

ONCOLOGY

The Role of Teleconsulting in Veterinary Oncology

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Cancer is a serious problem in the adult pet population. The National Cancer Institute reports approximately 6 million dogs each year are diagnosed with cancer, and this number is suspected to be similar in cats.¹ The AVMA has reported that roughly 50% of dogs over the age of 10 will develop cancer.² A dog aging study has found the leading cause of death in adult dogs to be neoplasia.³ Another study evaluating over 3000 dogs found the median age of cancer diagnosis was 8.8 years, with males diagnosed at a younger age than females.⁴ Neutered dogs were diagnosed at a significantly older age than intact dogs while heavier dogs were diagnosed at a younger age, as were pure breed compared to mixed breed dogs.⁴

THE INCREASING COMPLEXITY OF CANCER CARE

There are many different types of cancer with different behaviors. A large study of dogs with cancer found the top 5 most common types of cancer to be lymphoma, osteosarcoma, mast cell tumor, hemangiosarcoma, and soft tissue sarcomas.⁴ Diagnosis can range from simple fine-needle aspiration to complicated biopsies, depending on the dog's signs and extent of disease. This can pose challenges for general practitioners as they attempt to discover why a pet is ill and work with the pet owners. Treatment can be even more confusing and

complicated as veterinary medicine is evolving to be more like human medicine, with complex treatments aimed at molecular targets that require deep understanding of these therapeutics and when to use them. Biomarkers and genetic analysis can also be involved when determining different therapies.

Veterinary oncology has seen rapid growth in diagnostic tests and treatment options in the last few

BOX 1 Statistics of Pet Owners Seeking Oncology Specialist Care⁶

- Younger generations are significantly more likely to seek specialty care
 - Millennials: 88%
 - Generation X: 72%
 - Baby Boomers: 57%
- Men are significantly more likely to seek specialty care than women
- Higher income brackets are associated with seeking specialty care
- Owners with dogs less than 10 years old are more likely to pursue specialty care

years. Cancer screening tests, genomics and precision medicine, artificial intelligence predictions, immunotherapy, targeted therapy (e.g., small molecule inhibitors, monoclonal antibodies), and checkpoint inhibitors are just a few of the new technologies that have hit the market. It is difficult even for veterinary oncologists to keep up with all the new options.

THE LACK OF SPECIALISTS

With advancement in medicine and therapy, it has become more commonplace to refer complicated cancer cases to specialists. This is very appropriate and can help lessen the burden of the general practitioner when trying to triage and manage multiple cases. The problem, however, is the lack of board-certified specialists in veterinary oncology. As of December 31, 2023, there were 571 registered veterinary oncologists, which means the true number could be lower as not all are practicing in clinics.⁵ You do not need to be good at math to realize the 6 million dogs each year with cancer cannot be seen by approximately 500 individuals. Between 2023 and 2024, the American College of Veterinary Internal Medicine had only 34 open residency positions available, and not all were in the United States. Therefore, you can see the lack of veterinary oncologists is not going to be resolved anytime soon as restraints for oncology training programs have increased over the years.

Beyond the lack of specialists, there are other factors pet owners face when attempting to see a veterinary oncologist, including the distance that may be needed to travel, the need to take time off work, the cost, and the need to obtain a referral. Most oncology centers are in major metropolitan areas, and there are multiple states with no veterinary oncologists. While many veterinarians will refer pets diagnosed with cancer to oncologists, not all veterinarians do. There could be several reasons for this, including personal preference, assuming the client would not or should not seek additional care for the pet, and some veterinarians preferring to keep all care in their clinic. Recent Occupational Safety and Health Administration restrictions and our increasingly litigious society has caused many veterinary clinics to avoid specialty-level testing and treatments.

