



American Society for Investigative Pathology
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Rous-Whipple Award – 1992

Dr. Russell Ross

Obituary for Dr. Russell Ross
May 25, 1929 - March 18, 1999

Written by Dr. David P. Hajjar

Dr. Russell Ross, aged 69, whose Response-to-Injury Hypothesis on the origins of human atherosclerosis revolutionized research on heart disease world-wide, died at the University of Washington (UW) Medical Center on March 18 in Seattle, Washington after a brief illness. "Dr. Russell Ross was, because of his intellectual vigor and scientific insight, a giant among medical researchers," said Paul G. Ramsey, vice president for medical affairs and dean of the UW School of Medicine. His accomplishments dramatically shaped cardiovascular research in the last 30 years. Dr. Ross was an excellent teacher, whose enthusiastic dedication to research and to the teaching of graduate and medical scientists was legendary. Indeed, he spurred countless young physicians-scientists to study the causes of heart and vascular disease.

Dr. Ross was a UW Professor of Pathology, former Chairman of their Department of Pathology, and Associate Dean of Scientific Affairs. He was credited with many major research discoveries, particularly in understanding the mechanisms of the complex disease, atherosclerosis, which is the principal cause of heart attacks and strokes. "Indeed, we lost a pioneer in American medicine. He was a real catalyst in driving the field forward," said David P. Hajjar, Dean of the Graduate School of Medical Sciences at Cornell University. As early as 1973, Dr. Ross proposed that localized injury to the lining of the arteries is responsible for the accumulation of arterial smooth muscle cells. This cell accumulation can create large masses that eventually block the artery. A major contribution of Dr. Ross and his research team was the identification and characterization of a factor that stimulates the abnormal cell growth and migration of smooth muscle cells into arterial lesions, viz., platelet-derived growth factor. Later, researchers found the same factor in cancer cells and in cells that repair wounds. Ross and his colleagues also established a role for scavenger cells, those which engulf toxins, bacteria, and fat, in the cell proliferation process during atherosclerosis. The significance of platelet-derived growth factor was further emphasized in 1991 when Ross and his colleagues demonstrated that they could hinder the process of smooth muscle accumulation after surgery to dilate narrowed arteries.

A humanitarian and prolific scientist, Dr. Ross was the author of 385 published papers and book chapters. This work in turn spawned research at many other medical laboratories around the world. "Dr. Ross was an original thinker whose ideas and research results guided most of the important work done in the past 25 years in atherosclerosis," said Dr. Nelson Fausto, Professor and Chairman of the UW Department of Pathology. "He was also an outstanding lecturer and teacher. He trained any postdoctoral fellows who went on to have distinguished careers of their own both in this country and throughout the world." At a personal level, Dr. Ross often said that the scores of students and fellows from all over the world that he trained were his most important legacy.

Dr. Michael Gimbrone, Professor of Pathology at Harvard Medical School, stated that "Dr. Russell Ross was an icon in the field of atherosclerosis research. His innovative concepts helped set the framework for many of the significant advances that have been made over the last two decades. His dedication to understanding the underlying mechanisms responsible for heart attack and stroke undoubtedly will continue to bear fruit in terms of new therapies and strategies for prevention, and, this will be a lasting legacy."

Dr. Ross' fundamental contributions to vascular biology and to the causes of circulatory diseases were recognized by many scientific academies and health associations around the globe. He was a fellow of the American Academy of Arts and Sciences and a member of the Institute of Medicine of the National Academy of Sciences. He is the recipient of over 25 honors and awards including the American Heart Association Research Achievement Award. He held many distinguished lectureships in universities in the United States, Canada, Asia and Europe, and was the past president of the American Society for Investigative Pathology. He was a recipient of their Rous-Whipple Award.

Dr. Ross was born in St. Augustine, Florida, on May 25, 1929. He graduated from Cornell University in 1951, earned a D.D.S. degree from Columbia University in 1955, and a Ph.D. degree in Experimental Pathology in 1962 from the UW. In addition to his devotion to research and the UW School of Medicine, Dr. Ross was heavily involved in community activities and devoted many years of service on the Seattle Symphony Board. Dr. Ross leaves his wife of 43 years, Jean Teller Ross; his daughter, Valerie, a family therapist in Seattle; and his son, Douglas, an MD/Ph.D. postdoctoral fellow at Stanford University.