

## **NCI Division of Cancer Epidemiology and Genetics AsiaLymph study– Executive Summary**

The contribution of environmental, occupational and genetic factors to lymphoma has generated a series of novel findings in studies of Caucasians in research conducted by investigators at NCI and elsewhere. However, essentially none of the associations have been conclusively established and thus require further elucidation. Further, the ability to follow-up, confirm, and extend these observations is limited by the low prevalence and limited range of several important chemical exposures and the almost complete linkage disequilibrium among key candidate genetic loci in Western populations. To optimize the ability to build on and clarify these findings, it is necessary to investigate populations that differ from Caucasians in both exposure patterns and underlying genetic structure. A multidisciplinary case-control study of lymphoma in Asia provides an opportunity to replicate and extend observations made in studies among Caucasians in a population that is distinctly different with regard to patterns of key risk factors, including range of exposures, prevalence of exposures, correlations between exposures, and variation in gene regions of particular interest. Further, incidence rates of certain lymphomas have increased in several centers in Asia thereby increasing the cancer burden in these populations, but the causes remain unknown.

This is a hospital-based case-control study of lymphoma in Eastern Asia (i.e., AsiaLymph) of 3,300 patients with lymphoma and 3,300 controls to be enrolled over a three-year period which is set to begin consenting in March, 2012. The major postulated risk factors for evaluation in this study are chemical exposures (i.e., organochlorines, trichloroethylene, and benzene) and genetic susceptibility. Other factors potentially related to lymphoma, such as viral infections, ultraviolet radiation exposure, medical conditions, and other lifestyle factors will also be studied to follow up previous leads identified in NCI studies. A particularly noteworthy aspect of AsiaLymph is the leading-edge central pathology review with complete immunophenotyping, which will enable accurate analysis of findings by molecular and histologic subtypes. AsiaLymph should confirm and extend previous findings and yield novel insights into the causes of lymphoma in both Asia and the West, and will be the most comprehensive and well-powered study of its type conducted anywhere in the world to date. The study's investigators and consultants are among the leading lymphoma researchers in the world, and include individuals in the US government and in universities in the United States, Europe, and China.

The study is being conducted in four centers: Hong Kong, Chengdu, Tianjin, and southern Taiwan. Patients from 20 participating hospital will be enrolled into one of two groups: the cases (newly diagnosed patients with lymphoma) or the control group (patients undergoing surgery or other treatment for non-cancer related medical issues). There will be a one-time computer-administered interview, by trained nurse-interviewers, which will take an average of 75-90 minutes. Patients will also be asked to provide a one-time blood and buccal cell mouth wash sample, and cases will be asked allow a portion of their pathology sample be made available for research purposes after clinical testing. The study has been approved by the NCI SSIRB and by IRBs at each of the four study centers.