Pediatric RESEARCH

INSIGHTS

# Dr. Giulio J. D'Angio (1922–2018)

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On September 14th 2018 a true giant in pediatric oncology died peacefully at home at the age of 96, after a remarkably prolific academic career. Dr. Giulio J. D'Angio, affectively know as Dan to most around him, had a far-reaching impact on the lives of thousands of children with cancer because as a true visionary he recognized early on the importance of interdisciplinary multicenter research to advance the outcome of childhood cancer. In doing so, his efforts to improve the lives of children with cancer reached far beyond Philadelphia, the city he had moved to in the late 1960's to practice medicine. Dan was an expert in diagnostic radiology, radiation oncology, pediatric oncology, and cancer survivorship. He contributed in a very significant way to the excellent survival rates that now exist for children affected by childhood kidney cancer, most notably Wilms tumor.

Dr. D'Angio, the son of Italian immigrants, was raised in Brooklyn, earned an undergraduate degree at Columbia University and his medical degree from Harvard Medical School. World War II caused an interruption in his training as he served in the Pacific Ocean theatre. After he returned he felt fortunate to receive part of his training by giants in Medicine, like the surgeon William E. Ladd and the radiologist Martin "Dick" Wittenborg. At Boston Children's Hospital he worked with the world renowned pathologist Sydney Farber and witnessed firsthand the introduction of chemotherapy for children with cancer, a highly controversial approach that according to its detractors only unnecessarily prolonged the suffering of children affected by cancer. But visionaries like Dr. Farber and Dr. D'Angio focused on the 'prolongation of life' as the first sign that cures were possible. And we owe it to their courage and perseverance in those early years for the successes that we take for granted in 2019.

Dan's contributions to pediatric medicine were many as exemplified by the over 500 manuscripts that he authored or co-authored. But above all he contributed by promoting and often help establish enduring and prolific collaborations, key in advancing the field of disorders with a low prevalence. And most, if not all, childhood cancers are indeed rare, making that any given institution would only see and treat a limited number of cases. To overcome this limitation, forging alliances was key. And so, the so-called 'cooperative group system for clinical research' began in 1955 with the establishment of the Acute Leukemia Chemotherapy Cooperative Study Group A (ALCCSGA), a consortium focused on childhood acute leukemia.

Dan's ability and enjoyment in working with others was instrumental in establishing another cooperative group: the National Wilms Tumor Study (NWTS) Group in 1969, which over the ensuing decades would become a model for interdisciplinary cooperation between oncologists, pathologist, surgeons, radiation oncologists, statisticians, and later on molecular biologists. Given his gentle character an readiness to share his talents with any person or organization that sought to improve the lives of children with cancer and their families, it should not have been surprising that 2 years later, Dan attended the first meeting of the Nephroblastoma Study Design Committee established by the Société Internationale d'Oncologie Pédiatrique (SIOP), by many viewed as NWTS's European counterpart. Their first study, SIOP-1, was designed to test whether preoperative radiation therapy would be better than primary surgery, forming the basis for future SIOP nephroblastoma studies, all designed around preoperative therapy in contrast to NWTS studies, all designed around upfront surgery. The friendly, but definitely real, competition between these two multidisciplinary study groups divided by the Atlantic ocean brought the best in each one of them, improving outcomes and decreasing long-term side effects for affected patients worldwide, and fundamentally enhancing our understanding of the biology and biologic behavior of Wilms tumor and the other pediatric kidney cancers.

As survival started to improve, Dan as no other recognized the harmful effects of therapy, most notably of radiation therapy. Thus

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part of his clinical research efforts was to demonstrate that less radiation therapy, in particular when given in combination with chemotherapy, could yield similar or even superior survival results with less long-term side effects. Dan was the quintessential advocate for the fact that "Cure is not enough" and so actively participated in shaping cancer survivorship as a discipline. He also learned early on in his career that a child with cancer affected the whole family. As such he advocated for care that would encompass the psychosocial and economic burdens associated with childhood cancer. He would go on to actively seek and subsequently obtain the input of parents and survivors in driving the childhood cancer agenda, locally, nationally, and internationally.

Dan was the founder of several scholarly organizations, including the Society for Pediatric Radiology, the Pediatric Radiation Oncology Society, the Histiocyte Society, and the Late Effects Study Group, which ultimately led to the Office of Cancer Survivorship at the National Institutes of Health. While he was not the founder of SIOP, he contributed immensely to its growth and success. In 1977, he hosted the annual SIOP meeting in Philadelphia together with Dr. Audrey Evans, another giant in pediatric oncology whose name is associated with the staging classification used for neuroblastoma. Ten years later, from 1986 to 1987, Dan served SIOP as its first non-European president. In 2018, both Dr. D'Angio and Dr. Evans were awarded with SIOP's Lifetime Achievement Award when the delegates convened in Washington, DC. Dan also served as the Editor-in-Chief for Medical and Pediatric Oncology (later Pediatric Blood and Cancer), the official journal for SIOP and the American Society of Pediatric Hematology/Oncology for many years. In this role he not only oversaw the review of manuscript submitted to the journal but actively tried to help authors from countries where English was not their primary language who had submitted good work, packaged in poor English. Ever since the erudite French pediatric oncologist Dr. Odile Schweisguth had asked him to 'speak slowly and distinctly, because not everybody in the audience is a native English speaker' when he gave his first talk at a SIOP meeting, Dan had realized that what was important was not what was being said, but what was being heard, not what was being written, but what was being read. And he developed a keen ability to help others optimize at being heard and read properly.

Dan was a gentle and kind human being, sharp like a whip, but modest and humble. He was genuinely interested in what others had to say and as such a superb listener. He upheld the highest ethical standards and was deeply loyal to his family, friends, and colleagues, He would never embarrass people in public. Rather he challenged statements in private and immediately offered his help, skills, and experience to elucidate the truth. His was a superb, nurturing, and patient mentor, and would gloat when his mentees succeeded. As a result many in today's field of renal tumor research and care experience Dan's passing as a true personal loss. He was instrumental in our professional success. We are his legacy and as such carry an enormous responsibility to carry on the torch of improving outcomes in children with cancer by careful basic, translational, clinical, and epidemiologic research.