Effect Of Intra-oral Lignocaine On Brachycephalic Obstructive Airway Syndrome Surgery

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This study was granted ethics approval by the Queensland Government Department of Agriculture and Fishers animal ethics committee, AEC reference number CA2024/05/1852.

Locoregional anaesthesia can be used to facilitate opioid-free anaesthesia for brachycephalic dogs undergoing airway surgery[1]. A recent retrospective study by De Gennaro et al showed a bilateral maxillary nerve block reduced intraoperative fentanyl requirements[2].

This prospective, randomised, blinded, controlled clinical trial was designed utilising the PETSORT checklist. A power study determined 98 subjects would be required. Animal Ethics was approved by the Queensland Department of Agriculture and Fisheries. Brachycephalic dogs presenting to Veterinary Specialist Services for elective airway surgery were prospectively enrolled. Subjects were randomised to receive 10 actuations of lignocaine hydrochloride monohydrate/phenylephrine hydrochloride spray (Co-Phenylcaine Forte) or placebo via intra-oral administration prior to surgery. A standardised protocol was utilised for anaesthetic management involving dexmedetomidine 2 $mcgkg^{-1}$, methadone 0.3 $mgkg^{-1}$, alfaxalone 0.5 $mgkg^{-1}$, isoflurane, esomeprazole 1 $mgkg^{-1}$ and maropitant 1 $mgkg^{-1}$. Outcome measures include intraoperative methadone or injectable anaesthetic, and postoperative methadone and dexmedetomidine requirements. Complications such as postoperative airway obstruction, regurgitation, and need for tracheostomy were also recorded.

78 dogs have been enrolled in the study thus far. Intraoperative and postoperative rescue analgesia did not differ significantly between treatment groups. Postoperative sedation with dexmedetomidine also did not differ significantly but was higher in the placebo group (47.6%) compared to the lignocaine group (31.4%). Postoperative regurgitation was significantly higher in the placebo group compared to the lignocaine group ($P = 0.0039$).

Preliminary results indicate intra-oral lignocaine spray does not reduce intraoperative methadone or injectable anaesthetic requirements but does decrease postoperative regurgitation.

Word count: 241

1. Martínez MIG and Fernández MÁM. Opioid-free anaesthesia for the surgical correction of abnormalities associated with brachycephalic obstructive airway syndrome in five dogs. *Companion Animal 2021;26:57-61*.
2. De Gennaro C, Vettorato E and Corletto F. Evaluation of bilateral maxillary nerve block in dogs undergoing surgery for brachycephalic obstructive airway syndrome. *Can Vet J 2022;63:67-73*.