



20 years of Dedication to Strive for Higher Survival Rates



Leukaemia, also known as blood cancer, is the top most childhood cancer in Hong Kong accounting for over 30% of all paediatric cancer and acute lymphoblastic leukaemia (ALL) is the most common among these children.

Studies has been done for many years to find a more accurate and precise method to detect and quantify minimal residual leukaemic cells in ALL patient's, so that doctors can provide customised treatment plan to help increase survival rates and reduce the chance of relapse. Since 1997, The Chinese University of Hong Kong has been participating in related international clinical studies, introducing the use of Molecular Diagnosis for analysis and treatment follow-up. Later on, the Minimal Residual Disease (MRD) was used within one to three months after patient's chemotherapy, using Flow Cytometry to analyse the residual leukaemic cells in the bone marrow. The advantage of this new technology is that it can detect far more accurately than using a microscope, so that the doctors could provide a more appropriate treatment plan to reduce the chance of relapse.

The research team targeted 200 ALL patients, using MRD to monitor their minimal residual leukaemic cells and follow up with them for seven to eight years. The follow-up data showed that patients with low level of MRD were less vulnerable to relapse (less than 10%). In 2008, the team collaborated with hospitals in the Mainland China to study the treatment effectiveness by comparing 'using' and 'not using' MRD results for treatment strategy. The results showed that treatments are more effective using the MRD results, for example, patients with low MRD (low relapse rate) would be categorised as 'standard risk', they were treated with less intensive chemotherapy, while patients with positive MRD classified as 'high risk' received more intensive treatments and sometimes might even need bone marrow transplants.





Related Research Project

Year	Project
1997 – 2008	- Molecular Diagnosis of Childhood Cancer Project - Parallel study on minimal residual disease by flow cytometry since 2002 Conducted by Dr K W Chik and Prof C K Li, CUHK
2003 – 2007	- Detection of minimal residual disease by flow cytometry Conducted by Prof Margaret Ng, Dept of Anatomical & Cellular Pathology, CUHK & HKPHOSG
2008 – 2012	- Molecular diagnosis and minimal residual disease monitoring of childhood acute lymphoblastic leukaemia in Hong Kong (ALL-CCLG2008 Study) Conducted by Prof C K Li & Prof Margaret Ng, CUHK & HKPHOSG
2012 – 2018	- Minimal residual disease (MRD) monitoring of childhood acute lymphoblastic leukaemia in Hong Kong Conducted by Prof C K Li & Prof Margaret Ng, CUHK & HKPHOSG
2018 – 2019	- Minimal residual disease (MRD) monitoring of childhood acute lymphoblastic leukaemia in Hong Kong Conducted by Prof C K Li & Prof Margaret Ng, CUHK & HKPHOSG



Total Research Sponsorship

HKD\$12,250,000



Survival Rate

78% → 87%

Professor Li Chi-kong, one of the chief investigators of the study said, after years of experience exchange and clinical studies with the Mainland and overseas, it has proven that this technology did enhance the effectiveness of medical treatment. And it is encouraging to know that the survival rate of patients in Hong Kong has also increased from 78% to 87% as a result.

MRD is an international monitoring standard in treating ALL. The Children's Cancer Foundation has been sponsoring related studies since 1997 and is most delighted to know that the service will become part of the standard treatment protocol for ALL patients in the Hong Kong Children's Hospital. We hope that the service will benefit much more patients in need. CCF will continue to support other childhood cancer research projects to strive for a higher survival rates for all childhood cancer.

