



Mirtazapine in Veterinary Medicine: Focus on Its Role in Gastrointestinal Disorders

Diana Bianca Zalischi*, Lucia Victoria Bel, Laura Cristina Ștefănuț, Laura Catană, Mihai Cernea

University of Agricultural Sciences and Veterinary Medicine, Faculty of Veterinary Medicine, Cluj-Napoca, Romania

*Corresponding author: diana-bianca.zalischi@usamvcluj.ro

Abstract: *Mirtazapine, a tetracyclic antidepressant, is increasingly used in veterinary medicine for its beneficial gastrointestinal effects. This review summarizes the pharmacological mechanisms and clinical findings regarding mirtazapine's utility in managing appetite loss, nausea, and GI dysmotility across various animal species, especially cats, rodents, and rabbits.*

• Introduction

Gastrointestinal disorders are common in veterinary patients and often require effective and well-tolerated treatments.

Originally developed for human use, mirtazapine has shown potential in veterinary medicine due to its appetite-stimulating, antiemetic, and prokinetic properties.

• Material and method

Relevant articles were selected using databases such as PubMed, Web of Science, and Google Scholar. Keywords included “mirtazapine”, “gastrointestinal pathology”, “veterinary medicine”, and “intestinal motility”.

• Results and discussions

Compared to other orexigenic/prokinetic drugs (e.g., metoclopramide, diazepam, cisapride), mirtazapine has a favorable safety and efficacy profile.

In cats, transdermal mirtazapine increased food intake by 91% in CKD cases.

In rodents, it prevented NSAID-induced ulcers and improved colonic transit.

In rabbits, both healthy and post-castration individuals showed increased appetite and fecal output.

In dogs, results on gastrointestinal transit are inconsistent.

Pharmacologically, mirtazapine acts via antagonism of 5-HT_{2/3} and α -2 adrenergic receptors, enhancing serotonin/norepinephrine release and GI activity.

• Conclusions

Mirtazapine emerges as a valuable agent in veterinary gastroenterology. Its well-tolerated profile and multi-species efficacy make it a promising alternative to conventional prokinetics and appetite stimulants. Continued research may further expand its therapeutic applications.

Acknowledgement: This study was conducted as part of the doctoral research program at USAMV Cluj-Napoca, with support from the Department of Pharmacology.