Spotlight: Wolfgang von Scheidt, MD, PhD

“Positions and Challenges Change, but Personal Attitude Remains Constant. Sine Corde Nihil—Nothing Without Heart”

Wolfgang von Scheidt, MD, PhD, professor of internal medicine/cardiology and head, I. Medizinische Klinik/Department of Internal Medicine, Klinikum Augsburg, and co-chair, Heart Centre of Augsburg-Swabia, Ludwig-Maximilians University of Munich, Munich, Germany, divides his research career into 2 distinct periods. First, at the Medizinische Klinik I, Klinikum Grosshadern, Ludwig-Maximilians University of Munich, he says, “I had the privilege of investigating the fascinating consequences of denervation on cardiac physiology in living humans. The main themes were basic inotropy, sympathetic and parasympathetic inotropic control, baroreflex function, and post-transplantation hypertension. It became clear that efferent denervation leads to presynaptic sympathetic inotropic hypersensitivity of the myocardium to circulating endogenous catecholamines due to loss of neuronal reuptake. In addition, a parasympathetic supersensitivity of the ventricular myocardium was evident. Afferent denervation aggravates post-transplantation hypertension (at that time assumed to be solely cyclosporine-induced) due to the loss of inhibitory signals from the ventricular baroreceptor to the brain stem, leading to a defect in a cholinergic vasodilatation component.

“Our clinical surveillance programme of heart transplantation patients focused on invasive follow-up, so cardiac allograft vasculopathy became the next new and rapidly growing field to explore. With Joerg Koglin, MD, PhD, and Michael Weis MD, PhD, joining my group, we investigated the functional (endothelial vasomotor testing, Doppler flow measurement of microvascular flow) and structural (angiography, intravascular ultrasound, myocardial biopsy) epicardial and microvascular manifestations of this unique human in vivo example of a specific coronary atherosclerosis. The findings could be correlated to intramyocardial expression of vasoactive mediators and cytokines, different immunosuppressive regimens, and preventive and therapeutic strategies. The impact of early post-transplantation endothelial dysfunction on adverse long-term follow-up was also demonstrated.”

Drs Koglin and Weis worked for several years in the United States on the immune, inflammatory, and cell-mediated mechanisms of cardiac allograft vasculopathy and atherosclerosis in general. Dr Koglin joined the Cardiovascular Biology Lab, Harvard School of Public Health, and Dr Weis is a professor of medicine at the University of Colorado in Denver.
Christa Meisinger, MD, PhD (centre), and Professor Bernhard Kuch, MD (right), are responsible for the MONICA/KORA Myocardial Infarction Registry. Professor von Scheidt (left) says, "A fruitful cooperation between epidemiologists Professor Erich Wichmann, MD, and Dr Meisinger from the Helmholtz Centre in Munich and our clinical team headed by Professor Kuch resulted in >30 peer-reviewed joint articles over a 12-year period." Photograph courtesy of Professor von Scheidt.

Health, Boston, MA, and Dr Weis went to Stanford University, Stanford, CA. The understanding of microvascular vasomotor dysfunction, which Professor von Scheidt’s team acquired in transplantation recipients, opened their eyes to microvascular angina in nontransplanted patients. This led to the detection of an isolated defect of adenosine-mediated coronary vasodilatation in some patients suffering from unexplained angina.9

“The Registry Data Clearly Showed That In-Hospital Mortality from Myocardial Infarction Declined by >50% in the Past 20 Years”

Professor von Scheidt dates the “second phase” of his research (consisting of 4 main research areas) from December 2000, when he became head of I. Medizinische Klinik (Cardiology, Pneumology, Internal Intensive Care Medicine, and Endocrinology) at Klinikum Augsburg. He explains, “Our clinical research activities concentrated on the MONICA/KORA Myocardial Infarction Registry. This started in Augsburg in 1984 and is co-conducted by the Helmholtz Centre Munich (German Research Centre for Environmental Health) and our institution. The registry is well known for its unique combination of both epidemiological and clinical perspectives. Data from this registry are the basis for the Annual Health Report of the Federal Ministry of Education and Research concerning cardiovascular morbidity and mortality.

“The registry data clearly showed that in-hospital mortality from myocardial infarction declined by >50% in the past 20 years as a consequence of a rapidly increasing use of reperfusion therapy, especially after the introduction of primary percutaneous coronary intervention as the gold standard. In addition, the incidence of myocardial infarction declined by 25%, most probably due to a more stringent modification and treatment of cardiovascular risk factors.

