

DEXIVET 0.5 mg/ml solution for injection

1. Name of the veterinary medicinal product
DEXIVET 0.5 mg/ml solution for injection

2. Composition

Each ml contains:

Active substance:

Dexmedetomidine hydrochloride 0.5 mg
(equivalent to dexmedetomidine 0.42 mg)

Excipients:

Methylparaben (E218) 1.6 mg
Propylparaben 0.2 mg

A clear, colourless solution free of visible particles.

3. Target species

Dogs and cats.

4. Indications for use

Non-invasive, mildly to moderately painful procedures and examinations which require restraint, sedation and analgesia in dogs and cats.

Deep sedation and analgesia in dogs in concomitant use with butorphanol for medical and minor surgical procedures.

Premedication in dogs and cats before induction and maintenance of general anaesthesia.

5. Contraindications

Do not use in animals with cardiovascular disorders.

Do not use in animals with severe systemic disease or in animals that are moribund.

Do not use in case of hypersensitivity to the active substance or to any of the excipients.

6. Special warnings

The administration of dexmedetomidine to puppies younger than 16 weeks and kittens younger than 12 weeks has not been studied.

The safety of dexmedetomidine has not been established in males intended for breeding.

Corneal opacities may occur in cats during sedation. The eyes should be protected by a suitable eye lubricant.

Special precautions for safe use in the target species:

Treated animals should be kept warm and at a constant temperature, both during the procedure and recovery.

It is recommended that animals are fasted for 12 hours prior to dexmedetomidine administration. Water may be given.

After treatment, the animal should not be given water or food before it is able to swallow.

The eyes should be protected by a suitable lubricant.

Use with precaution in elderly animals.

Nervous, aggressive or excited animals should be given the possibility to calm down before initiation of treatment.

Frequent and regular monitoring of respiratory and cardiac function should be performed.

Pulse oximetry may be useful but is not essential for adequate monitoring. Equipment for manual ventilation should be available in case of respiratory depression or apnoea when dexmedetomidine and ketamine are used

sequentially to induce anaesthesia in cats. It is also advisable to have oxygen readily available, should hypoxaemia be detected or suspected.

Sick and debilitated dogs and cats should only be premedicated with dexmedetomidine before induction and maintenance of general anaesthesia based on a risk-benefit assessment.

Use of dexmedetomidine as a premedicant in dogs and cats significantly reduces the amount of medicinal product required for induction of anaesthesia. Attention should be paid to the effect of the drug used to induce anaesthesia during its intravenous administration. The need for inhaled anaesthetics to maintain anaesthesia is also reduced.

Special precautions to be taken by the person administering the veterinary medicinal product to animals:

Dexmedetomidine is a sedative and sleep inducing drug. Avoid accidental self-injection. In case of accidental oral intake or self-injection, seek medical advice immediately and show the package leaflet or the label to the physician, but DO NOT DRIVE as sedation and changes in blood pressure may occur.

Pregnant women should administer the product with special caution to avoid self-injection since uterine contractions and decreased foetal blood pressure may occur after accidental systemic exposure.

Avoid skin, eye or mucosal contact. When handling the veterinary medicinal product, personal protective equipment consisting of impermeable gloves should be used.

After treatment, the animal should not be given water or food before it is able to swallow.

The eyes should be protected by a suitable lubricant.

Use with precaution in elderly animals.

Nervous, aggressive or excited animals should be given the possibility to calm down before initiation of treatment.

Frequent and regular monitoring of respiratory and cardiac function should be performed.

Pulse oximetry may be useful but is not essential for adequate monitoring. Equipment for manual ventilation should be available in case of respiratory depression or apnoea when dexmedetomidine and ketamine are used

In case of skin or mucosal contact, wash the exposed skin immediately with large amounts of water and remove contaminated clothes that are in direct contact with skin. In case of contact with eyes, rinse with plenty of drinking water. If symptoms occur, seek medical attention.

People with known hypersensitivity to the active substance or to any of the excipients should administer the veterinary medicinal product with caution.

