TECHNICAL NOTES

Medetomidine Injection



Active Constituents

Medetomidine hydrochloride 1 mg/mL

Actions

AVet Medetomidine Injection is a sedative and analgesic for dogs and cats.

Mode of action

Medetomidine is a potent, selective, and specific alpha-2 adrenoreceptor agonist. Alpha-2 adrenoreceptor activation by medetomidine induces a dose-dependent decrease in the release and turnover of noradrenaline in the central nervous system which is manifested as sedation, analgesia, and bradycardia. In the periphery, medetomidine causes vasoconstriction by activating post-synaptic alpha-2 adrenoreceptors in the vascular smooth muscle. Thus, the blood pressure initially increases after medetomidine injection due to an increase in systemic vascular resistance. The pressure reverts to normal or slightly below within 1 to 2 hours. The respiratory frequency may transiently be lowered.

Pharmacology

Medetomidine is rapidly absorbed after intramuscular injection. Peak concentration is reached within 15-20 minutes. Medetomidine is well distributed in the brain (volume of distribution between 2.8 L/kg and 3.5 L/kg). It is readily metabolised and excreted in the urine and in the faeces (half-lives of elimination ranging from 1 to 1.6 hours).

The duration and degree of the sedative and analgesic effects depend on the dose administered. During maximal effect the animal is relaxed, lies down, and does not react to external stimuli. Marked synergistic effects have been demonstrated between medetomidine and cyclohexamine compounds such as ketamine, and between medetomidine and opiate drugs such as fentanyl, producing deep anaesthesia. Similarly, medetomidine has a very potent ability to reduce dose requirements of intravenous and inhalation anaesthetics.

Indications

Dogs

AVet Medetomidine Injection is a sedative and analgesic for the restraint of dogs to allow clinical examination and procedures, minor surgery, and pre-anaesthesia.

Cats

AVet Medetomidine Injection is a sedative for restraint in cats.

Restraints

AVet Medetomidine Injection is NOT TO BE USED in food producing species of animals.

Contraindications

The safe use of AVet Medetomidine Injection in pregnancy has not been established and is therefore not recommended.
AVet Medetomidine Injection should not be used in conjunction with sympathomimetic amines.

Precautions

Care should be taken with the use of AVet Medetomidine Injection in animals with cardiovascular, respiratory, liver and kidney disease, hypotension, shock or in poor general health. The concomitant use of other CNS depressants should be expected to potentiate the depressant effects of either product and appropriate dose adjustment should be made. Due to the potent pharmacological activity of medetomidine, skin contact with AVet Medetomidine Injection should be avoided. Wipe any spillage off the skin of animals.

Side Effects

Due to the mechanism of action of AVet Medetomidine Injection, heart rate and body temperature decrease. Treated animals should be kept warm in an even temperature for 12 hours after sedation. Blood pressure will initially increase and then return to normal or slightly below. This is accompanied by a compensatory decrease in heart rate. Some dogs and most cats will vomit, particularly if recently fed, 5-10 minutes post-injection. Some cats may also vomit at recovery. Occasionally muscle jerking in limbs has been observed.

Overdosage

In case of overdosage, atipamezole injection can be used. The administration of anticholinergic agents (atropine or glycopyrrolate) to treat bradycardia either simultaneously with medetomidine or following medetomidine could lead to adverse cardiovascular effects.

Antagonist

The effects of AVet Medetomidine Injection can be reversed with atipamezole injection.

Dosage & Administration

Discard unused portion within 6 months of first broaching the vial. For parenteral use by intramuscular or intravenous injection in dogs and intramuscular injection in cats.

To get an equal effect, the higher recommended doses per kg body weight have to be used in small dogs compared to large dogs.

Animal	Effect	Dose µg/kg	Quantity
Dog I.M./I.V.	Slight Sedation	10-30	0.1-0.3 mL/10 kg
	Moderate to deep sedation and analgesia	30-80	0.3-0.8 mL/kg
	Pre-anaesthesia	10-20	0.1-0.2 mL/10 kg
Cat I.M.	Moderate sedation	50-100	0.25-0.5 mL/5 kg
	Deep sedation	100-150	0.5-0.75 mL/5 kg

Maximal effect is obtained within 10 to 15 minutes. Duration of the clinically useful effect is dose related: 30 to 120 minutes for sedation and 30 to 150 minutes for analgesia. The dose can be repeated if necessary. The duration of analgesia is generally shorter than the duration of sedation. Both analgesic effect and sedative effect are reversed with the use of atipamezole injection.

First Aid

If poisoning occurs, contact a doctor or phone the Poisons Information Centre on 13 11 26.

Safety Data Sheet

For Safety Data Sheet visit www.avet.health

Presentation

10 mL multi-use vial

Disposal

Dispose of the used container by wrapping with paper and placing in the garbage.

Storage

Store below 25 °C (air conditioning). Do not freeze. Protect from light.

Description

A clear colourless solution for injection

Poisons schedule

S4

Registration Number

APVMA Approval Number: 63389