

In Memoriam

Akira Takeshita, MD, PhD

1940–2009

Hiroaki Shimokawa, Donald Heistad

Akira Takeshita, MD, PhD, 69, Professor Emeritus of Cardiovascular Medicine and Director Emeritus of the Institute of Angiocardiology, Kyushu University Graduate School of Medicine, Japan, died on March 15, 2009 after a long illness. Dr Takeshita was an internationally recognized leader in cardiovascular medicine. His research focused on neural regulation and vascular biology.

Dr Takeshita was born on January 24, 1940. He earned his MD degree from Kyushu University School of Medicine in 1965. His unique and international career started immediately after his graduation when, unlike many other Japanese physicians, especially at that time, he moved to the Tachikawa U.S. Air Force Hospital near Tokyo, where he was an intern and resident. He met Makiko, who was performing her externship in anesthesiology at the Hospital, and they married in 1968. They helped each other as the best partners in life and also as medical professionals, for 41 years until his death.

In 1967, Dr Takeshita returned to Kyushu University where he trained in the Department of Cardiovascular Medicine. He then moved to Mount Sinai Hospital, Cleveland, in 1968, where he completed his residency in internal medicine. In 1970, he was appointed a Cardiology fellow in the Department of Internal Medicine at the University of Iowa, where he spent three years. He started his research on neural control of the cardiovascular system, with guidance from Drs Allyn L. Mark and Francois M. Abboud. Dr Takeshita returned to Japan in 1973 to continue his research at Kyushu University, where he received his PhD degree.¹ In 1976, he returned to the University of Iowa as an Assistant Professor, where he pursued research on hypertension in experimental animals and humans.



In 1980, Dr Takeshita was appointed as Associate Professor in the Department of Cardiovascular Medicine of Kyushu University. In 1990, he was promoted to Professor and Chairman of the Department, and Director of the Institute of Angiocardiology, where he served for 13 years until he retired in 2003. The Institute is one of the leading cardiovascular research and training centers in the world. Dr Takeshita served as Principal of the Aso Medical School from 2003 to 2007, and then as advisor at the Saiseikai Futsukaichi Hospital.

Professor Takeshita served as President of the Japanese Circulation Society (2002–2003), and as a board member of many scientific societies. He served as the first Asian Editor of *Arteriosclerosis, Thrombosis, and Vascular Biology (ATVB)* from 1999 to 2007. Dr Takeshita was an exemplary Editor, as *ATVB* arguably became the leading vascular biology journal in Japan. He also served as an editorial board member of many scientific journals, including *Circulation*, *Circulation Research*, *Hypertension*, and *American Journal of Physiology*. Throughout his career, Professor Takeshita was an outstanding researcher, clinician, teacher, and mentor.

As a scientist, Dr Takeshita made great contributions in cardiovascular research in animals and humans. Early in his career, he demonstrated that neural mechanisms are involved in the pathogenesis of salt-induced hypertension in animals^{2,3} and that forearm vasodilator capacity is reduced in borderline hypertension in humans.⁴ He was among the first to perform translational research, ranging from animal experiments to human studies. He performed a series of studies in animals and humans on the importance of vagal afferents, including arterial and cardiopulmonary baroreflex^{5–8} and the role of

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atrial natriuretic peptides,^{9,10} for which he received the Beltz Award in 1990.

In the 1990s and 2000s, in addition to studies of neural control of the circulation,^{11,12} Dr Takeshita expanded his research to study oxidative stress,^{13,14} endothelial function,^{15,16} and intracellular signal transduction.^{17–19} He was a pioneer in vascular biology and in incorporation of cell and molecular biology into his research. Under his leadership, the Department and Institute became world-class leaders in cardiovascular research and training. During his 13 years as Professor at Kyushu University, Dr Takeshita guided 95 young physicians in their PhD studies. Six of his trainees became Professor and Chairman of Departments of Internal Medicine and related medical fields in Japan.

Dr Takeshita was an excellent teacher and clinician. He emphasized that physicians should understand the pain of their patient. At his retirement lecture in February 2003, Professor Takeshita said that doctors not only should make lifelong efforts to improve their skills in diagnosis and treatment of diseases, but should grow in their humanity so that they can understand the pains, fears, loneliness, and despair of patients. He emphasized that medicine is an art, where physicians should help patients not only physically, but also psychologically. Professor Takeshita also pointed out that physicians should be involved in social aspects of medicine. At his presidential lecture during the meeting of the Japanese Circulation Society in March 2003, entitled “Physician’s Task for the Better Medical System in Japan,” he addressed several important issues to improve the medical system in Japan.²⁰

Outside of medicine, Dr Takeshita’s interests included mountain hiking, reading books, music, and watching sports, especially baseball and football. He was a brilliant but humble investigator and leader. He seemed to be shy and formal, but was exceedingly warm and caring. Surrounded by Makiko and their three children, his last words to them were “thank you.” Akira Takeshita will be remembered as a superb scientist and leader, and as a warm friend, by all of us who were fortunate to have known him.

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