Editorial

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Passion in Cardiothoracic Surgery in Korea: Remembering Professor Pill Whoon Hong, M.D.

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Professor Hong was born in Pyeongyang on the 10th of October, 1921 as the fourth of six brothers and sisters in a Christian family. Thanks to his father's influence as a pastor, he had had early encounters with Western culture. While his oldest sister majored in music and his next-oldest sister studied the science of nursing, he chose to major in medicine. It was the natural choice for him to enroll at Severance Medical School as his sister had, given the Christian influence of his family.

After graduating from Severance Medical School in 1942, he finished an intern course at Pyeongyang Christian Hospital and ran his own business in Manpo in the province of North Pyeongan-do for a short time. He then served in the coast guard for 2 years after the liberation of Korea in 1945 and also worked at Seoul Traffic Hospital as a surgeon after his military service. He strongly felt the need for thoracic surgery in Korea based on his experiences, which was why he decided to study abroad with this ambitious vision in the USA in 1949.

After finishing an intern course at Binghamton City Hospital in the USA in 1949, he began a surgery training course by 1953, followed by a thoracic surgery course while a resident at Baylor University Medical Center in Dallas, Texas under the supervision of Professor Robert R. Show for 2 years. Professor Hong faced many difficulties during his training for thoracic surgery, as few Asians were in Dallas in the early 1950s. However, with the kind oversight of Professor Robert Show, he was able to finish the training course, and thereafter he always kept a picture of Professor Show's signature on his desk as a reminder of the great teaching he received during the training course. Professor Hong was made a fellow of the American College of Surgeons in 1957, and passed the American Board of Thoracic Surgery Examination in 1961.

After returning to Korea in December, 1954, he worked swiftly to develop a means of thoracic surgery in Korea. At a time when Korea was destroyed by war (Fig. 1) and was the poorest country in the world with a GDP of less than 1000$, he made history by performing the first thoracic surgery in Korea in a facility with only an old renovated laboratory and operating rooms with poor and intermittent electricity and water supplies. Even under these horrible conditions, he succeeded in serial operations of the lungs, esophagus, and heart, which all put the lives of the patients in his hands, and he also performed numerous animal experiments.

This had all been part of the ambitious dream of Professor Pilll Whoon Hong, who was a man of principle as an academic with a great vision. After returning to Korea his first surgeries included an esophageal operation, a tuberculosis operation, and a pneumonectomy in a lung cancer patient. With these successful operations, he presented his work in surgery-

Fig. 1. Severance Hospital was nearly destroyed during the Korean War in 1953.

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related diagnosis and treatment in clinical and academic papers. In addition, he emphasized the importance of teamwork, especially multidisciplinary teamwork in the scientific as well as clinical research. His specialty was in heart surgery, for which he had prepared under experts of many fields, including cardiology and anesthesiology. After making the diagnosis and carefully preparing for the operation with the support of team members, he successfully performed the first mitral commissurotomy in Korea in a 22-year-old male patient on the 6th of September, 1956 (Fig. 2).[1] This was followed by the success of a Potts-Smith operation in a 2-year-old girl with cyanosis for the purpose of treating tetralogy of Fallot.[2]

Although work at Severance Hospital was extremely busy, with research and surgeries being performed round the clock, Ms. Bong-Hwa Kim understood the importance of Professor Hong's work, and they were married on the 5th of October, 1956 (Fig. 3). He had three sons, two of whom are physicians, the eldest (Steve) and the second (Walter). His third son, Robert, is a banker.

Together with Hong Do Cha, a cardiologist, he presented a research work on left heart catheterization to the Korean Journal of Internal Medicine, which was unthinkable at the time. This was a concept that was essential for heart surgery even though it was unusual and rare at the time to research topics such as cardiac catheterizations.[3]

Professor Hong did not stop studying even with these successful clinical results and continued to establish theories for open heart surgery under low temperatures, based on clinical experiments on animals.[4,5] After much trial and error, he succeeded in an atrial septal defect operation using a low-temperature method in 1962. In addition, he managed to put effort into basic experiments, particularly those related to extracorporeal circulation combined with hypothermia and hemodilution techniques, using 22 mongrel dogs for open heart surgery, which was considered as critical to the development of present-day heart surgery.[5]

He continued to investigate extracorporeal circulation with hypothermia for open heart surgery using animals and con-

Fig. 2. Professor Kwang-Hyun Cho (left) and Professor Hong (right) with the patient who successfully underwent the first heart surgery with mitral commissurotomy in Korea.

Fig. 3. Professor Hong married Bong-Hwa Kim on the 5th of October, 1956. He had three sons, two of whom are physicians, the eldest (Steve) and the second (Walter). His third son, Robert, is a banker.

