

CAESAREAN SECTION SURVIVAL GUIDE. Part 2: Anaesthetic Protocol Selection & Peri-operative Considerations.

SUMMARIES OF CAESAREAN SECTION ARTICLES

Metcalf S *et al* (2014). Multicentre, randomised clinical trial evaluating the efficacy and safety of alfaxalone administered to bitches for the induction of anaesthesia prior to Caesarean section. *J Aus Vet Assoc.* **92**, 333-338

Objective

To evaluate the efficacy and safety of alfaxalone compared to propofol in bitches and their offspring when the products were used for induction of anaesthesia, followed by isoflurane in oxygen maintenance, prior to C-section.

Method

74 bitches at 4 vet hospitals induced with either Alfaxan (48) or propofol (26). Assessments were made of induction, maintenance and recovery quality in the dam. In the neonates suckling, dorsal flexion, withdrawal and anogenital reflexes were examined.

Conclusion

- Alfaxan was found to be an effective induction agent for C-section with an excellent safety profile.
- Incidence and duration of apnoea in the dam were less with Alfaxan than with propofol.
- Scores for puppy vigour were numerically superior with Alfaxan compared to propofol.

Doebeli A *et al* (2013). Apgar scores after induction of anaesthesia for canine caesarean section with alfaxalone versus propofol. *Theriogenology.* **80**, 850-954

Objective

To assess the effects of alfaxalone and propofol on neonatal vitality in 22 bitches and 81 puppies after emergency C-section

Method

Dams requiring emergency C-section were randomly allocated to receive either alfaxalone (11) or propofol (11) induction of anaesthesia. Neonatal vitality was assessed at 5, 15 and 60 minutes post-delivery using a modified Apgar score with heart rate, respiratory effort, reflex irritability, motility and mucous membrane colour. The higher the score the more vigorous the puppy.

Conclusion

- Apgar scores in the alfaxalone group were greater than those in the propofol group at all times ($p < 0.001$).
- Alfaxalone induction was associated with better neonatal vitality during the first 60 minutes after delivery.

Doebeli A et al (2013). Induction of anaesthesia for canine caesarean section with alfaxalone. *J Repro Biol.* **135**, 58

Objective

To compare the effects of alfaxalone or propofol induction agents on maternal recovery and puppy survival

Method

Animals were randomly allocated to receive either alfaxalone (11) or propofol (11) induction.

No premedication was administered, and all dogs were maintained on isoflurane in oxygen.

A constant rate infusion of fentanyl was initiated following delivery of the last puppy.

Dams were evaluated at 15, 30, 45 and 60 mins post-extubation for body temperature, heart rate, respiratory rate, mucous membrane colour and capillary refill time. Time to head lift and first attempting to rise were recorded together with the survival rate of the puppies.

Conclusion

- Dams induced with alfaxalone had a significantly shorter recovery times than those induced with propofol (mean 10 vs 26 minutes respectively)
- Puppies from both the alfaxalone and propofol induction groups had similar survival rates.
- There was no statistical difference between groups in the number of puppies delivered.