Clinical Trials and One Health

In 2013, the school expanded its ongoing comparative clinical trials program into a national initiative, the Veterinary Center for Clinical Trials. Investigators intend to enhance the quality of life in companion animals while reducing the time required to bring novel therapies, diagnostics and preventive strategies into much-needed human clinical trials.

The clinical trials center takes advantage of the hospital’s large and diverse caseload. Clients whose animals have naturally occurring disease may choose for their pets to receive new drugs, minimally invasive surgical techniques and state-of-the-art radiation technology. As animals receive treatment, veterinarians generate essential insights into the safety and efficacy of new approaches that the medical profession may apply in human patients. Since veterinary studies may take place in less time and at lower cost than similar trials in people, this “in tandem” approach may speed the approval process for new cancer therapies in humans.

The Veterinary Center for Clinical Trials promotes critical collaborations in academia, government and industry. The school’s coordinator manages trials nationwide and seeks partnerships with pharmaceutical companies interested in working with universities. The coordinator also reaches out to referring veterinarians to gain participation and make new therapies accessible to eligible patients regardless of location.

Palladia – Veterinary oncologists paved the way for better veterinary treatments when they provided the first evidence that an experimental anticancer agent could inhibit the growth of several types of canine malignancy. The study also gave scientists valuable and timely information to apply to human clinical trials. In 2009, the US Food and Drug Administration approved the drug, now known as Palladia, as the first medication developed specifically to treat mast cell tumors in dogs.

Positive trials for lymphoma treatment – Veterinarians oversaw 12 dogs with lymphoma, a fairly common cancer in dogs and humans. The clinicians used an alternative method to deliver paclitaxel, or Taxol, a powerful drug used to treat breast cancer, to reduce problems that dogs suffer from Cremophor, which is usually mixed with paclitaxel. The veterinarians determined that paclitaxel delivered at the right dosage via an encapsulation process was well tolerated by their patients. Future trials will involve using a target molecule to deliver the drug directly to receptors inside cancer cells.

Minimally invasive procedures – Small animal veterinary surgeons have introduced minimally invasive procedures and specialized imaging to treat cancers considered inoperable just a few years ago. Patients recover more quickly with fewer complications. The school’s surgeons and internal medicine specialists are among the first in the nation to explore special applications of endoscopy and urethral stenting. Chemoembolization and intra-arterial chemotherapy are other life-saving therapeutic innovations.

Award-winning team – Translational researchers were honored in 2013 by the National Cancer Institute for “unique and noteworthy scholarly contributions in the field of cancer drug development.” The clinicians are members of the
NCI’s Comparative Oncology Trial Consortium, which includes 20 veterinary schools across the US and Canada.

Clinical trials of 2013 include:

Near-infrared imaging – A new type of minimally invasive intraoperative imaging may better identify vital structures and tumor margins to improve surgical outcomes.

Lymphoma – Several canine studies are underway, including a preclinical evaluation of a novel synthetic antibody, SH-7139, for treatment of spontaneously occurring B-cell lymphomas.

Cryoablation – A palliative option may become available for inoperable malignancies in the nose, head and neck, kidneys or bone.

Nasal carcinoma – Measurement of the extent and duration of response to a new, minimally invasive treatment that delivers chemotherapy directly to the tumor.

Lung tumor surgery – Using specialized imaging for evaluation of lymph nodes in dogs with primary lung tumors to be removed surgically.

Mammary cancers – Defining the characteristics of a novel anticancer agent, COTCO18, in dogs with mammary carcinoma, melanoma, squamous cell carcinoma or soft tissue sarcoma.

Anal sac adenocarcinoma – Imaging, surgery and sampling will promote greater understanding of the involvement of lymph nodes located near primary tumors.

Osteosarcoma – Investigators are measuring the risk of fracture in dogs with tumors in their forelimbs. Results could help predict the greatest risks for patients, identify the best candidates for palliative radiation therapy, and aid in the development of alternative limb-salvage procedures.

For a list of studies, enrollment criteria and other details, please visit http://www.vetmed.ucdavis.edu/clinicaltrials
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