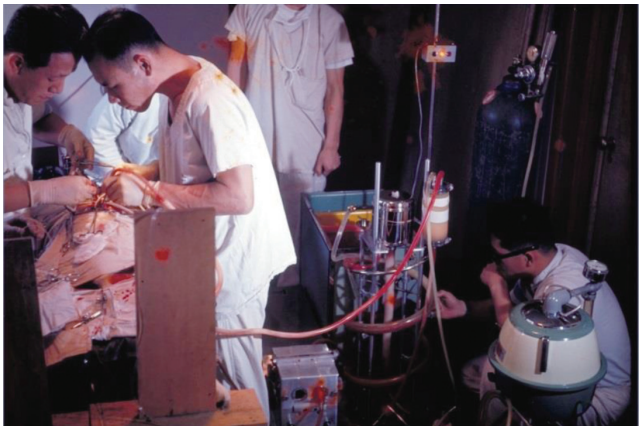

Fig. 4. Open heart surgery for animal research, with a Sigma-Motor pump, helical reservoir oxygenator, and heat exchanger.

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Fig. 5. (A) A sculpted portrait of the late Professor Hong by sculptor Moon Ki Paik, a member of the National Academy of Arts of the Republic of Korea. (B) The unveiling of the portrait in 2016, in the presence of thoracic surgery alumni of Severance Hospital.

tinued to perform basic experiments (Fig. 4). Finally, he successfully performed the first open heart surgery in an 18-year-old boy using an artificial heart-lung machine in the repair of an atrial septal defect on the 20th of November, 1963. This was the first such successful operation in Korea.

He also laid the foundations of the Department of Thoracic and Cardiovascular Surgery, Severance Hospital, Yonsei University College of Medicine by successfully performing operations for heart, lung and esophageal diseases until 1967. Moreover, Professor Hong performed a wide variety of other research including the influence of epinephrine, cortisone acetate, and adrenocorticotrophic hormone on gastric secretion[6] and reconstruction procedures in high stricture of the esophagus.[7] He also showed exceptional leadership through his effort in analyzing all of the data from heart surgeries in Korea.[8]

He then left the country for a short time, as he was inaugurated as an academic advisor at the Medical School in Okinawa in 1967. After this position, he began a new post as a professor in the Surgery Department at Hawaii University in 1969 and contributed to medical education in Hawaii for 12 years until he returned to Korea in 1980. When he began his new post as Head Professor of the Department of Surgery at Yonsei University in 1980, he concentrated on the education of the younger generation as well as on his passion for coronary artery surgery. Professor Hong took special interest in English language education, which provided thoracic surgery residents access to the advanced medical literature from America, along with basic education for physicians specializing in the heart and lung surgery.

He returned Korea when I was in the third year of my specialization, and he always made sure to host seminars every Friday afternoon, which all of the residents attended and where he presented and discussed basic medical sciences such as anatomy, physiology and pathophysiology. Moreover, he encouraged us to study in English as well by purchasing audio cassettes from the American Surgical Association that were sold after the seminar every year and discussing the content after listening to the tapes twice a month. Additionally, he strongly recommended that we conduct experiments in the basic science laboratories if we intended to continue on to graduate school. His dedication provided those of us who had received training for thoracic surgery at Severance Hospital at that time with insights into teaching and performing research at a university hospital, which was very helpful for us. He was also known for being a man of principle and a strict teacher, and his treatment of patients was strict as well. On the one hand, he had little patience for tardy reports on patients' conditions, so the house physicians had to check the patients quite frequently. On the other hand, he never seemed to get upset when he had report on the condition of patients, even late at night. If a patient's condition deteriorated after surgery, he rechecked the whole treatment process and the surgery to determine any problems in the operation and discussed his findings openly so that the problem would not reoccur. The late professor arranged for younger staffs to study abroad in order to improve their professional abilities. He contributed to academic advancement as the President of the Korean Surgical Society and of the Korean Thoracic and Cardiovascular Surgical Society.

Additionally, the late professor advocated the need for the current Severance Cardiovascular Hospital building to specialize in cardiovascular diseases in Korea in order to better treat patients and educate specialist in the area of the cardiovascular medicine and surgery. He also planned and prepared for the 100th Memorial Hospital, which has become the current Severance Hospital, while he served as CEO of Yonsei University Health System from 1984 to 1986.

He spent his remaining days in Hawaii after he resigned from Yonsei University in July 1989. He was an avid lover of tennis and golf and was healthy enough to receive the coronary artery bypass surgery. However, ironically enough, his left upper lung was removed due to lung cancer. He outlived his legacy even after undergoing surgery and passed away at the age of 83 surrounded by his dear friends. Ten years after his death, a sculpted portrait of the late Professor Hong was installed in honor of his great service and his role in the development of Yonsei University College of Medicine (Fig. 5).

I (Professor Bum Koo Cho) always bow my head whenever I pass this portrait of Professor Hong out of respect for his teaching, as his enthusiasm and attitude towards academic research and patient treatment will always be a shining example for all to follow. In particular, his sincere interest in medical education and continuous research have become a valuable model for many of the younger professors in the university.

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