

Partnership with China prompts change in care for high-risk type of leukemia

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Ching-Hon Pui, M.D., St. Jude Department of Oncology chair, and Carlos Rodriguez-Galindo, M.D., St. Jude Department of Global Pediatric Medicine chair, launched a randomized clinical trial for the rare Ph+ ALL by collaborating with the Chinese Children's Cancer Group. Credit: St. Jude Children's Research Hospital

Researchers from St. Jude Children's Research Hospital and the Chinese Children's Cancer Group led the first randomized, Phase III clinical trial comparing targeted therapies for acute lymphoblastic leukemia (ALL) driven by the Philadelphia chromosome. Results showed that the drug dasatinib provides more benefit than the standard of care, which led to changes in the way this leukemia is treated. The findings were reported today in *JAMA Oncology*.

Fusions of the BCR-ABL1 genes, resulting in the formation of the Philadelphia chromosome, underlie 3-4% of cases of childhood ALL. This subtype is high risk and associated with poor outcomes.

"This was a very fruitful collaboration," said corresponding and co-senior author Ching-Hon Pui, M.D., St. Jude Department of Oncology chair. "No single institution could enroll enough patients to do this kind of randomized clinical trial. By working with the Chinese Children's Cancer Group, we were able to answer which targeted therapy provides the most benefit."

Researchers compared the efficacy of imatinib, the first targeted therapy for Philadelphia chromosome-positive (Ph+) ALL, and a next-generation inhibitor called dasatinib. The study showed that dasatinib resulted in an event-free survival rate of 71% compared to 49% with imatinib over four years.

The study enrolled patients with Ph+ ALL at 20 major hospitals throughout China. Of those, 92 patients received dasatinib, and 97 received imatinib. All patients underwent [intensive chemotherapy](#) without prophylactic cranial radiation, and only four patients underwent stem cell transplantation.

"This study demonstrates the importance of global medicine," said Carlos Rodriguez-Galindo, M.D., St. Jude Department of Global

Pediatric Medicine chair. "Results from studies run in one country can save the lives of children around the world by informing changes in the standard of care."

Findings from this clinical trial were reported at the European Society for Paediatric Oncology and American Society of Hematology annual meetings in 2019. This data helped inform decisions by other national study groups in the U.S. and Europe to include [dasatinib](#) for the treatment of Philadelphia chromosome-positive ALL in clinical protocols going forward.

Provided by St. Jude Children's Research Hospital

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