Preface: Geriatrics
William D. Fortney

Clinical Pathology Interpretation in Geriatric Veterinary Patients
Fred L. Metzger and Alan H. Rebar
Routine monitoring of clinicopathologic data is a critical component in the management of older patients because blood and urine testing allows the veterinarian to monitor trends in laboratory parameters, which may be the early indicators of disease. Laboratory profiling often provides an objective and sensitive indicator of developing disease before obvious clinical signs or physical examination abnormalities are observed. The primary key to the power of this evaluation is that the data are collected year after year during wellness checks and are examined serially. Chronic renal failure, chronic active hepatitis, canine hyperadrenocorticism, diabetes mellitus, and feline hyperthyroidism were reviewed and expected laboratory findings are summarized.

Geriatric Veterinary Pharmacology
Butch KuKanich
Geriatric dogs and cats are an important group of patients in veterinary medicine. Healthy geriatric patients have similar physiology and presumably pharmacology as healthy adult animals. Geriatric patients with subclinical organ dysfunction are overtly healthy but have some organ dysfunction that may alter the clinical pharmacology of some drugs. Geriatric patients with an overt disease are expected to have altered drug pharmacology for some drugs based on the underlying disease. Diseases including cardiovascular, renal, hepatic, osteoarthritis, neurologic, and neoplastic are expected in the geriatric population and discussed, including the effects of the underlying disease and potential drug-drug interactions.

Anesthesia and Analgesia for Geriatric Veterinary Patients
Courtney L. Baetge and Nora S. Matthews
The number of geriatric veterinary patients presented for anesthesia appears to be increasing. This article summarizes physiologic changes that occur in geriatric patients that are relevant to anesthesia. Proper patient preparation and vigilant monitoring are the best defense against anesthetic problems in the geriatric animal. The authors also discuss particular anesthetic problems as they relate to geriatric patients and seek to present solutions to these problems.
The Diagnosis and Management of Age-Related Veterinary Cardiovascular Disease

Ashley B. Saunders

The American Veterinary Medical Association reported 81.7 million cats and 72.1 million dogs in the United States, with more than 10% over 11 years of age. Disorders of the cardiovascular system are one of the most commonly encountered disease entities in the aging pet population. This article reviews the diseases affecting older cats and dogs including how to make the diagnosis and when to treat while keeping in mind the unique aspects of comorbid conditions and polypharmacy situations encountered while managing pets with cardiovascular disease.

Chronic Kidney Disease in Dogs and Cats

Joseph W. Bartges

Chronic kidney disease (CKD) occurs commonly in older dogs and cats. Advances in diagnostics, staging, and treatment are associated with increased quality and quantity of life. Dietary modification has been shown to increase survival and quality of life and involves more than protein restriction as diets modified for use with CKD are lower in phosphorous and sodium, potassium and B-vitamin replete, and alka-linizing, and they contain n3-fatty acids. Additionally, recognition and management of CKD-associated diseases such as systemic arterial hypertension, proteinuria, and anemia benefit patients. This article summarizes staging and management of CKD in dogs and cats.

Alimentary Neoplasia in Geriatric Dogs and Cats

Michael D. Willard

Lymphomas, carcinomas, leiomyomas, and stromal tumors are the most common tumors found in the canine and feline gastrointestinal tract. Endoscopic and surgical biopsies are often the mainstays of diagnosis, although ultrasound is playing an increasingly greater role. Small cell lymphocytic lymphoma of the feline intestines poses a special diagnostic dilemma and may require immunohistochemistry as well as polymerase chain reaction to distinguish it from lymphocytic-plasmacytic enteritis. This article will focus on the more common neoplastic problems of the esophagus and gastrointestinal tract (GIT) of geriatric dogs and cats.

