Herman Vanden Berghe 1933-2017

Cancer cytogenetics has lost one of its founding fathers. Professor Herman Vanden Berghe died on January 23, 2017 at the age of 83. He is survived by his wife Maria Van Orshoven, six children, and 16 grandchildren.

In 1966, Herman Vanden Berghe established the Centrum voor Menselijke Erfelijkheid (Center for Human Genetics) at the medical faculty of the Catholic University of Leuven, Belgium, and he served as its director for more than three decades. Thanks to his visionary and inspiring leadership, the new center broke the boundaries of classic human genetics; cell biology served as the backbone to which medical genetics, clinical genetics, cytogenetics, and informatics were linked and integrated. A vast network of national and international cooperation was established and the new institute soon attracted students and scientists from all over Belgium, Europe and beyond. Professor Vanden Berghe was an inspirational scientific leader who encouraged those around him to do the very best science and who used all the resources at his command to promote their activities as independent investigators. Many of those mentored by him had bright careers ahead of them as prominent geneticists-scientists.

Professor Vanden Berghe's main personal research interest was cancer cytogenetics where he achieved international recognition in 1974 when he was the first to describe an interstitial deletion of the long arm of chromosome 5 as the sole anomaly in patients with refractory anemia. The clinical and morphological features of this "5q- syndrome" were later delineated and it is now established as a distinct and important disease entity – myelodysplastic syndrome with isolated del(5q). Subsequent analyses by Vanden Berghe and his colleagues at the University of Leuven detected and characterized a number of recurring translocations in leukemias and lymphomas, including the clinically important t(2;8)(p12;q24) in Burkitt lymphoma, t(4;11)(q21;q23) in acute lymphoblastic leukemia, and t(6;9)(p23;q34) in acute myeloid leukemia. It may be difficult to appreciate fully these achievements today when several hundred characteristic chromosome aberrations are known in various hematologic disorders, but these studies were made at a time when very few laboratories were able to study leukemic cells using the newly introduced chromosome banding techniques. In the 1980s, Vanden Berghe's group initiated cytogenetic analyses also of solid tumors – a technically even more challenging project in those days. For two decades they reported chromosome aberrations identified by banding in different solid tumor types, describing many recurrent, specific, and even pathognomonic, rearrangements in benign and malignant tumors from different organ systems. He and his co-workers subsequently also characterized several of the specific chromosomal rearrangements at the molecular level and were hence able to identify the pathogenetically important genes.

Professor Vanden Berghe was instrumental in establishing and organizing two important international collaborative efforts in cancer cytogenetics: The International Workshops on Chromosomes in Leukemia (IWCL) in the 1970s and the Chromosomes and Morphology (CHAMP) Study Group in the 1990s. Both were at the time unique collaborations among cytogeneticists, clinicians, and pathologists who shared their data in order to find associations between cytogenetic aberrations and clinical characteristics in hematologic disorders and bone and soft tissue tumors, respectively. These collaborative efforts – each continued over a ten-year-period – showed that cytogenetics could subdivide phenotypically identical neoplasms into distinct subgroups and that this classification had important diagnostic and prognostic implications. The workshop results consolidated cytogenetics as a clinically useful diagnostic tool both in hematology and orthopedic oncology and laid the ground for the presently used WHO classifications of these neoplasms.

Over the years, Professor Vanden Berghe served on many scientific committees, panels, and advisory boards. From 1985 to 1995 he was the Vice Rector and research coordinator of Leuven University. After his imposed retirement as Director of his institute in 1999, due to mandatory retirement age regulation in Belgium, he served from 2000 to 2003 as the chairman of the King Baudouin Foundation, the largest foundation in Belgium whose mission is to help develop a better society by, e.g., improving living conditions, health, quality of life, increasing confidence in democracy, and building bridges among peoples and nations within Europe.

Prestigious honors and awards were bestowed on Professor Vanden Berghe, including honorary doctorate degrees from the universities of Ferrara, Hamburg, Kinshasa, Leuven, and Perugia. He was honorary citizen of the city of Leuven and in 1993 he was knighted with the title Baron by the king of Belgium.

Herman Vanden Berghe was an amiable companion and collaborator, a connoisseur of fine wine and cuisine, and a passionate music lover, active as a horn player and as a choir member of the Schola Cantorum of Sint-Kwintenskerk in Leuven, a well-known Gregorian chant choir. As research coordinator at Leuven University, he established in 1991 the Alamire Foundation, which has become an international center for the study of music in the Low Countries. Herman Vanden Berghe served as its president for 25 years and he was deeply involved in the activities of the foundation until his death. He was particularly delighted that he had lived long enough to witness the merging of his two life-long devotions – musicology and genetics. Shortly before he died, he enthusiastically wrote to me “We have found a method to analyze sequences in Gregorian chants with algorithms used for DNA analysis. Isn’t that great!”

All of us who feel close to him, a huge community of people from many angles of society, remember Herman Vanden Berghe with immense gratitude for his inspiration, new insights and encouragement. He will be dearly missed by pupils, colleagues, and friends throughout the world.

Felix Mitelman