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The Fourth Tomoh Masaki Award

Abstract

Doctor David J. Webb MD, DSc, FRCP, FRSE, FMedSci, a clinical pharmacologist specialising in the management of cardiovascular disease, is the recipient of *The Fourth Tomoh Masaki Award*, a bi-annual prize presented on the occasion of the International Conferences on Endothelin to scientists for outstanding contributions and achievements in the field of endothelin research. *The Fourth Tomoh Masaki Award* was presented to Doctor Webb at the Fifteenth International Conference on Endothelin which was held at Duo Hotel, Prague, Czech Republic, in October 2017. The award was granted to Dr. Webb during the Award Ceremony in Troja Chateau "In Recognition of his Outstanding Contributions to Science and Endothelin Research in Particular". This article summarises the career and the scientific achievements of David J. Webb viewed by his former student Dr. Neeraj Dhaun, known to everybody as 'Bean'.

David J. Webb, MD, DSc, FRCP, FRSE, FMedSci, a clinical pharmacologist specialising in the management of cardiovascular disease, trained as a physician in London, then worked for the Medical Research Council as a clinician scientist in Glasgow, Scotland on hypertension-related research. Thereafter, he trained as a pharmacologist at St George's, University of London before moving to take up a senior lectureship at the University of Edinburgh, followed by appointment to its Christison Chair of Therapeutics and Clinical Pharmacology in 1995. He obtained an MD from the University of London for work on the renin-angiotensin system, and a DSc from the University of Edinburgh for work on the endothelin system.

He is a physician, pharmacologist and toxicologist at the Royal Infirmary of Edinburgh, a Director of the Medicines and Healthcare products Regulatory Agency (MHRA; UK medicines and devices regulator), and Chair of the Scientific Advisory Board of the UK's National Institute of Biological Standards & Control (NIBSC). He established Edinburgh's Centre for Cardiovascular Science and is a principal investigator in Edinburgh's British Heart Foundation Centre of Research Excellence (BHF CoRE) at the Queen's Medical Research Institute, leading its Hypertension and Renal Theme (HART). He also leads Edinburgh's European Society of Hypertension-accredited Hypertension Excellence Centre, and directs the work of the University's Clinical Research Centre.

David is recognized internationally for his work on endothelial function and arterial stiffness, much of which focuses on the endothelin system, and on the investigation and effective treatment of patients with complex hypertension and chronic kidney disease. He has expertise in early phase clinical trials and proof-of-concept studies, and has been involved in the development of drugs for hypertension and pulmonary arterial hypertension (including renin inhibitors, endothelin antagonists and phosphodiesterase type-5 inhibitors). His work is mainly translational and he has provided leadership to two UK clinical PhD training initiatives in Translational Medicine and Therapeutics (TMAT) based in Scotland, funded by the Wellcome

Trust (STMTI) and Medical Research Council (SCP3). He has supervised over 30 PhD students, many of whom are now senior academic leaders.

David is a Fellow of a number of Societies, including the Academia Europaea, American Heart Association, European Society of Cardiology, Royal Society of Edinburgh and the UK's Academy of Medical Sciences. He was awarded the SmithKline Beecham Silver and Lilly Gold Medal by the British Pharmacological Society (BPS), for his contributions to research and the discipline of pharmacology. He is Past President of the Scottish Society of Physicians, BPS and European Association for Clinical Pharmacology and Therapeutics (EACPT; 2009). He is currently a member of the Executive Committee of the International Union of Pharmacology (IUPHAR), and Chair of its Clinical Division. He will be President of IUPHAR's World Congress of Basic & Clinical Pharmacology, to be held in Glasgow in 2022.

David's major work on vascular endothelial function stems from his time at St George's, University of London where he worked alongside Dr. Patrick Vallance (subsequently Head of Medicine at University College London and then Global Head of R&D at GSK) and Dr. Nigel Benjamin (subsequently Professor of Clinical Pharmacology, William Harvey Research Institute, London), who were both working on cardiovascular actions of nitric oxide at the time and collaborating with Dr. Salvador Moncada from the Wellcome Research Laboratories in Beckenham, Kent. This was a very productive period, in which a collaboration with Dr. John Clarke from the Royal Postgraduate Medical School at the Hammersmith Hospital led to the opportunity to undertake the first human study using endothelin-1 (ET-1; a gift to Professor Attilio Maseri from Professor Tomoh Masaki) in the forearm circulation in 1989 (Clarke *et al.* 1989). This led to a series of important papers characterising and then using Banyu peptide endothelin antagonists and neutral endopeptidase inhibitors in humans, both given into the forearm and systemically: with Bill Haynes (Haynes and Webb 1994) and Ton Rabelink (Verhaar *et al.* 1998) on the physiological role of ET-1 in control of vascular tone and blood pressure; with John McMurray in heart failure (Love *et al.* 1996); with Jane Goddard (Goddard *et al.* 2004) on the potential role of ET_A selective antagonists in chronic kidney disease; and with Bean Dhaun on blood pressure-independent effects of endothelin receptor antagonists in chronic kidney disease (Dhaun *et al.* 2009). With Yuri Kotelevtsev (and subsequently Don Kohan), he has worked on knockout models to explore the role of the ET_B receptor in regulation of vascular tone and natriuresis (Bagnall *et al.* 2006, Ge *et al.* 2006). He has recently been involved in the phase 3 SONAR trial of atrasentan in diabetic nephropathy (https://clinicaltrials.gov/ct2/show/NCT01858532).

David has attended all but the first endothelin congress and was an inaugural member of the Endothelin International Advisory Board (ET-IAB). He was Chair of the Seventh International Conference on Endothelin (ET-7), which he hosted in Edinburgh in 2001. He has encouraged the BPS to support endothelin congresses over many years. David has an h-index of 100, and has published over 150 papers and reviews on the endothelin system. His work has importantly contributed to our current understanding of the effects of selective ET_A and dual $ET_{A/B}$ antagonism on the cardiovascular system and of the potential to exploit endothelin antagonists in hypertension (as predicted in Masashi Yanagisawa's original Nature paper) (Yanagisawa *et al.* 1988) and chronic kidney disease.

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