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Relevance and rationale of translational pharmacotherapy: Novel preclinical feline tumor model

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Abstract

Translational medicine transitions breakthroughs in basic science research to practical clinical medicine in an effort to improve the diagnosis, prevention and treatment of diseases such as cancer. Given both the high morbidity and mortality associated with cancer, it is imperative that we identify novel therapeutics that could lead to more effective treatment. This means we must overcome the challenges that separate basic science from its practical applications. New research emerging at the interface of veterinary and human cancer research offers tools that can help overcome the challenge of efficient translational pharmacotherapy. The predictive value of novel drug success is inherently based on the relevancy of animal models. While traditional murine models provide crucial opportunities to investigate specific molecular and genetic pathways, they fail to adequately characterize the biologic variations inherent in spontaneously-arising human cancer. Our studies in spontaneous feline tumor models, particularly of head and neck cancer, provide rationale for preclinical pharmacotherapy studies in cancer-bearing cats and demonstrate the translational relevance of capitalizing on companion animal tumor models for human cancer research.

Biography

Jackie Wypij graduated with a Doctorate in Veterinary Medicine from Cornell University in 2002. She completed residency training in 2008 and is currently a board-certified veterinary oncologist and Assistant Professor at the Cancer Care Clinic and Comparative Oncology Laboratory at the College of Veterinary Medicine, University of Illinois at Urbana-Champaign. Her research interests include translational cancer medicine, spontaneous animal tumor models, and malignant angiogenesis. She has published multiple peer-reviewed papers in the fields of veterinary and translational cancer medicine.