the dogs. The tail cuffs were able to measure the blood pressure of the dogs accurately and consistently, which was important for the study. The tail cuffs were used to measure the blood pressure of the dogs before and after dosing. The results indicated that the tail cuffs were effective in measuring the blood pressure of the dogs. The tail cuffs were able to measure the blood pressure of the dogs accurately and consistently, which was important for the study.

Figure 5. Representative “Fake” Dog of Similar Size and Weight and emkaPack to the Jacketed System on a

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