

Evaluation of local or intravenous administration of dexamethasone on brachial plexus block with lidocaine in sheep

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Abstract

This study aimed to determine the effect of adding dexamethasone topically and intravenously on the onset and duration of sensory and motor blocks following brachial plexus block in sheep. In the present study, 20 adult female Arab sheep with an average weight of 32.9 ± 3.4 kg were used. To provide a brachial plexus block, the sheep were randomly assigned to one of three treatments of lidocaine (LID, 4 mg/kg), topical lidocaine- topical dexamethasone (LIDEXL, 4 mg/kg and 8 mg), and topical lidocaine- intravenous dexamethasone (LIDEXV, received 4 mg/kg and 8 mg). In the third group, dexamethasone was injected intravenously 10 minutes before anesthesia application. To identify the nerves, an electrical nerve stimulator was used. With nerve stimulation, the contraction and movements of the limbs were observed, and the drug was injected into the site until the limb movement stopped. The results showed that the onset of radial nerve block in the LIDEXL group was significantly lower than that of lidocaine alone. The duration of sensory and motor blocks was 68.11 ± 23.67 and 75.00 ± 30.41 minutes in the LID group; 59.6 ± 18.12 and 81.17 ± 20.90 minutes in the LIDEXL group, and 62.58 ± 16.55 and 64.40 ± 16.83 minutes in the LIDEXV group. No significant difference was observed between the groups. According to the results, adding dexamethasone topically and intravenously to lidocaine does not affect the onset or duration of sensory and motor nerve blocks following a brachial plexus block in sheep.

Key words: Brachial plexus block, Dexamethasone, Lidocaine, Sheep

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