Xalyzin

20 mg/ml Solution for injection

for cattle, horses, dogs and cats

Xylazine

Name and address of the marketing authorisation holder
Bela-Pharm GmbH & Co.KG
Lohner Str. 19
49377 Vechta / Germany

Available only on prescription
MAH No: 402650.00.00 (Germany)

Name of the veterinary medicinal product
Xalyzin 20 mg/ml Solution for injection for cattle, horses, dogs and cats
Xylazine

Statement of the active substance(s) and other ingredient(s)
Each ml contains:
Active substance:
Xylazine 20.0 mg
(equivalent to 23.3 mg xylazine hydrochloride)
Adjuvants:
Methyl parahydroxybenzoate (E218) 1.0 mg

Indications

Horses:	For sedation and muscle relaxation. In combination with other substances for analgesia and anaesthesia.
Cattle:	For sedation, analgesia and muscle relaxation. In combination with other substances for anaesthesia.
Dogs, cats:	For sedation. In combination with other substances for analgesia, anaesthesia and muscle relaxation.

Contraindications
- Do not use in cases of hypersensitivity to the active substance or to any of the excipients.
- Do not use in animals with gastrointestinal obstructions as the muscle relaxant properties of the drug appear to accentuate the effects of the obstruction and because of possible vomiting.
- Do not use in animals with severe hepatic or renal impairment, respiratory dysfunction, cardiac disease, hypotension and/or shock.
- Do not use in animals suffering from diabetes mellitus.
- Do not use in animals with a history of seizures.
- Do not use in calves younger than 1 week of age, foals younger than 2 weeks or in puppies and kittens younger than 6 weeks.
- Do not use during the last stage of pregnancy (danger of premature birth), except at parturition (see also section „pregnancy and lactation“).

Adverse reactions
In general, the typical adverse reactions for α2-adrenergic receptor agonists, such as bradycardia, reversible arrhythmias and hypotension may occur.

Thermoregulation can be influenced and consequently body temperature can decrease or increase dependent on the ambient temperature. Respiratory depression and/or respiratory arrest may occur, especially in cats.

Dogs and Cats:
Dogs and cats frequently vomit during the onset of the sedative effect of xylazine, especially when the animals have just been fed.
The animals may salivate strongly after a xylazine injection.
Other adverse reactions in dogs and cats are: muscle tremors, bradycardia with AV block, hypotension, respiratory depression, movements stimulated by strong auditory stimuli, hyperglycaemia and increased urination in cats.
Xylazine causes uterine contractions in cats and may induce premature parturition.
In anaesthetized animals, mainly during and after the recovery period, in very rare cases, cardio-disturbances (cardiac arrest, dyspnoea, bradypnoea, pulmonary edema, hypotension)) and neurologic abnormalities (seizures, prostration, pupillary disorders, tremors) were observed.
In susceptible dog breeds with a large chest (Great Dane, Irish Setter) rare cases of bloating have been reported.

Cattle:
In cattle, due to its uterotonic effect, xylazine can induce premature parturition and reduce implantation rate of the ovum.
Cattle that have received high doses of xylazine may sometimes have diarrhoea for up to 24 hours.
Additional adverse reactions are abnormal breath sounds, heavy salivation, ruminal atony, paralysis of the tongue, regurgitation, bloating, nasal stridor, hypothermia, bradycardia, increased urination and reversible penile prolapse.
In cattle, the adverse effects are generally more pronounced after intramuscular administration than after intravenous administration.

Horses:
In horses sweating is often a sign of decreasing sedation.
Severe bradycardia and reduced respiratory rate have been reported especially in horses.
Following administration to horses, a transient increase in blood pressure is usually found, followed by a drop in blood pressure.
More frequent urination has been reported.
Muscle tremors and movements after strong acoustic or physical stimuli are possible.
Although rare, violent reactions have been reported in horses following the administration of xylazine.
Ataxia and reversible penile prolapse may occur.
In very rare cases xylazine may induce mild colic as the gut motility is depressed temporarily. As a preventive measure the horse should receive no feed after sedation until the effect has faded completely.

The frequency of adverse reactions is defined using the following convention:
- very common (more than 1 in 10 animals treated displaying adverse reaction(s))
- common (more than 1 but less than 10 animals in 100 animals treated)
- uncommon (more than 1 but less than 10 animals in 1,000 animals treated)
- rare (more than 1 but less than 10 animals in 10,000 animals treated)
- very rare (less than 1 animal in 10,000 animals treated, including isolated reports).

Target species
Cattle, horses, dogs and cats.

Dosage for each species, route(s) and method of administration
Horses:
For slow intravenous use.

For sedation:
0.6 – 1.0 mg xylazine/kg bw (3 - 5 ml of the product /100 kg bw)

For inducing anaesthesia in combination with ketamine:
1 mg xylazine/kg bw (5 ml of the product /100 kg bw) and after onset of deep sedation,
2 mg ketamine/kg bw intravenous.
If definite muscle relaxation is also necessary, muscle relaxants may be administered to the recumbent animal until the first signs of adequate relaxation occur.