THE POWER OF PARTNERSHIP

Pet owners have reported higher satisfaction with primary care veterinarians when referral to an oncologist

is done soon after diagnosis of cancer.⁶ A study found that 76% of pet owners sought oncology specialists after their dog was diagnosed with cancer.⁵ Most of these pet owners were referred to oncologists, but 20.5% pursued specialty care without referral (**BOX 1**).⁶

Communication and collaboration between the general practitioner and specialist were also found to be predictive of client satisfaction with primary care veterinarians, while improved satisfaction for specialists was based on their perceived cancer knowledge, willingness to collaborate, and accurate cost estimates.⁶ This information contrasts a somewhat commonly held belief among veterinarians that they will lose their client once they are referred. Instead, this study found pet owners prefer to work with both primary care veterinarians and specialists together.

One facet of this partnership is worth further elaboration: communication. Giving bad news can be very challenging and fraught with complications. How bad news is delivered can affect how the pet owner understands the information, their overall satisfaction

BOX 2 Communicating Bad News: The SPIKES Method⁷

A common approach to giving bad news is called SPIKES:

- Setting:** Choose a private and comfortable setting
- Perception:** Ask the client(s) what they think is happening
- Invitation:** Invite the client to ask questions
- Knowledge:** Explain the disease and available care options
- Emotion:** Communicate with empathy, respect, and care
- Summarize:** Recap and communicate next steps

The ability to give bad news has 4 goals:

1. Gather information from the client, which allows you to determine their knowledge and expectations.
2. Provide the information to the client.
3. Support the patient to reduce emotional impact and feeling of isolation.
4. Develop a strategy for the treatment plan.

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BRIEF SUMMARY (for full prescribing information, see package insert)

DESCRIPTION: OSURNIA contains 10 mg florfenicol, 10 mg terbinafine and 1 mg betamethasone acetate per mL and the inactive ingredients propylene carbonate, glycerol formal, hypromellose, phospholipid, oleic acid and BHT in an off-white to slightly yellow translucent gel.

INDICATION: OSURNIA is indicated for the treatment of otitis externa in dogs associated with susceptible strains of bacteria (*Staphylococcus pseudintermedius*) and yeast (*Malassezia pachydermatis*).

CONTRAINDICATIONS: Do not use in dogs with known tympanic perforation. Do not use in dogs with a hypersensitivity to florfenicol, terbinafine, or corticosteroids.

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PRECAUTIONS: Wear eye protection when administering OSURNIA and restrain the dog to minimize post-application head shaking. Reducing the potential for splatter of product will help prevent accidental eye exposure in people and dogs and help to prevent ocular injury. Do not administer orally. The use of OSURNIA in dogs with perforated tympanic membranes has not been evaluated. The integrity of the tympanic membrane should be confirmed before administering this product. Reevaluate the dog if hearing loss or signs of vestibular dysfunction are observed during treatment. Use of topical otic corticosteroids has been associated with adrenocortical suppression and iatrogenic hyperadrenocorticism in dogs. Use with caution in dogs with impaired hepatic function. The safe use of OSURNIA in dogs used for breeding purposes, during pregnancy, or in lactating bitches, has not been evaluated.

ADVERSE REACTIONS: The following adverse reactions were reported during the course of a US field study for treatment of otitis externa in dogs treated with OSURNIA in decreasing order: elevated liver enzymes, vomiting, weight loss (>10% body weight) and hearing loss.

POST-APPROVAL EXPERIENCE (2020): The following adverse events are based on post-approval adverse drug experience reporting for OSURNIA. Not all adverse events are reported to FDA/CVM. It is not always possible to reliably estimate the adverse event frequency or establish a causal relationship to product exposure using this data.

In humans, accidental exposure leading to corneal ulcers and other ocular injuries such as eye irritation, burning, stinging, and itchiness have been reported to occur when the dog shook its head after application of OSURNIA.

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OSURNIA is not approved for use in **cats**.

To report suspected adverse drug events and/or obtain a copy of the Safety Data Sheet (SDS) or for technical assistance, contact Dechra at 1-866-933-2472. For additional information about adverse drug experience reporting for animal drugs, contact the FDA at 1-888-FDA-VETS or www.fda.gov/reportanimalae.

INFORMATION FOR DOG OWNERS: Owners should be aware that adverse reactions may occur following administration of OSURNIA and should observe dog for signs such as deafness, ear pain and irritation, vomiting, head shaking, head tilt, incoordination, eye pain and ocular discharge. Owners should be advised to contact their veterinarian if any of the above signs are observed.

