Glioblastoma (GBM), a high grade tumour arising from the brain, is associated with a dismal 5 year survival rate of under 10%, the worst survival rate of all brain cancers. GBM can be segregated clinically into two classes: primary GBM which arise de novo and secondary GBM which arises following malignant transformation of a pre-existing low grade brain tumour. Mutations in isocitrate dehydrogenase (IDH) have been identified in roughly 10% of glioblastomas and is most commonly associated with secondary glioblastomas and low grade brain tumours. Although secondary GBMs behave more favorable, clinically, compared to primary glioblastoma, patients ultimately succumb to their disease due to the infiltrative nature of the disease and its proximity to eloquent structures of the brain. IDH mutations have been studied heavily in the context of low-grade gliomas (early-stages of the tumour), the precursor lesion of secondary glioblastomas, and has been shown to play an integral role in oncogenesis through dysregulating the three-dimensional organization of DNA/chromatin, called the epigenome. However, the role IDH mutation plays and its effect on the epigenome during the process of malignant transformation from a low grade glioma to a GBM remains unclear. This proposed research proposal aims to investigate and understand the epigenomic changes that occur during malignant transformation of IDH mutant gliomas to secondary GBM by using epigenomic approaches.

Themes:

Check (highlight) the most applicable theme according to the abstract.

| □ Innovation and Technology | □ Health and Wellness | □ Culture and Society | □ Sustainability and Conservation |

Comments:

A lot of great content here, but a large amount of jargon used too. Have suggested some rewording that focuses on ‘why’ this project, ‘what’ this project aims to do [to address the research question], and ‘how’ this project will be carried out. Perhaps consider adding a line to say what the impact of the project could be for treatment or diagnostics of GBMs.