

Advance in Childhood Leukemia Research in Chinese Population

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Acute Lymphoblastic leukaemia (ALL) is the commonest childhood malignancy and the cure rate is now approaching 90%. Over the past few decades, research studies on various aspects of ALL were conducted in Hong Kong (HK). Initially the research studies were on epidemiological studies, including timing of exposure to infection and Impact of SARS on ALL. The clinical studies were firstly local multicenter study, the HKALL 1993 which showed suboptimal results. The next local study extended to regional collaboration with Singapore achieved a marked improvement in survival outcome. Due to small sample size in a city, HK then participated in the International-BFM Study Group and formally joined the large international IC-BFM ALL 2002 Study with countries in Europe and S. America, and recruited over 5000 patients. The participation in the I-BFM group facilitated the HK group to join in more international clinical studies, EsPhALL Study and Interfant Studies. Through the international collaborative studies, new advances in laboratory diagnostic and monitoring methods were introduced in HK. Minimal Residual Disease monitoring by Flow Cytometry and PCR methods were developed and validated in HK laboratories. The treatment and research standard could be elevated to international level. HK also takes active participation in the mainland China multicenter clinical studies, and sharing the international experience with the mainland counterparts. The CCLG2008 Study had been completed with more than 2000 patient recruited. The current ongoing CCCG2015 studies is a much larger study with randomization arm for Ph ALL with two different TKI treatment. The study aimed at recruiting 5000 patients in coming 5 years study. With such a large study, the conduct of study is monitored and audit of data is now also incorporated. The research experience gained through international studies actually helped to promote the research standard in the national studies. Other than the multicenter studies, HK is now also starting the pharmacogenetics studies specific for Chinese children including the NUDT15 genetic polymorphism on thiopurine metabolism. Scientific research on new targets for resistant or refractory leukaemia is also ongoing, new target is tested in xenograft model based on human leukaemia samples. National and international collaborative studies have brought new advances in the treatment, and basic scientific research will look for the new treatment approach.