



“25 Years of Targeted Therapies for Hematologic Malignancies”

Date & Time: Wednesday, July 3 | 1:00PM - 2:00PM PT | Hybrid: LSC3 & Zoom

Presented by: Dr. Heather Leitch, Hematologist at St. Paul’s Hospital

On entry to graduate school in the Department of Microbiology (Immunology) in 1990, very exciting were the then-new monoclonal antibodies (mAb). In fact, a mAb was produced against myeloid leukemia cells, normal cell components “subtracted”, and an antigen called CAMAL (common antigen in myeloid acute leukemia) isolated. Using in vitro hematopoietic colony assays and long-term cultures, the activity of CAMAL on normal cells and cells from patients with chronic myeloid leukemia (CML) were characterized and showed a mechanism by which CML cells could outgrow normal cells. This activity was subsequently specifically blocked by a protease inhibitor linked to a short peptide. These findings had potential translational application for treatment of CML patients, and encouraged me to pursue training as a medical doctor specializing in hematology. Over the next quarter-century, targeted therapies including tyrosine kinase inhibitors, monoclonal antibodies, immune checkpoint inhibitors, bispecific antibodies, chimeric antigen T-cell (CAR-T) therapy, erythroid maturation agents, immunomodulatory therapies, proteasome inhibitors, hypomethylating agents, and others, in a wide range of hematologic malignancies. Here we discuss selective targeted therapies in selected hematologic malignancies (chronic leukemias, acute leukemias, lymphomas, myeloma) as an illustration of the advances that have been made over recent years, and illustrate their impact on patient care with selected case presentations.

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