Owners should also be informed that splatter may occur if the dog shakes its head following administration of OSURNIA which may lead to ocular exposure. As a result, eye injuries in humans and dogs have been reported including corneal ulcers. Owners should be careful to avoid ocular exposure.

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with care, their level of hope, and psychological adjustments; therefore, it is very important that general practitioners have a plan and be trained and good at delivering bad news, because nobody is good at receiving bad news.⁷ The communication element of the general practitioner–client partnership was found to be associated with client satisfaction.⁶ Many oncologists have advanced training in communication (**BOX 2**). Having an oncologist give the bad news about a cancer diagnosis, treatment, and prognosis can be beneficial for general practitioners and relieve this burden from their shoulders.

TELECONSULTING AS A SOLUTION

Teleconsulting, the use of technology to deliver medical information between specialists and primary practitioners, offers an opportunity for communications between the oncologist, general practitioner, and clients. This practice has been ongoing for many years, from veterinarians calling specialists at veterinary schools to the advancement of online messaging through VIN (the Veterinary Information Network), and now many other resources. While this communication is helpful and practical, it is missing an essential element in oncology: the pet owner. Veterinarians can discuss many complex diseases and scenarios back and forth, but this can pose a challenge for veterinarians who are less experienced with the disease in relaying the discussed information back to the client. Furthermore, many clients will have questions that were not addressed during the general practitioner–oncologist communication, putting the primary veterinarian in a difficult position.

The author suggests there is another option of teleconsulting that includes the pet owner. This option allows the veterinarians to communicate back and forth but also allows the pet owner to ask and understand what is happening with their pet. A study evaluating communication with oncology clients at a tertiary referral center found clients were most pleased with the information being provided upfront, in multiple formats, using understandable language, in an unrushed environment, and with all their questions answered with compassion and empathy in a nonjudgmental attitude.⁸ These preferences are difficult for a general practice to obtain alone but can be more achievable with the addition of highly trained oncologists.

Telehealth visits have become more prominent in human and animal healthcare, especially after the pandemic, making many pet owners more familiar with this form of appointment. Teleconsultations that include the patient/pet owner, however, can take on many forms, including synchronous, asynchronous, or blended in-person care. Synchronous means the communication is happening in real time while asynchronous is not live, meaning it often takes the shape of messages sent back and forth (e.g., email, text). A blended format consists of the patient/pet owner, primary care physician, and specialists all working together.

Teleconsultation is being used more frequently in human medicine due to access to care, especially in rural areas; the shortage of oncologists; and the increasing number of cancer patients.⁹ Systemic reviews of effectiveness of teleoncology in humans have found this form of conferencing to be effective for patients due to its convenience, reduced travel time and costs, reduced appointment wait times, increased access to care, and overall ease of care.¹⁰ A study of over 200 multidisciplinary human cancer care clinicians in 2021 found 59% thought

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Adverse Reactions: A total of 255 dogs were included in the field study safety analysis. Vomiting and diarrhea were the most common adverse reactions occurring during the study.

Post-Approval Experience (Rev 2014): The following adverse events are based on post-approval adverse drug experience reporting. Not all adverse reactions are reported to FDA CVM. It is not always possible to reliably estimate the adverse event frequency or establish a causal relationship to product exposure using this data. The following adverse events are grouped by body system and are presented in decreasing order of reporting frequency.