Thyroid Disorders in the Geriatric Veterinary Patient

J. Catharine Scott-Moncrieff

The effects of age, concurrent illness, and administered medications complicate diagnosis of thyroid dysfunction in geriatric patients. Interpretation of thyroid hormone testing should take these factors into account. The most common thyroid disorder in dogs is acquired
hypothyroidism. Therapeutic monitoring should be utilized for monitoring treatment of canine hypothyroidism. The most common thyroid disorder in cats is benign hyperthyroidism. Diagnosis is most often complicated by the presence of concurrent illness. Treatment should be individualized based on individual case characteristics and presence of concurrent illness. Some older cats have a palpable goiter months to years before development of clinical signs of hyperthyroidism.

Painful Decisions for Senior Pets 727
Steven M. Fox

Osteoarthritis and cancer are the inevitable consequences of aging and significantly contribute to the cause of death in cats and dogs. Managing the pain associated with these disease states is the veterinarian’s mandate. Many treatment modalities and agents are available for patient management; however, it is only with an understanding of disease neurobiology and a mechanism-based approach to problem diagnosis that the clinician can offer patients an optimal quality of life based on evidence-based best medicine. When treating pain, knowledge is still our best weapon.

Cognitive Dysfunction Syndrome: A Disease of Canine and Feline Brain Aging 749
Gary M. Landsberg, Jeff Nichol, and Joseph A. Araujo

Brain aging is a degenerative process manifest by impairment of cognitive function; although not all pets are affected at the same level, once cognitive decline begins it is generally a progressive disorder. Diagnosis of cognitive dysfunction syndrome (CDS) is based on recognition of behavioral signs and exclusion of other medical causes that might mimic CDS or complicate its diagnosis. Drugs, diets, and supplements are now available that might slow CDS progression by various mechanisms including reducing oxidative stress and inflammation or improving mitochondrial and neuronal function. Moreover, available therapeutics may provide some level of improvement in cognitive and clinical signs of CDS.

Nutritional Care for Aging Cats and Dogs 769
D.P. Laflamme

Veterinarians need to be prepared to provide nutritional advice for healthy pets as well as for pets that are ill. Before instituting a dietary change in any patient, especially an older dog or cat, a nutritional evaluation should be completed. This should include an evaluation of the patient, the current diet, and feeding management. Diets should be appropriate to the unique needs of the individual patient. Many diseases in senior pets are “diet-sensitive” meaning that diet can play a role in managing the effects of the disease. Common examples discussed include cognitive dysfunction of aging, osteoarthritis, and obesity.
Veterinary Dentistry in Senior Canines and Felines 793
Steven E. Holmstrom

When you have completed this article, you will be able to (1) understand and grade patients with periodontal disease and prescribe proper treatment for them; (2) describe the AVDC Stages of Tooth resorption and the treatment; (3) describe the non-clinically aggressive and aggressive oral tumors; (4) be knowledgeable of the American Animal Hospital Association Guidelines on Veterinary Dental Procedures and how to obtain them; and (5) understand the disadvantage of Non-Professional Dental Scaling (NPDS) and why it should not be performed.

Alternative Medicines for the Geriatric Veterinary Patient 809
J. Randy Kidd

Over the past several decades, alternative medicines have gained in popularity for use in both humans and animals. While they are not without controversy, client interest and usage dictate that even those practitioners who do not want to practice any of them in their own hospital or clinic should at least be aware of their common use, safety, and efficacy. The author briefly discusses some of the more popular alternative medicines—acupuncture, chiropractic, herbal, homeopathic, and flower essences—with respect to some of the basics that every practitioner should know about them.

Implementing a Successful Senior/Geriatric Health Care Program for Veterinarians, Veterinary Technicians, and Office Managers 823
William D. Fortney

Geriatrics and gerontology have emerged as one of the fastest growing portions of a progressive small animal practice. A critical component of geriatric medicine is a senior/geriatric health care program with senior profiling. Fifty percent of small animal practices have some form of senior/geriatric health care program and the percentage is growing. Armed with the knowledge gleaned from a successful health care program, the progressive veterinarian is better positioned to prevent and/or manage problems in the earliest stages, increasing the options available plus improving the overall outcome.

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