

In Memoriam: Suk Jung Choo (1964–2023)

Ho Jin Kim, M.D.¹, Hong Rae Kim, M.D.¹, Sung Jun Park, M.D.², Joon Bum Kim, M.D., Ph.D.¹

¹Department of Thoracic and Cardiovascular Surgery, Asan Medical Center, University of Ulsan College of Medicine; ²Department of Thoracic and Cardiovascular Surgery, Severance Cardiovascular Hospital, Yonsei University College of Medicine, Seoul, Korea

ARTICLE INFO

Received October 24, 2023, Accepted October 24, 2023

Corresponding author

Joon Bum Kim

Tel 82-2-3010-3580, Fax 82-2-3010-6966, E-mail jbkim1975@amc.seoul.kr, ORCID <https://orcid.org/0000-0001-5801-2395>

On June 16, 2023, the Korean cardiovascular specialty tragically lost one of its most dedicated aortic surgeons, Dr Suk Jung Choo. He was riding his bicycle home after spending two consecutive nights to perform emergency aortic surgery when he was hit by a truck and lost his life. Dr Choo lived near the hospital where he worked to always promptly respond to a call for emergency aortic cases, and he commuted by bicycle. His sudden and untimely demise left his family—his wife and 3 sons—with inconsolable sadness.

Dr Suk Jung Choo was one of the key founding members and the inaugural President of the Korean Aortic Research Group, which was established in 2020 under the Korean Society for Thoracic and Cardiovascular Surgery (KSTCVS) until his passing. The Group's mission was to address critical issues in nationwide cardiovascular healthcare, including chronic shortages of human and financial resources in individual hospitals, the under-recruit of cardiothoracic surgical trainees, and the consequent gradual decrease and skewed geographical distributions of proficient cardiovascular surgeons over the last three decades. Under Dr Choo's leadership, the Korean Aortic Research Group initiated a task force to align nationwide data with the needs of policymakers. They also launched public campaigns on raising awareness about aortic diseases. By these efforts, several reformatory measures were implemented, such as the establishment of a platform for the Aortic Emergency Referral Network and increased reimbursements for high-risk aortic surgeries from the Korean National Health Insurance Service.

Dr Choo's accomplishments extended beyond his administrative leadership within the Korean Society. He

graduated from Yonsei University College of Medicine (YUCM) in 1988, the oldest modern medical school in Korea, and completed a 5-year cardiothoracic residency training at Severance Hospital, a teaching hospital affiliated with YUCM. During his residency, Dr Choo benefited from the mentorship of Dr Bum Koo Cho, a formal president of the KSTCVS and an American Association for Thoracic Surgery Graham Travelling Fellow in 1976–1977. Dr Cho recognized Dr Choo's background and passion, and arranged for him to study under Dr Carlos M. Duran at the University of Montana. During his research fellowship between 1996–1998, Dr Choo authored numerous research articles—a rare achievement in Korea at that time



Fig. 1. A photograph of Dr. Suk Jung Choo in the operating room.

[1-8]. After his formative years in the United States, he returned to Korea, joining Asan Medical Center in 1998 as a clinical fellow and subsequently becoming an attending surgeon in 2001 (Fig. 1).

Dr Choo's commitment to learning persisted. For instance, he underwent formal clinical fellowship training at Brigham and Women's Hospital, Harvard Medical School in Boston in 2006 during his sabbatical year, apprenticing under Dr Lawrence Cohn. Lessons from Dr Cohn at Harvard bolstered his confidence to embark on further innovative works upon his return to Korea. He regretted not being able to attend Dr Cohn's funeral in 2016.

As an accomplished aortic surgeon, Dr Choo served as the director of the Asan Aortic Disease Center from 2015 to 2021 and led the aortic surgery team. Under his leadership, the surgical outcomes of acute type A aortic dissection greatly improved, boasting an annual mortality rate of 2.2% [9]. He also played a pivotal role in establishing a Heart Team for Aortic Disease at Asan Medical Center, which led to groundbreaking research outcomes that demonstrated the role of optimal medical therapy in patients with retrograde type A dissection or intramural hematoma [10,11]. Dr Choo was also a pioneer in innovative surgical techniques, reintroducing the concept of arch isolation in the surgical treatment of severe atherosclerotic aortas and reporting a postoperative stroke rate of 3.3% [12]. His contributions to cardiac surgery extended beyond aortic surgery. He led a study that reported the survival benefit of on-pump coronary artery bypass grafting (CABG) over off-pump CABG (OPCAB) in 2014, challenging the prevailing enthusiasm for OPCAB in the Korean cardiovascular community [13].

