Preface

Advances in Veterinary Oncology

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Editor

This issue of Veterinary Clinics of North America: Small Animal Practice examines several topics related to current oncology practice in human and animal patients as well as innovations that have or will become standard of care. Historically, molecular biology was restricted to the research laboratory and had limited contemporaneous application. Currently, targeted therapies, metronomic chemotherapy, therapeutic vaccines, molecular diagnostics, and others are used every day, based on a greater understanding of the mechanisms of cancer development and progression. As information continues to exponentially expand and become more accessible, a basic knowledge of cancer biology and treatment options becomes imperative for every veterinary practitioner. The concept of “one medicine” is maturing into day-to-day reality, and an awareness of clinical trials, as written by Drs Burton and Khanna, is required to best advise our clients about cutting-edge research and options available for their animal companions. Rather than focusing on individual tumor types, these articles present need-to-know broad concepts related to cancer.

Surgery, radiation, and chemotherapy remain mainstays in cancer therapy, but their role is evolving. While surgical excision of tumors is often the first choice of practitioners for diagnosis and treatment, multimodality approaches are frequently important in providing long-term control. Drs Boston and Henderson’s article presents the surgical oncologist’s view of this reality. Drs LaRue and Custis examine advances in radiation oncology that will provide better tumor control with shorter treatment protocols and decreased side effects. A different use of chemotherapy drugs, so-called “metronomic chemotherapy,” is discussed in the article by Dr Biller. Dr London explores the use of the class of chemotherapy agents called small molecule inhibitors, which includes our first veterinary FDA-approved anticancer drug. In addition, Dr Bergman’s article on immune strategies includes our first USDA-approved therapeutic cancer vaccine.
Other topics not directly related to cancer treatment, but important in management of our patients, are also presented. Dr Schleis assesses the pros and cons of molecular-based diagnostics for cancer screening and monitoring. The article on neutering and cancer development examines the controversy prompted by several recent articles suggesting a hormonal influence on the occurrence of certain neoplasms. Dr Boudreaux discusses the issue of antibiotic use in the cancer patient, a timely topic given international discussions on the development of problematic drug resistance in both human and veterinary medicine. Dr Fan’s article presents strategies for pain management in animals with cancer. Finally, Drs Raditic and Bartges provide evidence for the use of integrative medicine, a growing trend in both human and veterinary patients with cancer.

The last topic, although certainly not least, is Dr Klahn’s thorough review of chemotherapy safety for those handling these potentially toxic agents. She has compiled the latest resources for those interested in offering chemotherapy while still maintaining maximal protection for staff and clients that might be exposed. As new laws are enacted and enforced, compliance with these standards will become more important in our practice.

The goal of these articles is to provide familiarity with current oncology concepts to veterinary students and practitioners, although consultation with a veterinary oncologist for the latest information is always advisable, given the rapid evolution of therapeutic strategies. This issue hopefully will establish a solid foundation of knowledge that can be built on as our understanding of cancer continues to expand and new treatments become available. My heartfelt thanks to all of the authors and editors for their invaluable contributions to meeting this objective.

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