Molecular-imaging guided theranostics: new applications for brain cancer

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Despite the recent advances in resection techniques and delivery of adjuvant therapies, the prognosis of high-grade glioma remains poor. Current shortfalls in diagnostic imaging technology along with ineffective treatment regimes for combating highly infiltrative tumour cells contribute to poor outcomes for these patients. New molecular imaging approaches along more effective therapies are urgently required. Theranostic technology presents a paradigm shift in the treatment of glioma. We have been exploring the utility of new theranostics based on a EphA2 receptor tyrosine kinase framework guided by hybrid PET/MRI imaging technology.\textsuperscript{1} In this presentation I will outline the many challenges of translating theranostics technology to the clinic.

\textsuperscript{1} Puttick S., et al., EphA2 as a Diagnostic Imaging Target in Glioblastoma: A Positron Emission Tomography/Magnetic Resonance Imaging Study. Molecular Imaging 2015 DOI 10.2310/7290.2015.00008