TECHNICAL NOTES

Butordyne®

Injection

Active Constituents

10 mg/mL butorphanol as butorphanol tartrate
0.1 mg/mL benzethonium chloride preservative

Pharmacology

Butordyne® Injection (butorphanol tartrate) is a totally synthetic, centrally acting, narcotic agonist – antagonist analgesic with potent antitussive activity. Butorphanol is an opioid κ-partial agonist and a μ-antagonist. The effects of butorphanol last approximately 1- 3 hours. The duration of analgesia in dogs is < 1 hour and up to 2 - 3 hours in cats. Cardiopulmonary depressant effects are minimal after treatment with butorphanol as demonstrated in dogs,[1] humans[2,3] and horses.[4] The cardiopulmonary effects of butorphanol are not distinctly dosage-related but rather reach a ceiling effect beyond which further dosage increases result in relatively lesser effects.

Equine Pharmacology: Following intravenous injection in horses, butorphanol is largely eliminated from the blood within 3 to 4 hours. The drug is extensively metabolised in the liver and excreted in the urine.

Indications

Analgesic and sedative for use in horses, dogs and cats.
In cats, sedation does not occur with Butordyne® Injection alone, but can occur in dogs with Butordyne® Injection alone.
Butordyne® Injection may be used in combination with medetomidine hydrochloride and ketamine hydrochloride as a triple anaesthetic in dogs and cats.

Directions for use and dose rates

NOT TO BE USED in horses intended for human consumption.
Discard unused portion 8 weeks after first broaching.

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Horse

For analgesia: The recommended dosage is 0.1 mg of butorphanol per kilogram of body weight (equivalent to 1 mL of Butordyne® Injection for each 100 kg of body weight) administered by intravenous injection. Butorphanol use should not exceed 48 hours in any one treatment episode.

Dog

When administering intravenously, inject slowly: do not inject as a bolus.

Due to the low volumes involved, great care should be taken when administering to animals weighing under 5 kg.

For analgesia: Administer by intravenous intramuscular or subcutaneous injection routes.
Dose rate: 0.2 – 0.3 mL per 10 kg (equivalent to 0.2 – 0.3 mg butorphanol per kg) body weight. Analgesic effects are seen within 15 minutes. For continuous analgesia the dose may be repeated as required.

For sedation in combination with medetomidine hydrochloride: Butordyne® Injection should be administered at 0.1 mL per 10 kg (equivalent to 0.1 mg butorphanol per kg) together with 10 – 25 µg medetomidine hydrochloride per kg body weight depending on the degree of sedation required, both by either intramuscular or intravenous injection. Allow 20 minutes for profound sedation to develop before commencing the procedure.

For use as a pre-anaesthetic: Dose should be reduced to 0.1 – 0.2 mL per 10 kg (0.1 – 0.2 mg butorphanol per kg), given 15 minutes prior to induction.

Cat

Due to the low volumes involved, great care should be taken when administering Butordyne® Injection to animals weighing under 5 kg. NOT recommended for intravenous use in cats under 5 kg body weight.

For pre and post-operative analgesia: 0.2 mL Butordyne® Injection per 5 kg body weight (equivalent to 0.4 mg butorphanol per kg) should be administered either by subcutaneous or intramuscular injection.

For sedation in combination with medetomidine hydrochloride: Butordyne® Injection should be administered at 0.2 mL per 5 kg body weight (equivalent to 0.4 mg butorphanol per kg) together with 50 µg medetomidine* hydrochloride per kg body weight, both by either intramuscular or subcutaneous injection.

*dose of medetomidine up to 50 ug/kg. Some situations may warrant reduced doses.

Contraindications

This product is contraindicated for use in horses or dogs with a history of liver disease.
This product is contraindicated for intravenous administration in cats under 5 kg body weight.
The safety of this product has not been evaluated in breeding horses, weanlings or foals, therefore caution should be exercised for use in these groups of animals.
This product in combination with detomidine hydrochloride is contraindicated for use in horses with colic or with a pre-existing cardiac dysrhythmia or bradycardia. Routine cardiac auscultation should be performed prior to use of this combination.

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Warnings and Precautions

Butordyne® Injection should not be mixed with any other product in the same syringe.
Before using any combinations consult the contraindications which appear on the other product's data sheets.
Use with caution with other sedative or analgesic drugs as these are likely to produce additive effects.
When used in combination with detomidine hydrochloride, do not use in pregnant horses.

Adverse Effects

Transient pain may occur with intramuscular injections.

Dog

If respiratory depression occurs, nalorphine may be used as an antidote. (NB nalorphine is not a registered veterinary medicine).
Transient ataxia, anorexia and diarrhoea have been reported as occurring rarely.

When using Butordyne® Injection as a pre-anaesthetic, the use of an anticholinergic such as atropine will protect the heart against possible narcotic induced bradycardia.

Cat

If respiratory depression occurs, nalorphine may be used as an antidote. Marked sedation does not occur in cats when Butordyne® Injection is used as a sole agent. Mydriasis is likely to occur.

Meat Withholding Period

NOT TO BE USED in horses intended for human consumption.

Safety Instructions

NOT FOR HUMAN USE.

First Aid

If poisoning occurs contact a doctor or Poisons Information Centre on 0800 764 766.

Disposal

Dispose of empty containers by wrapping in paper and putting in garbage. Unused/expired product should be recorded and destroyed in accordance with the State and Territory legislative requirements.

Presentation

Clear solution in a 10 mL and 50 mL glass vial.

Storage

Store below 25°C (Air conditioning). Protect from light. Store upright after initial broaching.

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Regulatory Information

Restricted Veterinary Medicine (RVM)

Registration Number

ACVM No: A10981

References

1. Schurig, J.E. et al: "Effect of Butorphanol and Morphine on Pulmonary Mechanics, Arterial Blood Pressure, and Venous Plasma Histamine in the Anesthetized Dog," Arch. Int. Pharmacodyn. Ther. 233: 296-304, 1978.
2. Nagashmina, H. et al: "Respiratory and Circulatory Effects of Intravenous Butorphanol and Morphine," Clin. Pharmacol. Ther. 19: 735-745, 1976.
3. Popio, K.A. et al: "Hemodynamic and Respiratory Effects of Morphine and Butorphanol," Clin. Pharmacol. Ther. 23: 281-287, 1978.
4. Robertson, J.T. and Muir, W.W.: "Cardiopulmonary Effects of Butorphanol Tartrate in Horses," Am. J. Vet. Res. 42: 41-44, 1981.

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