To the physician: dexmedetomidine is an α_2 -adrenoreceptor agonist. Symptoms after absorption may involve clinical effects including dose-dependent sedation, respiratory depression, bradycardia, hypotension, a dry mouth and hyperglycaemia. Ventricular arrhythmias have also been reported. Since effects are dose dependent, they are more pronounced in small children than in adults. Respiratory and haemodynamic signs should be treated symptomatically. The specific α_2 -adrenoceptor antagonist, atipamezole, which is approved for use in animals, has been used in humans only experimentally to antagonise dexmedetomidine-induced effects.

Pregnancy and lactation:

The safety of dexmedetomidine has not been established during pregnancy and lactation in the target species. The use is not therefore recommended during pregnancy and lactation.

Interaction with other medicinal products and other forms of interaction:

The use of other central nervous system depressants is expected to potentiate the effects of dexmedetomidine and therefore an appropriate dose adjustment should be made. Anticholinergics should be used with caution with dexmedetomidine.

Administration of atipamezole after dexmedetomidine rapidly reverses the effects and thus shortens the recovery period. Within 15 minutes dogs and cats are normally awake and standing.

Cats: After administration of 40 micrograms dexmedetomidine/kg body weight intramuscularly concurrently with 5 mg ketamine/kg body weight to cats, the concentration of dexmedetomidine increased twofold but there was no effect on T_{max} . The mean half-life of elimination of dexmedetomidine increased to 1.6 hours and the total exposure (AUC) increased by 50%.

A dose of 10 mg ketamine/kg used concurrently with 40 micrograms dexmedetomidine/kg may cause tachycardia.

Overdose:

Dogs: In cases of overdose, or if the effects of dexmedetomidine become potentially life-threatening, administer atipamezole at 10 times the initial dose of dexmedetomidine (micrograms/kg body weight or micrograms/square meter body surface area). The dose volume of atipamezole at the concentration of 5 mg/ml equals to the dose volume of this veterinary medicinal product that was given to the dog, regardless of the route of administration.

Cats: In cases of overdose, or if the effects of dexmedetomidine become potentially life-threatening, administer the appropriate antagonist atipamezole by intramuscular injection, at the following dose: 5 times the initial dose of dexmedetomidine in micrograms/kg body weight.

After concurrent administration of three times (3×) the maximum dose of dexmedetomidine and 15 mg ketamine/kg, atipamezole can be administered at the recommended doses for reversal of effects induced by dexmedetomidine. At high serum concentrations of dexmedetomidine, there is no deepening of sedation, although the level of analgesia increases with increasing dose. The dose volume of atipamezole at the concentration of 5 mg/ml is one-half the volume of this veterinary medicinal product that was given to the cat.

Major incompatibilities:

None known.

7. Adverse events

Dogs and cats

By virtue of its α_2 -adrenergic activity, dexmedetomidine causes a decrease in heart rate and body temperature.

Some dogs and cats may experience a decrease in respiratory rate. Pulmonary oedema has been reported rarely. Blood pressure will increase initially and then return to normal or below normal. Due to peripheral vasoconstriction and venous desaturation in the presence of normal arterial oxygenation, the mucous membranes may appear pale and/or with a blue tinge.

Vomiting may occur 5–10 minutes after injection, some dogs and cats may also vomit at the time of recovery.

Muscle tremors may occur during sedation.

Corneal opacities may occur during sedation (see point 6).

When dexmedetomidine and ketamine are used sequentially, with a 10-minute interval, AV-block or extrasystole may occasionally be experienced by cats.

Dimensions (mm):

Colours:

Prepared by:

Date:

A4 (210 × 297 mm) duplex printing

black

Hanáková

19. 04. 2023

Approved by:

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Date:

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Expected changes in respiratory function are bradypnoea, irregular breathing, hypoventilation and apnoea. Hypoxaemia was commonly reported in clinical trials, especially within the 15 first minutes into dexmedetomidine-ketamine anaesthesia. Vomiting, hypothermia and nervousness have been reported after using this combination.

