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Intersection of Metabolism and Epigenetics in GI Malignancy

Intermediary metabolism generates substrates for covalent modification of chromatin, enabling the potential coupling of metabolic states and epigenetic control. Such interplay between metabolic control and epigenetic reprogramming has recently been proposed as a key mechanism for regulation of stem cell differentiation and for pathologic processes such as cancer. With respect to cancer, mutations in TCA cycle enzymes (IDH, SDH, FH), found in a number of tumour types, cause altered metabolite levels (increases in 2-hydroxyglutarate or succinate) whose effects on the activity of chromatin modifying enzymes have been suggested to contribute to oncogenesis. Here will discuss the biology of IDH mutant cholangiocarcinoma, a deadly cancer of the liver bile ducts. We will also discuss the role of such a network linking metabolism and chromatin regulation as a major component of cell transformation downstream of the LKB1 tumour suppressor.

STUDENTS: If you would like to attend a lunch with Dr. Bardeesy following the lecture, please send an email to leah.donnelly@mcgill.ca

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