Important Contributions to Cardiothoracic Surgery by Japanese Thoracic and Cardiac Surgeons

Cardiothoracic surgeons in Japan have made outstanding contributions to our knowledge and therapy of diseases and anomalies of the heart, lungs, esophagus, chest wall and diaphragm. It is an honor for me to address this subject at the 57th Annual Meeting of the Japanese Association for Thoracic Surgery in Sapporo because your President, Tomio Abe, is a valued friend and colleague who worked with me and my group as a Research Fellow at Washington U. from 1970–1973. He was recommended by Prof. Juro Wada, then the Chief in Sapporo. I was privileged to meet Prof. Wada at U.S. meetings. One of Prof. Wada’s many contributions was the first cardiac transplant in Japan. Dr. Abe’s work in St. Louis led to 12 publications and he was the first author of two papers. Since, his contributions expanded to more than 550 publications on treatment of complex congenital heart diseases, ventricular assistance, myocardial protection, valvular heart disease and aortic aneurysms. An operation for correction ofTaussig-Bing malformation reported in 1984 is now referred to as the Abe operation. Torikata, in 1925, introduced “free thoracotomy” with no differential pressure. In 1933, Ohsawa successfully resected the esophagus with immediate reconstruction—the first in the world. Wada, in 1963, developed a thermocardiac oxygenator and in 1966 the first tilting disc heart valve—the Wada Cutter Valve and other contributions as a worldwide ambassador for Japanese Surgery. Kawata, et al. showed better ventricular function after patch reconstruction of left ventricular aneurysms. Ueda, et al. revived retrograde cerebral perfusion for repair of aortic arch aneurysms. Nakayama, Akiyama and Isono made important contributions to esophageal cancer surgery. Kimoto, et al., in 1956, performed open cardiac surgery under direct vision with brain cooling by irrigation. Sakakibara, et al., Hikasa, et al., Atsumi, et al., and Takano and Akutsu made contributions to cardiac surgery. There were many other contributions by Japanese Surgeons.


Key words: contributions-cardiothoracic surgery, Japanese cardiothoracic surgeons

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On this occasion of the 57th annual meeting of the Japanese Association for Thoracic Surgery it is appropriate to recognize the important contributions to cardiothoracic surgery by Japanese Thoracic and Cardiac Surgeons. It is a particular pleasure and honor for me to do this here in Sapporo during the Presidency of my good friend and colleague Dr. Tomio Abe. Cardiothoracic surgeons in Japan have made a number of outstanding contributions to our knowledge, techniques and therapy of diseases and congenital anomalies of the heart, the lungs, the esophagus, the chest wall and the diaphragm. Twelve Japanese surgeons including Dr. Abe, have become members of the American Association for Thoracic Surgery (Table 1) and also the Society of Thoracic Surgery. Three Japanese surgeons have become honorary members of the American Surgical Association. They are Hiroshi Akiyama and Tsuguo Naruke who are computed tomography (CT) surgeons and Morio Kasa from Sendai (Table 1). Abe is a valued friend and colleague who worked with me and my research group in the United States. President Abe was a research fellow in Surgery with us at the Washington University School of Medicine in St. Louis, Missouri from 1970 to 1973. He came to us on the recommendation of Professor Juro Wada who was then the Chief here in Sapporo. I had the
privilege of meeting Professor Wada at many meetings in the United States. One of Professor Wada's important contributions to Japanese cardiothoracic surgery was to perform the first cardiac transplant in Japan in 1968. He arranged for several of his young colleagues to come and work with us, including Dr. Kaneko. Dr. Asai here in Sapporo has also become a valuable friend and colleague. Professor Wada was Professor and Chairman of the Department of Cardiothoracic Surgery in Sapporo in 1948. He formed and developed one of the earliest such departments in Japan. In 1963 Wada helped develop the first thermoelectric oxygenator. In 1968, he reported on the clinical use of hyperbaric chambers. In 1969, the Wada-Cutter Valve was developed and used repeatedly. This was the first tilting disc heart valve. From 1972 to 1973, over 20,000 major cardiothoracic operations were performed in Sapporo. In 1977, Professor Wada became Professor and Chairman of the First Department of Surgery in Tokyo. Professor Wada is not only a pioneer in cardiothoracic surgery, but a surgical ambassador from Japan to the United States and the world. In the journal Clinical Pharmacology and Therapy in 2001, Medicine's Miracle Men were described, all of whom were involved in transplantation. These included Bigelow, Calne, DeBakey, Kolff, Wada, Yacoub, Kantrowitz and Tanabe (Table II). During Dr. Abe's experience in St. Louis, his work led to 12 publications and presentations, and he was the first author of two papers—one on oxygen consumption of the left ventricle and the other on studies of the hypertrophied heart. Before this he had been author or co-author of 17 papers based on work here in Sapporo. Since his work in the United States, his work and contributions have expanded to more than 500 publications focusing on surgical treatment of complex congenital heart disease, ventricular assistance, myocardial protection, valvular heart disease, cardiac myxomas, aortic aneurysms and others. An operation for correction of the Taussig-Bing malformation was reported by Abe in 1984. It is now referred to as the Abe operation.