When dexmedetomidine and butorphanol are used concomitantly in dogs, bradypnoea, tachypnoea, an irregular respiratory pattern (20–30 second apnoea followed by several rapid breaths), hypoxaemia, muscle twitching or tremor, paddling, excitation, hypersalivation, retching, vomiting, urination, skin erythema, a sudden arousal, or prolonged sedation may occur. Brady- and tachyarrhythmias have been reported. They may include profound sinus bradycardia, 1st and 2nd degree AV-block, sinus arrest or sinus pause and atrial, supraventricular and ventricular extrasystoles.

When dexmedetomidine is used as a premedication in dogs, bradypnoea, tachypnoea and vomiting may occur. Brady- and tachyarrhythmias, which may include profound sinus bradycardia, 1st and 2nd degree AV-block and sinus node arrest have been reported. In rare cases, supraventricular and ventricular extrasystoles, sinus node pause and 3rd degree AV block may also be observed.

When dexmedetomidine is used for premedication in cats, vomiting, belching, lightening of the mucous membrane and a decrease in body temperature may occur. An intramuscular dose of 40 micrograms/kg (followed by ketamine or propofol) frequently results in sinus bradycardia and sinus arrhythmia, occasionally results in 1st degree atrioventricular block and rarely in supraventricular premature depolarisation, atrial bigeminy, sinus pauses, 2nd degree atrioventricular block, or arrest of pulse/rhythm.

Reporting adverse events is important. It allows continuous safety monitoring of a product. If you notice any side effects, even those not already listed in this package leaflet, or you think that the medicine has not worked, please contact, in the first instance, your veterinarian. You can also report any adverse events to the marketing authorisation holder <or the local representative of the marketing authorisation holder> using the contact details at the end of this leaflet, or via your national reporting system.

8. Dosage for each species, routes and method of administration

The veterinary medicinal product is intended for:
- Dogs: intravenous or intramuscular administration
- Cats: intramuscular administration
The product is intended only for single administration by injection.

Posology: the following doses are recommended:

DOGS:

Dose determination for dogs is based on body surface area.

Intravenously: up to 375 micrograms/square metre body surface area
Intramuscularly: up to 500 micrograms/square metre body surface area

When administering in conjunction with butorphanol (0.1 mg/kg) for deep sedation and analgesia, the intramuscular dose of dexmedetomidine is 300 micrograms/square metre body surface area. The premedication dose of dexmedetomidine is 125–375 micrograms/square metre body surface area, administered 20 minutes prior to induction for procedures requiring anaesthesia. The dose should be adjusted to the type of surgery, length of procedure and patient temperament.

Concomitant use of dexmedetomidine and butorphanol produces sedative and analgesic effects beginning not later than 15 minutes after administration. The maximum sedative and analgesic effects are reached within 30 minutes after administration. Sedation lasts for at least 120 minutes post administration and analgesia lasts for at least 90 minutes. Spontaneous recovery occurs within 3 hours.

Premedication with dexmedetomidine will significantly reduce the dose of the induction agent required and will reduce volatile anaesthetic requirements for maintenance anaesthesia. In a clinical study, the requirement for propofol and thiopental was reduced by 30% and 60%, respectively. All anaesthetic agents used for induction or maintenance of anaesthesia should be administered to effect. In a clinical study, dexmedetomidine contributed to postoperative analgesia for 0.5–4 hours. However, this duration is dependent on a number of variables and further analgesia should be administered in accordance with clinical judgement.

The corresponding doses based on body weight are presented in the following tables. Use of an appropriately graduated syringe is recommended to ensure accurate dosing when administering small volumes.

The corresponding doses based on body weight are presented in the following tables.