“Based on these encouraging data, the main clinical tasks for my colleagues Christian Thilo, MD, PhD, and Andreas Bluethgen, MD, and myself in the past 5 years has been to establish a myocardial infarction network to optimise pre- and intrahospital management and time intervals. The Myocardial Infarction Network of the Region of Augsburg (Herzinfarkt-Netzwerk Region Augsburg) was the first network in Bavaria officially approved (in 2007) by the Bavarian State Ministry of the Interior. With financial support from the Bavarian State Ministry of Environment and Health, all ambulance vehicles (>50) in the city and county of Augsburg were equipped in October 2012 with telemetric transmission of electrocardiograms to our primary percutaneous coronary intervention centre. This enables the simultaneous activation of the percutaneous coronary intervention team and admission of the patient directly into the cath lab. By introducing this logistic step, we demonstrated a reduction of the door-to-balloon time by a crucial 30 minutes. The Working Group of the Bavarian Myocardial Infarction Networks, founded in 2009, which I have the pleasure to chair, aims at an area-wide implementation of the guideline requirements of a contact-to-balloon time of <90–120 minutes for all patients with ST-elevation myocardial infarction in Bavaria. These efforts fit perfectly with the Stent-for-Life initiative of the European Society of Cardiology (see http://circ.ahajournals.org/content/125/5/f25).

Professor von Scheidt (right) with his colleagues at a poster session during a scientific conference at Klinikum Augsburg in October 2012. He says, “Christian Thilo (4th right) received the prestigious award of the Dr Wolfbauer Foundation for his scientific evaluation of our myocardial infarction network, Herzinfarkt-Netzwerk Region Augsburg.” Photograph courtesy of Professor von Scheidt.
“Our second main area of clinical research is heart failure. With the start of the Evidence-Based Treatment in Heart Failure Registry, formerly Deutsches Herzinsuffizienz Register (EVITA-HF) in 2009, >20 university and tertiary care centres in Germany, Austria, and Switzerland collect data on demography, comorbidities, diagnostic and therapeutic measures, health economics, quality of life, adverse events, and 1-year follow-up of patients hospitalised for chronic heart failure and left ventricular ejection fraction of <40%. The registry is part of the framework of the Association of Leading Cardiological Hospital Physicians Association registries and is managed by Jochen M. Senges, MD, PhD (see http://circ.ahajournals.org/content/123/23/f133) and his group from the Institute for Myocardial Infarction Research Foundation Ludwigshafen, University of Heidelberg, Heidelberg, Germany. In Augsburg, Petra Heidemann, MD, and Gerd Lindenmeier, MD, are responsible for this project. With the evolving nondrug-based treatment concepts for heart failure, it is noteworthy that ≈50% of heart failure patients receive more than medical therapy during their index hospitalisation, eg, revascularisation, device therapy, or ablation.

“Cardiac imaging using multislice computed tomography or magnetic resonance imaging is the scientific field of Dr Thilo. He has worked with Professor U. Joseph Schoepf and his group at the University of South Carolina, Columbia, SC, on several occasions. Quantification of coronary calcification and assessment of plaque morphology allow more precise risk stratification and control of medical treatment.10

“A fourth area of interest is pulmonary embolism. Thomas Berghaus, MD, investigates acute risk prediction and long-term predictors of chronic thromboembolic pulmonary hypertension after pulmonary embolism,11 and a registry with >1000 patients has been established.”

Professor von Scheidt regrets not working overseas in his early career, but he has developed overseas contacts that have grown into productive research projects. This includes “a fruitful collaboration with Professor Robert J. Desnick, MD, and his group at Mount Sinai Hospital, New York, NY.”

Professor von Scheidt says, “Starting from the unspectacular problem of a patient with unexplained angina, we found and Bob Desnick identified on a DNA level, an as yet unknown atypical variant of Fabry’s disease with manifestations confined strictly to the myocardium.12 This was an interesting experience with a reverse direction from bedside to bench.”

“Most of my Daily Medical Work Is Best Characterised as Craftsmanship in the Cath Lab”

Professor von Scheidt was born in Bonn, Germany, in 1956, where his father, Fritz, was chief of the surgery department in a local hospital. His father’s exemplary commitment and dedication to his work proved inspirational. After medical school at the Friedrich-Wilhelms-University of Bonn, Professor von Scheidt’s interest in cardiac physiology was partly inspired by Gerhard Riecker, MD, professor and head of internal medicine at Klinikum Grosshadern. Professor Riecker was “a well-known internist and cardiologist with a profound and holistic understanding of medicine whose impressive personality inspired one of the most prestigious ‘cardiology schools’ in Germany.” Another inspiring professor at Klinikum Grosshadern around the same time was heart-transplantation expert, Bruno Reichart, MD, who had newly returned to Munich from Cape Town, South Africa, to establish a pioneering large-scale heart transplantation programme, providing Professor von Scheidt with an opportunity to become involved in something new and exciting.

Thanks to the influence of “prudent scientific mentor, Professor Erland Erdmann, MD,” Professor von Scheidt was steered towards investigating the physiology of the denervated human heart, an area where there was a distinct lack of knowledge. This marked the birth of a fruitful and enduring field of research.

