

SUMMARY

of the doctoral thesis entitled:

RESEARCH ON METABOLIC MONITORING AND PROPHYLACTIC-THERAPEUTIC MANAGEMENT IN GERIATRIC CONDITIONS IN CATS

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The primary objective of this work was to discover the similarities and differences related to clinical, paraclinical, imaging, and histopathological diagnosis compared to international reports. Over the 25 years I have worked in the clinic, I have observed differences between international trends and what actually occurs in our country. Not always can therapeutic-diagnostic information from reliable international sources be adapted to the conditions in our country. Most of the time, medical decisions made at the beginning of a patient's life do not have an immediate clinical impact, with their effects becoming apparent as the patient approaches geriatric age.

The doctoral thesis, entitled **Research on Metabolic Monitoring and Prophylactic-Therapeutic Management in Geriatric Conditions in Cats**, is structured into two main parts, in accordance with current legislation.

The first part contains the Introduction and Literature Review, spanning 46 pages, which represents 33% of the total volume of the work.

In Chapter 1, global trends in the management of geriatric cats are presented. Chapter 2 discusses the current theories of the aging process, and Chapter 3 addresses the main geriatric conditions, structured by the study of systems and organs.

The second part is structured into two chapters. The first chapter includes the 9 interconnected studies as presentations, sharing the section on materials and methods, the location of the research, and the investigation methods. The second chapter of the second part refers to the conclusions of the work and the recommendations, along with the annexes.

Part 1: Literature Review Chapter 1 addresses global concerns regarding the status of geriatric cats and the predominant pathology based on geographical area. A first subchapter refers to the presentation of relevant bibliographic sources, both from Europe and globally. I selected those articles that describe the pathologies of geriatric

cats, including reports on socioeconomic and environmental factors similar to those in our country. I sought out studies that included a large number of geriatric animals to ensure that the conclusions were as close to reality as possible.

In the second subchapter, entitled **Comparative Analysis of the Prevalence of Geriatric Diseases in Cats Based on Region and Socio-Economic Factors**, I compared the prevalence of geriatric pathology based on region, considering access to veterinary care, education, and awareness of pet owners, nutrition, environmental conditions, climate, and exposure to external factors.

You cannot discuss geriatrics without understanding the physiological phenomena that occur in the body to know what pathological changes to look for. Prevention is the best way to extend life, a common goal for both humans and animals. I extensively developed, in the second chapter of the literature review, **Theories of Aging**, intended to bring a better understanding of geriatric prevention.

Chapter 3, **The Main Geriatric Changes in Cats**, discusses, by systems and organs, the most frequently encountered pathologies in feline geriatrics. In the first subchapter, I address **Cognitive Dysfunction and Geriatric Pathology of the Nervous System**. Feline cognitive dysfunction, also known as "feline Alzheimer's," is quite underdiagnosed and undertreated in our country. As in humans, most signs are attributed to aging, although they are actually early signs of this disease.

Further, I briefly go through epilepsy, stroke, and diabetic neuropathy. The second subchapter of the third literature review addresses chronic kidney disease and the pathology of the excretory system, detailing chronic kidney disease and feline lower urinary tract disease. Next, I briefly describe the pathology of the endocrine system, including hyperthyroidism and diabetes, along with hyperadrenocorticism and hypoadrenocorticism, also mentioning acromegaly. Geriatric cardiovascular pathology includes hypertrophic cardiomyopathy, congestive heart failure, restrictive cardiomyopathy, dilated cardiomyopathy, infectious endocarditis, cardiac arrhythmias, and hypertension. I continue with the geriatric pathology of the osteo-articular system, mentioning osteoarthritis and rheumatoid arthritis. Subchapter six addresses the extensive pathology of the gastrointestinal system. I have described inflammatory bowel disease, chronic pancreatitis, cholestatic hepatopathy, chronic constipation and megacolon, chronic gastritis, exudative enteropathy, chronic colitis, exocrine pancreatic insufficiency, chronic cholangitis, hepatic lipidosis, malabsorption and maldigestion syndrome, along with irritable bowel syndrome.

A brief presentation of the geriatric pathology of the respiratory system comprises subchapter 7. I discuss feline asthma, chronic bronchitis, chronic bacterial pneumonia, and idiopathic pulmonary fibrosis.

Briefly, we review the pathology of the skin and appendages in subchapter 8. Hematological and vascular pathology includes anemia, arterial thromboembolism, pancytopenia, and myelodysplastic syndrome.

The following subchapters address geriatric pathology of the sensory organs, the most common infectious, mycotic, and parasitic pathologies, and a separate subchapter for the extensive oncological pathology, where I briefly describe the main types of tumors found in geriatric cats.

The second part of the work includes the main chapter, number four, and the following subchapters. The purpose and objectives of the research, a brief introduction to the study of feline geriatric pathology, and the description of materials and working methods, along with investigation methods, materials, and equipment used, common to the nine studies that are to be described.

A first study from the personal research section is the variation in body weight in cats over seven years of age in relation to the timing of spaying/neutering, sex, growth area, and exercise regimen. The purpose of this study is to compare the data with international reports. Continuously documenting myself, I noticed differences between what I observe in the clinic and what I read in reference studies, so I wanted to explain why we have significantly more obese animals.

The second study refers to the incidence of uro-renal pathology, that is, feline lower urinary tract disease, along with all its complications depending on the method and timing of spaying/neutering. I compared animals surgically sterilized before the age of one year, practically before reaching physical maturity, with those that benefited from a Suprelorin hormonal implant, which allowed the animal to develop until physical maturity, and subsequently underwent surgical sterilization. To get as clear an understanding of this subject as possible, I used statistical calculation.

The following three subchapters address the incidence of the main pathologies clinically diagnosed in geriatric cats, dividing the subjects into three age groups, analyzed in the three subchapters: cats from Group 1, aged between 7 and 10 years; cats from Group 2, aged between 10 and 15 years; cats from Group 3, aged over 15 years. The results of these studies allow us to have a picture of the dominant geriatric pathology based on age and sex.

Next is the results and conclusions chapter, where I hope I managed to highlight the information in this work, preceded by some recommendations.

The work concludes with the annexes, which include lists of all the graphs, figures, and tables, and detailing of 367 bibliographic sources.

Finally, I would like to thank my coordinator, Prof. L. Ioniță, and my friends Dr. Cristina Preda, Dr. Teodoru Soare, and Dr. Andrei Stoian.

I dedicate this work to all my patients, who through their sacrifice contributed to building a stronger clinical foundation.