Dog weight (kg)	Dexmedetomidine 125 µg/m ²		Dexmedetomidine 375 µg/m ²		Dexmedetomidine 500 µg/m ²	
	µg/kg	ml	µg/kg	ml	µg/kg	ml
2-3	9.4	0.04	28.1	0.12	40	0.15
3-4	8.3	0.05	25	0.17	35	0.2
4-5	7.7	0.07	23	0.2	30	0.3
5-10	6.5	0.1	19.6	0.29	25	0.4
10-13	5.6	0.13	16.8	0.38	23	0.5
13-15	5.2	0.15	15.7	0.44	21	0.6
15-20	4.9	0.17	14.6	0.51	20	0.7
20-25	4.5	0.2	13.4	0.6	18	0.8
25-30	4.2	0.23	12.6	0.69	17	0.9
30-33	4	0.25	12	0.75	16	1.0
33-37	3.9	0.27	11.6	0.81	15	1.1
37-45	3.7	0.3	11	0.9	14.5	1.2
45-50	3.5	0.33	10.5	0.99	14	1.3
50-55	3.4	0.35	10.1	1.06	13.5	1.4
55-60	3.3	0.38	9.8	1.13	13	1.5
60-65	3.2	0.4	9.5	1.19	12.8	1.6
65-70	3.1	0.42	9.3	1.26	12.5	1.7
70-80	3	0.45	9	1.35	12.3	1.8
>80	2.9	0.47	8.7	1.42	12	1.9

For deep sedation and analgesia with butorphanol

Dog weight (kg)	Dexmedetomidine 300 µg/m ² intramuscularly	
	µg/kg	ml
2-3	24	0.12
3-4	23	0.16
4-5	22.2	0.2
5-10	16.7	0.25
10-13	13	0.3
13-15	12.5	0.35
15-20	11.4	0.4
20-25	11.1	0.5
25-30	10	0.55
30-33	9.5	0.6
33-37	9.3	0.65
37-45	8.5	0.7
45-50	8.4	0.8
50-55	8.1	0.85
55-60	7.8	0.9
60-65	7.6	0.95
65-70	7.4	1
70-80	7.3	1.1
>80	7	1.2

CATS:

The dose for cats is 40 micrograms dexmedetomidine hydrochloride/kg body weight equal to a dose volume of 0.08 ml of this veterinary medicinal product/kg body weight when used for non-invasive, mildly to moderately painful procedures requiring restraint, sedation and analgesia. When dexmedetomidine is used for premedication in cats, the same dose is used. Premedication with dexmedetomidine will significantly reduce the dose of the induction agent required and will reduce volatile anaesthetic requirements for maintenance anaesthesia. In clinical studies, the requirements for propofol were reduced by 50%. All anaesthetic agents used for induction or maintenance of anaesthesia should be administered to effect.

Anaesthesia can be induced 10 minutes after premedication by intramuscular administration of a target dose of 5 mg ketamine/kg body weight. Dosing for cats is presented in the following table:

Cat weight (kg)	Dexmedetomidine 40 µg/m ² intramuscularly	
	µg/kg	ml
1-2	40	0.1
2-3	40	0.2
3-4	40	0.3
4-6	40	0.4
6-7	40	0.5
7-8	40	0.6
8-10	40	0.7

The expected sedative and analgesic effects are reached within 15 minutes after administration and are maintained up to 60 minutes. Sedation may be reversed with atipamezole. Atipamezole should not be administered prior to 30 minutes following ketamine administration.

9. Advice on correct administration

Do not pierce the stopper more than 30 times.

10. Withdrawal periods

Not applicable.

11. Special storage precautions

Keep out of the sight and reach of children.

This veterinary medicinal product does not require any special storage conditions.

Do not use this veterinary medicinal product after the expiry date which is stated on the label after Exp. The expiry date refers to the last day of that month.

Shelf life after first opening the immediate packaging: 28 days.

12. Special precautions for disposal

Medicines should not be disposed of via wastewater or household waste.

Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal products should be disposed of in accordance with local requirements and the national collection systems. These measures should help to protect the environment.

Ask your veterinary surgeon or pharmacist how to dispose of medicines no longer required.

13. Classification of veterinary medicinal products

Veterinary medicinal product subject to prescription.

14. Marketing authorisation numbers and pack sizes

Pack size: 10 ml

15. Date on which the package leaflet was last revised

March 2023

Detailed information on this veterinary medicinal product is available in the Union Product Database (<https://medicines.health.europa.eu/veterinary>)

16. Contact details

Marketing authorisation holder and manufacturer responsible for batch release:

Czech Republic

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bioveta

