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Der-Cherng Liang, MD, 1947–2017

Ching-Hon Pui, MD and

St. Jude Children's Research Hospital, Memphis, Tennessee

Hsi-Che Liu, MD

Mackay Memorial Hospital and Mackay Medical College, Taipei, Taiwan

Der-Cherng Liang, M.D.— a master physician, an innovative clinical investigator and an inspiring mentor—died December 2, 2017. He was 70.

Known for his brilliance, wit, humor and generous spirit, Dr. Liang was a treasured colleague, collaborator and friend. He was professor emeritus of MacKay Memorial Hospital, Taipei, and dedicated his life to advancing research and treatment of pediatric leukemia. Dr. Liang was among the first in Asia to employ a tailored or personalized approach to childhood leukemia therapy. The approach maximized cures and minimized treatment side effects. As a result, thousands of children with blood cancer in Taiwan and beyond have enjoyed a better quality of life.

Born February 24, 1947 in Xiushui, Taiwan, Dr. Liang loved learning from an early age. He was an avid reader with a particular fondness and encyclopedic knowledge of world history. Dr. Liang relished studying how countries, civilizations and dynasties flourished, interacted and influenced one another. In his own writing, Dr. Liang immersed readers in the sights and sounds of the period. If not for his passion for taking care of children with cancer, Dr. Liang would have gladly become a history professor.

Dr. Liang graduated from the National Taiwan University in 1972. After one year of Marine Corps service, he trained with Professor Lin Kuo-Sin at the National Taiwan University Hospital and became one of the country's first pediatric hematologists-oncologists in 1977. After training in hematopoietic stem cell culture at the National Shinshu University in Japan, Dr. Liang joined Mackay Memorial Hospital in 1981. There, he founded the Division of Pediatric Hematology-Oncology, one of the first subspecialized divisions in Taiwan. He was a founding member of Taipei Childhood Leukemia Study Group, which was the first cooperative study group of cancer in Taiwan. The group expanded to become the Taiwan Pediatric Oncology Group in 1988, for which Liang served as the principal investigator for acute lymphoblastic leukemia clinical trials beginning in 1993. He also served as co-principal investigator for the trials on acute myeloid leukemia.

Dr. Liang taught countless medical students at the National Taiwan University, the Taipei Medical University, and the Mackay Medical College. He also trained 18 pediatric

*Correspondence to: Ching-Hon Pui, MD, St. Jude Children's Research Hospital, 262 Danny Thomas Place, Memphis, TN 38105. ching-hon.pui@stjude.org.

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hematology-oncology fellows, many of whom have become leading investigators in the field. He treated his patients as if they were his own children, often helping to pay for care.

Dr. Liang pioneered the use of minimal residual disease measure to direct treatment, and was the first investigator to omit prophylactic cranial irradiation and to use prophylactic antimicrobial treatment in Asia. Among his most notable contributions was his innovative approach in central-nervous-system-directed treatment, leading to successful omission of prophylactic cranial irradiation in patients with acute lymphoblastic leukemia. The method involved delaying triple intrathecal treatment until the circulating blasts in patients were largely cleared with systemic chemotherapy. He took this approach believing that it would eliminate the hazard of traumatic lumbar puncture with blasts, a major risk factor for central-nervous-system relapse. This method was proved to be highly successful, resulting in a five-year survival rate over 90 percent with negligible rate of central-nervous-system relapse.

Dr. Liang was among the first to discover the *ETV6-RUNX1* fusion. The fusion gene is the most common genetic abnormality with the best prognosis in childhood acute lymphoblastic leukemia. He subsequently showed the racial and ethnic differences in the prevalence of this genetic subtype and hyperdiploidy>50, another common and favorable genetic subtype. He challenged the notion that Erwinase is essential for patients with hypersensitivity reaction to *Escherichia coli* asparaginase. He showed that the drug could be safely omitted in many hypersensitive patients, relieving the financial burden for many families.

For his outstanding research accomplishments and mentorship, Dr. Liang had received numerous awards. He also served in many leadership positions to shape the research directions, to design treatment guidelines, to accredit the hospitals and medical centers, and to advance the academic standards in Taiwan. He had been a contributing member of the Ponte di Legno group since 1995.

Dr. Liang's commitment to his profession was unwavering. Despite having a painful autoimmune disorder, he worked every day. During his last hospital stay, Dr. Liang communicated often with colleagues to ensure his patients were well cared for and he even completed a manuscript for the Taiwan Pediatric Oncology Group.

He is survived by his wife, close professional collaborator and best friend of 44 years, Professor Lee-Yung Shih; son, Pu-Sheng; daughter, Chia-Chien; his mother; two brothers and a sister. We mourn the loss of Dr. Liang, but know that his legacy lives through the children he saved and those privileged to call him colleague, mentor and friend.

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Figure.
Enjoying a children's performance in 2014.