

"Cardiopulmonary effects of high doses of racemic methadone and l-methadone-fenpipramide in ponies anaesthetized with isoflurane"

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In horses, methadone can be used as racemic mixture or as a combination of L-methadone with fenpipramide (L-Polamivet). Fenpipramide may cause cardiovascular changes after IV administration. We evaluated changes in heart rate (HR) and mean arterial blood pressure (MAP) both after racemic methadone and L-Polamivet.

Six healthy adult Shetland ponies were anaesthetized twice (6 months apart) using different premedication in a non-randomized block design. Ten minutes prior to induction premedication consisted of either IV romifidine 0.08 mg kg⁻¹ in group M or **detomidine 0.004 mg kg⁻¹** in group L. Additionally ponies in group L received IV detomidine 0.02 mg kg⁻¹ and butorphanol 0.01 mg kg⁻¹ 85 minutes prior to induction. At baseline = 15 minutes after connection to the circle system (isoflurane/oxygen) group M received IV racemic methadone 0.5 mg kg⁻¹, group L IV L-methadone 0.25 mg kg⁻¹ with fenpipramide 0.0125 mg kg⁻¹.

Heart rate and MAP were recorded every 10 minutes and compared to baseline values before methadone administration using the Wilcoxon-signed rank test. Data are presented as median ± interquartile range.

In both protocols a significant, but transient increase in blood pressure was seen between baseline and t₁₀ (M: 72 ± 8.6 *versus* 91 ± 17 mmHg; p = 0.031; L: 85 ± 16 *versus* 100 ± 26 mmHg; p = 0.031). Simultaneously, heart rate increased slightly, but not statistically significantly (M 26 ± 7 *versus* 30 ± 11, L 31 ± 4 *versus* 36 ± 8; p =).

Methadone increases MAP transiently after intravenous administration in anaesthetized ponies.

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