In 1994, Professor Gerhard Steinbeck, MD, a pioneer in electrophysiology, took over the chair of the Medizinische Klinik I, Klinikum Grosshadern. Professor von Scheidt says, “Professor Steinbeck coached and supported me like an elder brother. During my last 5 years at Klinikum Grosshadern, he gave me responsibility for the department’s budget and staff coordination. I had to rapidly learn the administrative issues of a large university institution and also learned the value of combining personal trustworthiness and creativity.”
In December 2000, Professor von Scheidt was elected head of I Medizinische Klinik/I. Department for Internal Medicine of the Klinikum Augsburg, which serves as the only tertiary care centre in the district of Swabia, Bavaria, for a population of nearly 600,000. He says, “Excellent patient care, a highly motivated and skillful staff, and a balance between the economic framework and medical perspectives are crucial for large institutions such as ours to function successfully. The pressure and demands are great and will increase. Resolving the conflict arising from economic constraints and the drive to achieve medical excellence is akin to an endless squaring of the circle. However, present-day medicine is the best humankind ever had, with brilliant successes and innovations, especially in cardiology. We live in an inspiring time of medical progress and achievements. Without the stresses and strains, it would be paradise.

“Most important to me is the team of 43 physicians and ≥200 nurses in our department. I have a vision of my young colleagues growing and developing over the years according to their skills and talents, like flowers and trees in a beautiful garden. My role is to be a friendly supporting gardener, offering sustenance, protection, and helpful advice.

“As workers in the field of cardiology over the past 30 years, we are both witnesses and actors, establishing interventional cardiology as a new discipline. The advances in interventional cardiology are breathtaking and probably count amongst the most helpful achievements in modern medicine. Another illuminating example is the rapid evolution of interventional electrophysiology. These are exciting times. The drawback implicit in this development is the need for specialisation. As a young internist, ≥30 years ago, I could follow my widespread interests and the tasks required of me. Now, most of my daily medical work is best characterised as craftsmanship in the cath lab. This risks narrowing my perspectives from horizontal spread to vertical depth, a mutation from explorer to mine worker.

“My administrative burden has naturally increased and resulted in a decrease in my scientific work and, even more importantly, time for patient care. However, I am happy in my position and I would not have it any other way. Even if...
the positions and challenges change, personal attitude remains constant.” Professor von Scheidt’s mantra is “Sine corde nihil—nothing without heart.”

References

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European Meetings Update

21 February–13 April, 2013

21 to 21 February
Atherothrombosis 2013: Scientific Programme Endorsed by Working Group on Atherosclerosis and Vascular Biology
Madrid, Spain
For further details, contact
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21 to 22 February
Atrial Fibrillation 2013: 10th International Meeting
Bologna, Italy
For further details, see
http://aiac.it/eventi/x-international-meeting-atrial-fibrillation/

25 to 28 February
The 40th Annual Congress of the Egyptian Society of Cardiology—CardioEgypt 2013
Cairo, Egypt
For further details, see
http://cardioegypt.com/ce2013/

27 to 27 February
New Anticoagulants in Atrial Fibrillation: From the Clinical Trials to the Clinical Ground
Online, France
For further details, contact
education@escardio.org

27 February to 1 March
5th World Symposium on Pulmonary Hypertension
Nice, France
For further details, see

1 to 2 March
TRENDS 2013
Frankfurt/Darmstadt, Germany
For further details, see
http://www.csi-congress.org/trend-workshop

18 to 22 March
3D Echo Intensive Course
Padua, Italy
For further details, see

19 to 19 March
Cardioversion of AF: When, For Whom and How?
Online, France
For further details, contact
education@escardio.org

19 to 22 March
33rd International Symposium on Intensive Care and Emergency Medicine
Brussels, Belgium
For further details, see
http://www.intensive.org/

21 to 23 March
Monaco USA/Arrhythmia Course
Monaco, Monaco
For further details, see
http://muacmonaco.wix.com/2013

21 to 24 March
9th International Congress of Update in Cardiology and Cardiovascular Surgery
Antalya, Turkey
For further details, see
http://www.uccvs2013.org/

22 to 23 March
EuroHeartCare
Glasgow, Scotland
For further details, see
http://www.escardio.org/congresses/euroheartcare/Pages/welcome.aspx

23 to 24 March
10th Joint Cyprus—Greek Cardiology Conference
Nicosia, Cyprus
For further details, see
http://cycardio.com/conferences/

3 to 6 April
79th Annual Congress of the German Cardiac Society
Mannheim, Germany
For further details, see
http://ft2013.dgk.org/

4 to 5 April
Netherlands Society of Cardiology Spring Meeting
Noordwijkerhout, Netherlands
For further details, see
https://www.nvvc.nl/congressen/voorjaarscongres-2013

6 to 9 April
35th Charing Cross International Symposium: Update on Vascular and Endovascular Challenges
London, United Kingdom
For further details, see
http://www.cxvascular.com/cxsymposium

11 to 13 April
The First Annual Arab Heart Congress—CardioArab 2013
Dubai, United Arab Emirates
For further details, see
http://www.ahc2013.com/
European Perspectives

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