Cattle:
For intramuscular and slow intravenous use.

Dosage:

Dosage	Xylazine (mg/kg bw)	Xalyzin (ml/100 kg bw)	Xalyzin (ml/500 kg bw)
A. Intramuscular			
I	0.05	0.25	1.25
II	0.1	0.5	2.5
III	0.2	1	5
IV	0.3	1.5	7.5
B. Intravenous			
I	0.016 - 0.024	0.08 - 0.12	0.4 - 0.6
II	0.034 - 0.05	0.17 - 0.25	0.85 - 1.25
III	0.066 - 0.10	0.33 - 0.5	1.65 - 2.5

Dosage I: Sedation with slight reduction of muscle tone.
The cattle are still able to stand.
Dosage II: Sedation with pronounced reduction of the muscle tone and slight analgesia.
The cattle mostly remain able to stand, but may also lie down.
Dosage III: Deep sedation, further reduction in muscle tone, partial analgesia.
The cattle lie down.
Dosage IV: Very deep sedation with a pronounced reduction in the muscle tone, partial analgesia. The cattle lie down.

Dogs:
For intramuscular and intravenous use.

For sedation:
1 - 3 mg xylazine/kg bw (0.5 – 1.5 ml/ of the product / 10 kg bw) i.m or i.v.

For induction of anaesthesia in combination with ketamine:
2 mg xylazine/kg bw (1 ml of the product /10 kg bw) and 6 - 10 mg ketamine/ kg bw i.m.

Cats:
For intramuscular and subcutaneous use.

For sedation:
2 – 4 mg xylazine/kg bw (0.1 – 0.2 ml of the product /kg bw) i.m. or s.c.

For induction of anaesthesia in combination with ketamine:
2 mg xylazine/kg bw (0.1 ml of the product /kg bw and 6 - 15 mg ketamine/kg bw i.m.

In all animal species, for painful surgical procedures xylazine should always be used in combination with local anaesthetics or general anaesthesia.
Deepening or extending the effect with an additional injection is basically possible (observe cardiac, circulatory and respiratory function!). However, in such cases the specified maximum dosages should not be exceeded.

Advice on correct administration
The stopper should not be punctured more than 50 times.
The number of punctures should be recorded on the outer packaging.

Withdrawal period(s)

Cattle:	Meat and offal:	1 day
	Milk:	zero hours
Horses:	Meat and offal:	1 day

Not authorised for use in mares producing milk for human consumption.

Special storage precautions
Keep out of reach and sight of children.
Do not freeze.
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

Special warnings
Special warnings for each target species:

Horses:
- Xylazine inhibits normal intestinal motility. Therefore, it should only be used in horses with colic, which are not responsive to analgesics. The use of xylazine should be avoided in horses with caecal malfunction.
- After treatment of horses with xylazine, the animals are reluctant to walk, so whenever possible the drug should be administered in the place where the treatment/investigation is going to take place.
- Caution should be taken in the administration of the product to horses susceptible to laminitis.
- Horses with airway disease or malfunction may develop life-threatening dyspnoea.
- The dose should be kept as low as possible.
- The association with other pre-anaesthetic agents or anaesthetic agents should be the subject of a benefit/risk assessment. This assessment should consider the composition of the products, their dose and the nature of the surgery. Recommended dosages are likely to vary according to the choice of the anaesthetic association.

Dogs, cats:
- Xylazine inhibits normal intestinal motility. This may make xylazine sedation undesirable for upper gastro-intestinal radiographs, because it promotes filling of the stomach with gas and makes interpretation less certain.
- Brachycephalic dogs with air way disease or malfunction may develop life-threatening dyspnoea.
- The association with other pre-anaesthetic agents or anaesthetic agents should be the subject of a benefit/risk assessment. This assessment should consider the composition of the products, their dose and the nature of the surgery. Recommended dosages are likely to vary according to the choice of the anaesthetic association.

Cattle:
- Ruminants are highly susceptible to the effects of xylazine. Normally cattle remain standing at the lower doses, but some animals may lie down. At the highest recommended doses most animals will lie down and some animals may lapse in lateral recumbency.
- Reticulo-ruminal motor functions are depressed after injection of xylazine. This may results in bloat. It is advisable to withhold feed and water in adult cattle for several hours before administration of xylazine. Fasting in calves might be indicated, but should only be done at the discretion of a benefit/risk assessment made by the responsible veterinarian.
- In cattle the ability to eructate, cough and swallow is retained but reduced during the period of sedation, therefore cattle must be closely watched during the recovery period: the animals should be maintained in sternal recumbency.
- In cattle life threatening effects may occur after intramuscular doses above 0.5 mg/kg body weight (respiratory and circulatory failure). Therefore very precise dosing is required.
- The association with other pre-anaesthetic agents or anaesthetic agents should be the subject of a benefit/risk assessment. This assessment should consider the composition of the products, their dose and the nature of the surgery. Recommended dosages are likely to vary according to the choice of the anaesthetic association.

