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Lymphoma

A YOUNG GENEVA RESEARCHER WINS ONE MILLION SWISS FRANCS¹ TO CONDUCT A CLINICAL STUDY ON LYMPHOMA

A young researcher from the Geneva University Hospital (HUG) and the University of Geneva (UNIGE), Dr Noémie Lang, wins the prestigious Swiss Group for Clinical Cancer Research (SAKK) Trial Network Award, with the intent to carry out a study evaluating early detection of central nervous system involvement in lymphomas. Using sequencing technology to detect circulating tumour DNA in the blood and the cerebrospinal fluid, this diagnostic approach may result in significantly improved standards of quality and precision compared to available analytical assays currently in use. This innovation is expected to enable early diagnosis and improve targeted therapeutic approaches, two key elements for preventing relapses and optimizing the selection of patients requiring therapy. It would significantly improve outcomes in these particularly aggressive forms of lymphoma.

Lymphomas are cancers that originate from white blood cells and affect the lymphatic system, which plays a major role in immune defense. According to the World Health Organization (WHO), they account for 5% of all cancers. Approximately two-thirds of lymphomas can be successfully and durably treated. However, certain aggressive subtypes of B-cell non-Hodgkin lymphomas still present a poor prognosis.

In 2 to 5% of cases, the disease spreads to the central nervous system and life expectancy drops to a few months. “Preventive therapeutic approaches exist; however, they need to be administered in a more targeted manner by an early accurate detection of central nervous system involvement in high-risk individuals, treating positively-detected patients and sparing toxicities to negatively-detected patients”, says the SAKK prize laureate. Dr Noémie Lang is an oncologist at the Oncology Department at the HUG and conducts translational research in the team of Professor Jérôme Tamburini at the Department of Medicine and the Center for Translational Research in Onco-Hematology (CRTOH) of the Faculty of Medicine at UNIGE.

Increasing detection rates

Dr Noémie Lang points out that currently available assays to measure central nervous system involvement of lymphoma have low performance, with detection rates ranging from 8 to 50%. This reality might change with the use of circulating tumour DNA.

In response to the death of a tumoral cell, tumour DNA is released into the blood, as well as other bodily fluids, such as the cerebrospinal fluid (CSF), a liquid that surrounds the brain and

¹ USD 1.12 million

spinal cord, representing the central nervous system. With the advent of high-throughput sequencing technologies, circulating tumour DNA can now be easily identified in blood and CSF samples.

This is what Dr Noémie Lang and the SAKK lymphoma group aim to demonstrate through a prospective clinical study. Blood and CSF samples will be collected from over sixty participants harbouring a newly diagnosed aggressive lymphoma. Circulating DNA will be extracted and sequenced to determine its origin and make a diagnosis.

Dr Noémie Lang hypothesizes that “the measurement of circulating tumour DNA in the CSF will outperform currently used assays for detecting central nervous system involvement in lymphoma. This study represents a cornerstone in the development of preventive strategies and early detection of asymptomatic central nervous system involvement in lymphoma. Therapeutic strategies can be accordingly applied to prevent the disease from progressing, becoming symptomatic, and more difficult to treat.”

The study will be conducted in twelve Swiss centers and aims to address a timely question, given that the early detection and prevention of central nervous system involvement in lymphomas have remained unanswered clinical issues for several decades, all strong arguments for the awarding of the prize by SAKK to Dr Noémie Lang.

Supporting young researchers and clinical research in oncology

[SAKK](#) is an independent, non-profit organization that focuses on cancer research. Founded in 1965, it plays a crucial role not only in advancing cancer research in Switzerland, but also in supporting young clinical researchers in their career development. As a center of expertise, its main objective is to network its members. Its creation of the Network Trial Award, endowed with one million Swiss francs (USD 1.12 million), reflects this objective.

Dr Noémie Lang is the first laureate of the award, and she expresses her gratitude to SAKK as well as to the HUG and UNIGE. “It is a unique opportunity in Switzerland to secure sufficient financing to complete the entire study. I am particularly thrilled as it is challenging to secure funds for clinical research, unlike fundamental research. Thanks to SAKK and its commitment to support young investigators, as well as the exceptional opportunity provided by the HUG and UNIGE to commit 50% of time to research in parallel with clinical work, all of this was made possible.”

For more information

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