



Jewish General Hospital
Lady Davis Institute for Medical Research



"Comparative Oncology: How Veterinary Radiation Oncology Can Benefit both Animal and Human Cancer Patients"

Monique Mayer

Small Animal Clinical Sciences
University of Saskatchewan
Saskatoon, Saskatchewan

Abstract:

Veterinary oncologists at the Western College of Veterinary Medicine diagnose and treat cancer in animal patients. As in human patients, cancer in animal patients may occur spontaneously, be induced by viruses and exposure to environmental carcinogens, or have a genetic component. The pathophysiology of many naturally occurring cancers is similar between species, and animal patients provide an excellent model to study novel therapies that hold promise for human patients. The benefits of this type of research are two-fold; findings can not only be used to improve outcomes for people diagnosed with cancer, but also for veterinary patients diagnosed with cancer.

My research at the Western College of Veterinary Medicine has involved collaboration with human radiation oncologists, medical physicists, dosimetrists, radiochemists and radiopharmacists. I will highlight our recent comparative oncology investigations, which include the imaging and histopathological response of brain tumors to microbeam radiation therapy using naturally occurring meningioma in dogs, uptake of an anti-EGFR antibody by metastatic lesions in dogs with osteosarcoma, and treatment of viral-induced hepatocellular carcinoma with a targeted radionuclide (^{177}Lu -SPMA-617) therapy in a woodchuck model of human hepatitis B-induced hepatocellular carcinoma.