CE FOR THE ONE WHO DOESN'T HAVE TIME FOR CE

"Pearls" of Veterinary Medicine

THE CAPSULE REPORT® FOR VETERINARIANS

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Anesthesiology – New Product

Zenalpha

Pharmacology: Zenalpha contains 0.5 mg/ml medetomidine and 10 mg/ml vatinoxan hydrochloride per ml. Medetomidine is a racemic mixture with the active isomer being dexmedetomidine, an alpha2-adrenoceptor *agonist* that provides sedation and analgesia. Vatinoxan, a peripheral alpha2-adrenoceptor *antagonist*, helps reduce the cardiovascular side effects of dexmedetomidine while maintaining its sedative and pain-relieving effects since it does not cross the blood-brain barrier.

Medetomidine is metabolized primarily in the liver while vatinoxan is minimally metabolized and most likely excreted via feces. Vatinoxan increases the clearance of medetomidine, prevents local vasoconstriction at the injection site and therefore enhances the absorption of coadministered drugs.

Benefits over dexmedetomidine: Patients stay pink and veins are easier to hit. A study comparing the microvasculature of dogs sedated with Zenalpha versus medetomidine found that dogs given Zenalpha did not experience the impaired microvascular flow observed in those given medetomidine.

Both the FDA and EMA (European Medicines Agency) list cardiac disease as contraindications but research and common use indicate that Zenalpha can be judiciously used in these patients. "Intravenous [Zenalpha 10 mcg/kg of medetomidine] caused only mild hemodynamic changes and could be considered safe and **useful for sedating dogs with stage B1 MMVD**. Still, the **effects on some systolic and diastolic echocardiographic variables were notable**, **which should be taken into consideration when evaluating echocardiographic results** in dogs sedated with [Zenalpha]." [ref] The combination of Zenalpha and butorphanol is also suitable for heart patients. [ref]

Zenalpha can be used for **intradermal allergy testing** since it does not cause histamine release. [ref]

Contraindications (per product insert): Do not use Zenalpha in dogs with cardiac disease, respiratory disorders, shock, severe debilitation or in dogs that have hypoglycemia or are at risk of developing hypoglycemia, are stressed due to extreme heat, cold or fatigue, or have pre-existing hypotension, hypoxia or bradycardia.

The concurrent use of anticholinergic medications (atropine/glycopyrrolate) and Zenalpha has not been evaluated. **In general, avoid the use of anticholinergics** to increase heart rate (first try fluid therapy, reducing inhalant anesthesia, or possibly giving an inotrope). [ref]

According to the EMA, Zenalpha is not to be used as a pre-anesthetic. "Bradycardia and occasional hypotension of a clinically relevant magnitude, which can be difficult to treat, have been observed in anesthetized patients premedicated with Zenalpha." [ref]

Human cautions: Avoid exposure to skin, mucous membranes or eyes.

Animal precautions: Per the EMA, dogs should be fasted for 4-6 hours prior to treatment; water is okay. [ref]

Paradoxical excitation is possible. Sudden stimuli may result in a defense response even in animals that appear sedated.

Zenalpha has not been evaluated in dogs with hepatic or renal impairment or in puppies less than 4.5 months old.

Zenalpha appears to **sting more** than dexdomitor as 14% of Zenalpha dogs vs 3% of Dexdomitor dogs showed a severe reaction to the injection as evidenced by vocalization, biting, growling or barking.

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