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Effectiveness of electroacupuncture analgesia compared with opioid administration in a dog model: a pilot study.

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Source

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Abstract

BACKGROUND:

Although opioid analgesics are the usual drugs to treat post-surgical pain, acupuncture has also been demonstrated to relieve various pain syndromes. The present pilot study aims to investigate the efficacy of electroacupuncture compared with a conventional opioid compound, butorphanol, for postoperative pain treatment in dogs undergoing elective ovariohysterectomy.

METHODS:

Twelve dogs were randomly allocated into two groups. Dogs received either electroacupuncture stimulation (16 and 43 Hz) at Shen Shu, Chang Shu, He Gu, Tai Yuan, Zu San Li, Yang Ling Quan, and Bai Hui acupoints, while control dogs were treated with butorphanol. Cardiovascular and respiratory parameters were recorded for both groups during operation. Plasma β -endorphin concentrations were evaluated before surgery (baseline) and up to 24 h later. For each dog, pain was measured according to a dedicated subjective pain scoring system.

RESULTS:

Plasma β -endorphin levels in dogs receiving electroacupuncture increased significantly against baseline values after 1 and 3 h after surgery. Moreover, the end-tidal isoflurane concentration needed for second ovary traction was significantly lower in acupuncture-treated dogs than control animals. All animals having electroacupuncture experienced prolonged analgesia, over 24 h at least, while four out of six dogs treated with butorphanol needed post-surgical ketorolac and tramadol supplementation to their pain relief.

CONCLUSIONS:

The results obtained from the present investigation showed some evidence for electroacupuncture as an alternative technique to provide postoperative analgesia in dogs.