



Neurology/NeuroSurgery

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Veterinary Neurology/Neurosurgery

Pyridostigmine Bromide (Mestinon)

Pyridostigmine bromide is an anticholinesterase inhibitor used for the treatment of junctional neuromuscular diseases such as myasthenia gravis. Pyridostigmine inhibits the hydrolysis (degradation) of acetylcholine, the neurotransmitter resulting in muscle stimulation and contraction, by directly competing with acetylcholine for attachment to acetylcholinesterase, the digesting enzyme of acetylcholine. Because the Pyridostigmine-acetylcholinesterase complex is hydrolyzed at a much slower rate than acetylcholine-acetylcholine esterase complex, the neurotransmitter acetylcholine tends to accumulate at the cholinergic synapse with improved and sustained strength in muscle activity.

Pyridostigmine is used in the treatment of myasthenia gravis and other junctional disorders in dogs and rarely in cats. Pyridostigmine is considered to be more effective in acquired versus congenital myasthenia. Pyridostigmine is contraindicated in patients with hypersensitivity to the compound or those having mechanical or physical obstruction of the urinary and gastrointestinal tract. Its use during pregnancy and lactating animals should be discouraged. Adverse effects associated with Pyridostigmine are generally dose-related and cholinergic in nature. Muscle cramps, weakness, nausea, vomiting, diarrhea, salivation, sweating, difficulty in breathing, miosis (small pupils), blurred vision, and tearing of the eyes, bradycardia, hypotension and cardiac arrest can occur. Acute toxicities should be treated with immediate administration of Atropine.