Gastrointestinal: Eructus, diarrhea, gingival hyperplasia, hemorragic diarrhea, abdominal pain, hematemesis, digestive tract hemorrhage, hypersalivation, retching, flatulence, tenesmus, intestinal stasis, digestive tract hypermotility, melena, pancreatitis, involuntary defecation

General: Lethargy, anorexia, weight loss, polydipsia, hypothermia, pale mucous membranes, general pain, collapse, dehydration, edema

Dermatologic: Pruritus, dermatitis and eczema, alopecia, erythema, papuloma, bacterial skin infection, skin lesion, skin and/or appendage neoplasia, pigmentation disorder, hair change, hyperkeratosis, histiocytoma, fungal skin infection, dermal cysts, desquamation

Behavioral: Hyperactivity, behavioral changes, anxiety, vocalization, aggression, inappropriate urination, disorientation

Neurologic: Muscle tremor, convulsion, ataxia, paresis

Respiratory: Tachypnea, dyspnea, cough

Urologic: Polyuria, urine abnormalities, hematuria, urinary tract infection, pyelitis, glucosuria, decreased urine concentration, urinary incontinence, cystitis, renal failure, renal insufficiency

Immune: Urticaria, angioedema, allergic edema

Blood and lymphatic: Lymphadenopathy, anemia, hypalbuminemia, leukopenia

Hepatic: Elevated Liver Enzymes, hepatopathy, hepatomegaly, hepatitis

Musculoskeletal: Lameness, limb weakness, myositis

Ear and larynx: Otitis externa

Cardio-vascular: Tachycardia

Endocrine: Diabetes mellitus, hypothyroidism

In some cases, death/euthanasia has been reported as an outcome of the adverse events listed above. Neoplasms have been reported in dogs taking cyclosporine, including reports of lymphoma/lymphosarcoma and mast cell tumor. It is unknown if these were preexisting or developed de novo while on cyclosporine. Diabetes mellitus has been reported; West Highland White Terriers are the most frequently reported breed.

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video telehealth was adequate to manage the greater part of patient care in general and 82% wanted to maintain or increase the use of telehealth after the pandemic.¹¹

ADDRESSING THE CONS OF TELECONSULTING

The lack of physical examination is a concern with telehealth, especially in veterinary medicine since the patient cannot speak for themselves. However, many observations can be made over video, such as demeanor (which may be a more accurate representation in the home setting than in the clinic), breathing rate and quality, and deformities (such as wounds or masses).

The lack of physical exams has been a concern in human pediatric medicine as well for the same reasons as veterinary medicine. However, a review of telemedicine in human pediatric patients in rural communities with lack of access to specialty care found telemedicine for pediatric specialty consultations in the primary care offices and community hospitals improved doctor, patient, and family satisfaction; quality of care; patient safety; and costs.¹² Human patients receiving telemedicine consultations in remote emergency departments were also found to have had significantly lower medication errors compared to physician-to-physician telephone consultations or when no consultations were obtained.¹²

The model of general physicians and specialists working together with the patient helped to overcome the lack of physical palpation, but, also importantly, the video aspect allowed the specialists to see and interact with the patient. These features led to improved outcomes compared to telephone consultations. This finding highlights the risk of telephone consultations and the assumptions drawn by another person's conclusions. As the saying goes, "A picture is worth a thousand words."

SUMMARY

Medicine and technology continue to advance at a rapid pace. Technology has taken us places our ancestors never would have imagined, and advancements we now take for granted today, such as penicillin, were revolutionary in their day. Telehealth, as with the use of technology in every aspect of our lives, is coming and is here to stay. It is important that veterinarians find ways to utilize and harness this technology for the betterment of patients and the veterinary healthcare profession, by generalists and specialists working together to increase access to oncology care and practice a higher standard of medicine. **TVP**

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Dr. Venable is board certified as a medical oncologist from the American College of Veterinary Internal Medicine. She obtained her veterinary degree from the University of Missouri and graduated cum laude before pursuing further training as a small animal intern at the University of Georgia. She then completed her 3-year medical oncology residency at the Colorado State University Flint Animal Cancer Center. During her residency, she achieved a master's degree and studied new cancer therapies and clinical trials. Dr. Venable has authored numerous publications and has been a speaker on local and national levels. She is the founder of Pet Cancer Care Consulting, an innovative teleconsulting service that consults with the family veterinarian and pet owner together. She is also a VIN consultant and was an adjunct professor of veterinary oncology at Midwestern University. She is a member of many organizations and currently a board director of the Arizona Veterinary Medical Association. Dr. Venable enjoys being outdoors and participating in service opportunities at church and abroad with her husband and their young daughters.



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