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Veterinarni Medicina

Effect of epidural administration of lidocaine, fentanyl and their combination on the minimum alveolar concentration of halothane in dogs

P. Rauser, L. Lexmaulova, M. Vlasin, T. Fichtel, J. Lorenzova

Veterinarni Medicina, 49 (2004): 421-426

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The efficacy of lidocaine, fentanyl, combination of both (2 mg/kg of lidocaine, along with fentanyl in the dose of 0.005 mg/kg) and saline (as a control) administered epidurally to 40 healthy dogs was under investigation, regarding their influence on minimum alveolar concentration (MAC) of halothane. Basic vital parameters, such as heart rate, respiratory rate, saturation of hemoglobin with oxygen and end-tidal partial pressure of CO₂ were recorded. Minimum alveolar concentration of halothane after administration of lidocaine ($0.75 \pm 0.24\%$), or the lidocaine/fentanyl combination ($0.43 \pm 0.08\%$) was found

to be significantly lower ($p < 0.05$) compare to control group ($1.15 \pm 0.20\%$). However, we have not found significant difference in the group given fentanyl alone ($0.95 \pm 0.35\%$) compare to control group. Mutual relationship between epidurally given lidocaine and fentanyl (same route of administration) can be called as simply additive. There were no significant deviations in basic parameters within groups. We conclude that epidural administration of combination of these drugs we are able to reduce the dose of general anesthetics, which is important in management of critically ill patients.

Keywords:

MAC; lignocaine; peridural; intrathecal; analgesia; anaesthesia

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