Despite his accomplishments that had a significant impact on the Korean cardiovascular community, Dr Choo's most remarkable attribute was his personality. Known as "Generous Lord" (pronounced as "choo-nim" in Korean) to his residents, fellows, and colleagues, he was consistently kind, generous, and eager to assist others. Many early-career surgeons at our institution relied on Dr Choo's guidance when faced with challenges during operations. Despite being a senior surgeon, he never avoided taking on emergency cases. His untimely passing was deeply mourned, not only by his colleagues in the Korean cardiovascular community but also by the general citizens of Korea and the country's political leadership, including the President of the Republic of Korea. Extensively broadcasted by all major media outlets, his passing highlighted the shortage of cardiothoracic surgeons, emphasizing the irreplaceable nature of his loss in the country.

Article information

ORCID

Ho Jin Kim: <https://orcid.org/0000-0002-0809-2240>

Hong Rae Kim: <https://orcid.org/0000-0002-3305-6065>

Sung Jun Park: <https://orcid.org/0000-0002-0244-062X>

Joon Bum Kim: <https://orcid.org/0000-0001-5801-2395>

Author contributions

Conceptualization: JBK. Project administration: JBK. Writing—original draft: HJK. Writing—review & editing: HRK, SJP, JBK. Final approval of the manuscript: JBK.

Conflict of interest

Ho Jin Kim and Joon Bum Kim is an editorial board member of the journal.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Acknowledgments

We deeply appreciate Dr. Joseph Woo, the Chair of the Department of Cardiothoracic Surgery in Stanford University, for inspiring us with the idea of tributing Dr. Choo by this invaluable Memorial paper.

References

1. Cheung DT, Choo SJ, Grobe AC, et al. Behavior of vital and killed autologous pericardium in the descending aorta of sheep. *J Thorac Cardiovasc Surg* 1999;118:998-1005. [https://doi.org/10.1016/S0022-5223\(99\)70093-0](https://doi.org/10.1016/S0022-5223(99)70093-0)
2. Pang DC, Choo SJ, Luo HH, et al. Significant increase of aortic root volume and commissural area occurs prior to aortic valve opening. *J Heart Valve Dis* 2000;9:9-15.
3. Chiotti K, Choo SJ, Martin SL, et al. Activation of myocardial angiogenesis and upregulation of fibroblast growth factor-2 in transmyocardial-revascularization-treated mice. *Coron Artery Dis* 2000;11: 537-44. <https://doi.org/10.1097/00019501-200010000-00004>
4. Cheung DT, Weber PA, Grobe AC, et al. A new method for the preservation of aortic valve homografts. *J Heart Valve Dis* 2001;10:728-35.

5. Choo SJ, Olomon J, Bowles C, et al. An in vitro study of the correlation between aortic valve diameter and mitral intertrigonal distance: a simple method to select the correct mitral annuloplasty ring size. *J Heart Valve Dis* 1998;7:593-7.
6. Choo SJ, Duran CM. A surgical method for selecting appropriate size of graft in aortic root remodeling. *Ann Thorac Surg* 1999;67:599-600. [https://doi.org/10.1016/s0003-4975\(99\)00011-9](https://doi.org/10.1016/s0003-4975(99)00011-9)
7. Choo SJ, Shah PM, Oury JH, Duran CM. Contrast echocardiography as an intraoperative method to determine the area of myocardium perfused by transmyocardial laser channels: an experimental study. *J Card Surg* 1998;13:484-8. <https://doi.org/10.1111/j.1540-8191.1998.tb01087.x>
8. Choo SJ, McRae G, Olomon JP, et al. Aortic root geometry: pattern of differences between leaflets and sinuses of Valsalva. *J Heart Valve Dis* 1999;8:407-15.
9. Ok YJ, Kang SR, Kim HJ, Kim JB, Choo SJ. Comparative outcomes of total arch versus hemiarch repair in acute DeBakey type I aortic dissection: the impact of 21 years of experience. *Eur J Cardiothorac Surg* 2021;60:967-75. <https://doi.org/10.1093/ejcts/ezab189>
10. Kim JB, Choo SJ, Kim WK, et al. Outcomes of acute retrograde type A aortic dissection with an entry tear in descending aorta. *Circulation* 2014;130(11 Suppl 1):S39-44. <https://doi.org/10.1161/CIRCULATIONAHA.113.007839>
11. Ahn JM, Kim H, Kwon O, et al. Differential clinical features and long-term prognosis of acute aortic syndrome according to disease entity. *Eur Heart J* 2019;40:2727-36. <https://doi.org/10.1093/eurheartj/ehz153>
12. Park SJ, Kim HR, Shinn SH, Kim HJ, Jung SH, Choo SJ. Aortic arch isolation to reduce cerebral embolic risk during replacement of the atherosclerotic aortic arch. *J Thorac Cardiovasc Surg* 2022 Apr 25 [Epub]. <https://doi.org/10.1016/j.jtcvs.2022.04.018>
13. Kim JB, Yun SC, Lim JW, et al. Long-term survival following coronary artery bypass grafting: off-pump versus on-pump strategies. *J Am Coll Cardiol* 2014;63:2280-8. <https://doi.org/10.1016/j.jacc.2014.02.584>