Barts Cancer Institute
Queen Mary University of London

Haematologic Malignancies

Why we focus on Haematologic Malignancies

Leukaemia and lymphoma represent the most common cancers that occur in younger patients, with lymphoma their most common cause of cancer death, and, therefore, these malignancies have a major impact in society. Even in adults, collectively they are the fourth most common form of cancer.

Although there has been significant progress, such that some are now curable, the outcome can be dismal for those patients who fail to respond to standard therapy. Work remains to be done to understand the molecular basis for lymphoma, leukaemia and myeloma, to identify targets for novel targeted therapies and to identify biomarkers of prognosis and response to treatment.

What we do

- We have groups of investigators working on acute and chronic leukaemias, non-Hodgkin's lymphoma, Hodgkin's lymphoma, and multiple myeloma.
- We are investigating the genetic mutations involved in development of leukaemias and lymphomas and their progression and transformation to more aggressive types.
- We are focusing on the identification of the cancer-initiating or stem cell that gives rise to these cancers.
- We are investigating the mechanism of action of novel agents to identify and optimise new treatment approaches, including immunotherapy and novel targeted treatment approaches in clinical trials.
- We are investigating the role of the cancer cell in the development of unique microenvironments that support tumour growth.
- We are investigating the role of stem cell transplantation to improve outcome in patients with high risk disease.
- We have access to a large biobank of patients' leukaemia and lymphoma cells and biopsies that is linked to the clinical outcome of these patients.

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Key Publications

- Greaves et al. Expression of FOXP3, CD68, and CD20 at diagnosis in the microenvironment of classical Hodgkin lymphoma is predictive of outcome. Journal of Clinical Oncology 2013; 31: 256-262.
- Jia et al. Blocking autophagy prevents bortezomib-induced NF-kappaB activation by reducing I-kappaBalpha degradation in lymphoma cells. PloS one 2012; 7: e32584.
- Ramsay et al. Multiple inhibitory ligands induce impaired T-cell immunologic synapse function in chronic lymphocytic leukemia that can be blocked with lenalidomide: establishing a reversible immune evasion mechanism in human cancer. Blood 2012. 120: 1412-1421.
- Davies and Gribben. Blockade of chemotaxis in graft-versus-host disease. The New England journal of medicine 2012; 367: 1667-1668.
- Wrench et al. SNP rs6457327 in the HLA region on chromosome 6p is predictive of the transformation of follicular lymphoma. Blood. 2011; 117: 3147-3150
- Ficz G et al Dynamic regulation of 5-hydroxymethylcytosine in mouse ES cells and during differentiation. Nature 2011; 473: 398-402

Who does the research

Prof .John Gribben	Tumour microenvironment, immunotherapy
Dr. Jeff Davies	Immunotherapy, allogeneic stem cell transplantation
Dr. Gabriella Ficz	Epigenetics and stem cells
Dr. Jude Fitzgibbon	Molecular pathogenesis of lymphoma, epigenetics
Dr. Li Jia	Apoptosis and autophagy in leukaemia & lymphoma
Dr. Rifca LeDieu	Immunotherapy of leukaemia

Major Funders

- Cancer Research UK
- Kay Kendall Leukaemia Fund
- Leukaemia & Lymphoma Research Fund
- Medical Research Council
- US NIH