Faithful Companions: A Proposal for Neurooncology Trials in Pet Dogs

Abstract:
Though relatively rare, malignant glioma (MG) is frequently used for testing novel cancer treatments. However, human MG trials have often been initiated on the basis of preclinical models that involve numerous discontinuities with the human disease. Below, we discuss various limitations of the mainstay model used in MG preclinical research, the murine orthotopic xenograft. After discussing alternative model systems like transgenic mouse models and canine xenografts, we argue that companion animals with spontaneous brain cancers offer a scientifically and ethically attractive system for preclinical testing of novel MG interventions. Ethical advantages and practical challenges of companion animal brain cancer trials are briefly discussed.