

24

 October
2024

Thursday

LECTURE

MEET & EAT

Light lunch provided

11.00 - 12.00 pm

12.00 - 13.30 pm



Understanding glioma development-prediagnostic biomarker analyses

ABSTRACT

Understanding the etiology and development of cancer can be a good strategy to find new methods for prevention, early detection and to find new treatments. For a long time, the understanding of how glioma develops was largely unknown apart from rare families carrying Li Fraumeni syndrome or neurofibromatosis, and that high doses of ionizing radiation gives an increased risk of brain tumors. Our group has systematically collected large sets of cases and controls and collaborated with researchers in US and Europe to establish robust risk factors for glioma. Early studies indicated that asthma and allergy seem to be protective for developing glioma, and our glioma international case control study confirmed the association. We have identified 27 genetic variants that are associated with glioma risk and that some gene variants are associated with low graded and high graded glioma specifically. Interestingly, many of the genetic variants are located in or in the proximity to the genes that often harbor somatic changes in the tumor such as for example, P53, EGFR, TERT and CDKN2A/B. To further explore the functional differences between cases and controls, we used our cohort Northern Sweden Health and Disease study comprising approximately 145, 000 individuals that have left a blood sample at 40,50 and 60 since 1990 and then have been followed for different diseases. We made a broad agnostic analyses by the metabolon platform comprising 1000 metabolites in samples of future glioma cases compared to tightly matched controls. We found a strong pattern of metabolites that was discriminated between cases and controls, that was partly validated in the European EPIC study. The pattern was evident up to 8 years before diagnoses, but stronger 2 years before diagnosis. These data support that tumors develops several years before being diagnoses and that there is a potential for early detection of cancer by blood based testing. It also helps in the understanding of the biological mechanisms that are keys mechanisms for glioma development.



SPEAKER

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HOST:

Cancer Epidemiology and Prevention (EPI CAN) Group
Department of Precision Health (DoPH)
Luxembourg Institute of Health (LIH)

RESPONSIBLE SCIENTIST:

Aurélie Poli

*Please note that in-person attendance is subject to limited availability and requires prior registration. To secure your spot, kindly send an email to epican@lih.lu

Locations:

Lecture:

1 A-B rue Thomas Edison, 1445 Strassen
Salle Marie S. Curie & Salle Louis Pasteur

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