Deepening or extending the effect with an additional injection is basically possible (observe cardiac, circulatory and respiratory function!). However, in such cases the specified maximum dosages should not be exceeded.

<u>Special precautions for use in animals:</u>
- Keep the animals calm, because they may respond to external stimuli.
- Avoid intra-arterial administration.
- Tympany may occasionally occur in recumbent cattle and can be avoided by maintaining the animal in sternal recumbency.
- To avoid aspiration of saliva or food, lower the animal's head and neck. Fast the animals before use of the product.
- Older and exhausted animals are more sensitive to xylazine, whilst nervous or highly excitable animals may require a relatively high dose.
- In case of dehydration, xylazine should be used cautiously.
- Emesis is generally seen within 3-5 minutes after xylazine administration in cats and dogs. It is advisable to fast dogs and cats for 12 hours prior to surgery; they may have free access to drinking water.
- Pre-medication with atropine in cats and dogs may reduce salivation and bradycardia effects
- Do not exceed the recommended dosage.

- Following administration animals should be allowed to rest quietly until the full effect has been reached.
- It is advised to cool animals when the ambient temperature is above 25°C and to keep animals warm at low temperatures.
- For painful procedures, xylazine should always be used in combination with local or general anaesthesia.
- Xylazine produces a certain degree of ataxia; therefore, xylazine must be used cautiously in procedures involving the distal extremities and in standing castrations in the horse.
- Treated animals should be monitored until the effect has faded totally (e.g. cardiac and respiratory function, also in the post-operative phase) and should be segregated to avoid bullying.
- For use in young animals, see the age restriction mentioned in „contraindications". If the product is intended to be used in young animals below these age-limits, a benefit/risk assessment should be made by the veterinarian.

Special safety precautions to be taken by the person administering the medicinal product to animals:
People with a known hypersensitivity to parabens should avoid any contact with this product.
Care should be taken to avoid accidental self-injection. In the case of accidental oral intake or self-injection, seek medical advice immediately and show the package leaflet to the physician but DO NOT DRIVE as sedation and changes in blood pressure may occur.
Avoid skin, eyes or mucosal contact.
Wash the exposed skin immediately after exposure with large amounts of water.
Remove contaminated clothes that are in direct contact with skin.
In case of accidental contact of the product with eyes, rinse abundantly with fresh water. If symptoms occur, seek the advice of a physician.
If pregnant women handle the product, special caution should be observed not to self-inject as uterine contractions and decreased foetal blood pressure may occur after accidental systemic exposure.

Advice to doctors:
Xylazine is an α2-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. Respiratory and haemodynamic symptoms should be treated symptomatically.

Pregnancy and lactation:

Pregnancy:
Although laboratory studies in rats have not shown any evidence of teratogenic or fetotoxic effects the use of the product during the first two trimesters of pregnancy should only be made according to the benefit/risk assessment by the responsible veterinarian.
Do not use in the later stages of pregnancy (particularly in cattle and cats) except at parturition, because xylazine causes uterine contractions and it may induce premature labour.
Do not use in cattle receiving ovum transplants as the increased uterine tone may reduce the chance of implantation of the ovum.

Lactation:
Can be used during lactation.

Interaction with other medicinal products and other forms of interaction:
Other CNS depressant agents (barbiturates, narcotics, anaesthetics, tranquillizers, etc.) may cause additive CNS depression if used with xylazine. Dosages of these agents may need to be reduced. Xylazine should therefore be used cautiously in combination with neuroleptics or tranquillizers.
Xylazine should not be used in combination with sympathomimetic drugs such as epinephrine as ventricular arrhythmia may follow.
The concurrent intravenous use of potentiated sulphonamides with alpha-2 agonists has been reported to cause cardiac arrhythmias which may be fatal. Whilst no such effects have been reported with this product, it is recommended that intravenous administration of Trimethoprim/Sulphonamide containing products should not be undertaken when horses have been sedated with xylazine.

Overdose:
In the event of an accidental overdose, cardiac arrhythmias, hypotension, and profound CNS and respiratory depression may occur. Seizures have also been reported after an overdose.
Xylazine can be antagonized by α2-adrenergic antagonists.
To treat the respiratory depressant effects of xylazine, mechanical respiratory support with or without respiratory stimulants (e.g. doxapram) can be recommended.

Incompatibilities:
In the absence of compatibility studies, this veterinary medicinal product must not be mixed with other veterinary medicinal products.

Special precautions for the disposal of unused product or waste materials
Medicines should not be disposed of via wastewater or household waste.
Ask your veterinary surgeon how to dispose of medicines no longer required. These measures should help to protect the environment.

Date on which the package leaflet was last approved
21.04.2020

Other informations
Package sizes:
Cardboard box with 1 x 25 ml
Carton with 10 x 25 ml
Carton with 12 x 25 ml
Cardboard box with 1 x 50 ml
Carton with 12 x 50 ml
Not all pack sizes may be marketed.