**MECHANISM OF ACTION OF p-CHLOROAMPHETAMINE (PCA)-INDUCED EJACULATION IN ANAESTHETISED RATS**

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**ABSTRACT**

The goal of the study is to investigate the mechanism of action of PCA by carrying out, in anaesthetised rats, differential selective lesions at distinct levels of the peripheral autonomic pathways involved in the command of the various physiological events leading to ejaculation.

**RESULTS**

**INTRODUCTION & OBJECTIVE**

PCA is an amphetamine derivative that liberates catecholamines and serotonin within the CNS and noradrenaline at the periphery.

PCA induces ejaculation in both conscious (Humphries et al., 1980; Rényi, 1985) and anaesthetised rats by acting at spinal and/or peripheral levels (Yonezawa et al., 2000).

The study is to investigate the mechanism of action of PCA by carrying out, in anaesthetised rats, differential selective lesions at distinct levels of the peripheral autonomic pathways involved in the command of the various physiological events leading to ejaculation.

**MATERIAL & METHODS**

Surgical preparation

Adult male Wistar rats weighing 200-300 g were anaesthetised with isoflurane (1.5-2%), tracheostomized, and the carotid artery catheterized for blood pressure measurement.

Seminal vesicle pressure (SVP) was measured with a catheter, filled with mineral oil, inserted in the seminal vesicle through the apex.

A pair of stainless steel electrodes were placed within the bulbospongious muscles (BS) for recording BS electrical activity (BS EMG). Electrical signal from BS was amplified (gain, 10000; Low pass, 10 KHz; High pass, 10 Hz) before being digitised.

**RESULTS**

**CONCLUSION**

Pelvic nerves, which drive parasympathetic tone to SV, play an important role in PCA-induced SV contraction. However, the occurrence of PCA-induced ejaculation appears unchanged after section of paravertebral sympathetic chain.

It is suggested that PCA-induced ejaculation can occur when seminal vesicle contraction is impaired. This may be explained by more intense BS contraction.

**References**


**Table 1: Proportion of ejaculating rats and mean number of ejaculation after PCA i.p. delivery (5 mg/kg)**

<table>
<thead>
<tr>
<th>Lesion</th>
<th>Proportion of ejaculating rats</th>
<th>Mean number of ejaculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>4/6</td>
<td>1.4 ± 0.4</td>
</tr>
<tr>
<td>Pelvic nerves</td>
<td>0/6</td>
<td>0*</td>
</tr>
<tr>
<td>Dorsal nerves of the penis</td>
<td>6/6</td>
<td>1.3 ± 0.2</td>
</tr>
<tr>
<td>Hypogastric nerves</td>
<td>2/6</td>
<td>0.3 ± 0.2</td>
</tr>
<tr>
<td>Sympathetic chain</td>
<td>3/6</td>
<td>1.2 ± 0.6</td>
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</tbody>
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