

Dogs Teach Researchers About Cancer in Humans

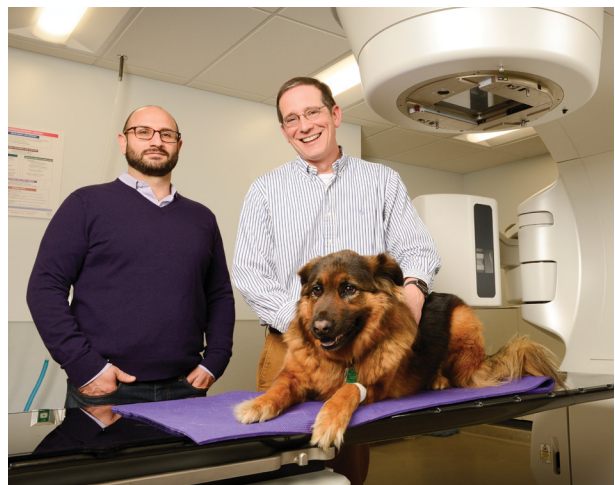
Dogs may be our best friends in more ways than one. In addition to companionship, they provide researchers with clues on how cancer forms in humans and insight into possible treatment. Two recent discoveries from the school have advanced that knowledge.

One research group, led by Dr. Peter Dickinson, investigated spontaneous gliomas in dogs, which occur in humans at a similar frequency. They investigated chromosomal abnormalities in canine gliomas to better understand glial tumor formation and how they may respond to therapies. Results appeared in the *Journal of Neuropathology & Experimental Neurology*.

“Cancer is cancer,” says Dickinson, a neurooncologist with the school’s Center for Companion Animal Health (CCAH). “The big pathways altered in humans are likely to be altered in dogs as well. The details may vary but it’s the same big picture overall so it’s smart to use dogs as a model to identify potential genes for gliomas in humans.”

Other study contributors include Drs. Dan York, Robert Higgins, Richard LeCouteur, Danika Bannasch and researcher Nikhil Joshi. The study was supported by donors to the CCAH, UC Davis, The Paul and Borghild T. Petersen Foundation and the Maxine Adler Endowed Chair in Genetics, held by Dr. Bannasch.

In another study, veterinary radiation oncologist Dr. Michael Kent partnered with Dr. Arta Monjazebe, a radiation oncologist with the UC Davis Comprehensive Cancer Center, to examine the use of a novel triple therapy in treating advanced metastatic disease in dogs. By combining radiotherapy and



Drs. Arta Monjazebe and Michael Kent (from left) collaborated to examine a novel triple therapy to treat metastatic cancer in dogs.

immunotherapy with an immune checkpoint inhibitor for the first time in a canine clinical trial, they were able to improve local and systemic efficacy of treatment and extend the lives of some dogs while maintaining their quality of life. Results appeared in the journal *Clinical Cancer Research*.

Thirteen other researchers from UC Davis participated in the project which received partial funding from donors to the CCAH.

“This was a really nice example of how physicians and veterinarians can work together to tackle a disease that affects both species,” says Kent who also serves as CCAH director. “Now our job is to follow up, refine, and improve the technique so it can be used for both dogs and humans.”