Spotlight: Francesco Bedogni, MD

“Our Results Showed No Correlation Between the Development of Left Bundle-Branch Block After Transcatheter Aortic Valve Replacement and the Risk of Major Adverse Events”

Francesco Bedogni, MD, head, Cardiothoracic Department, Istituto Clinico S. Ambrogio, Istituto di Ricovero e Cura a Carattere Scientifico San Donato, Milan, Italy, and contract professor, School of Cardiac Surgery, San Raffaele University, Milan, talks to Judy Ozkan.

The last author of a recent article in Circulation on the impact of left bundle-branch block after transcatheter aortic valve replacement is Francesco Bedogni, MD, head, Cardiothoracic Department, Istituto Clinico S. Ambrogio, Istituto di Ricovero e Cura a Carattere Scientifico San Donato, Milan, Italy, and contract professor, School of Cardiac Surgery, San Raffaele University, Milan, an enthusiastic interventionist who honed his skills in Italy, France, and the United States.

He says, “The idea for the article came from 2 observations: the first was that, after transcatheter aortic valve replacement, the onset of a new left bundle-branch block is relatively common, especially when a Corevalve is implanted; the second was that a new-onset left bundle-branch block has a negative impact on prognosis in patients treated with surgical aortic valve replacement. The latter is the scenario to which transcatheter aortic valve replacement is always compared.

“The main result was the absence of any correlation between the development of left bundle-branch block after transcatheter aortic valve replacement and the risk of major adverse events. This finding, in clear contrast with literature derived from the surgical environment, is of major clinical relevance.”

This recent article is the latest in a series of important articles to which Dr Bedogni has contributed. “In particular,” he says, “the first report from the Italian Registry on Corevalve, the Italian Registry on the treatment of failed surgical bioprosthesis, and the articles supporting subclavian approaches in the CoreValve implantation procedure deserve a mention.”

“We Were Among the First in Italy to Perform Carotid Angioplasty and to Implement Transcatheter Aortic Valve Replacement and Mitraclip Procedures”

Dr Bedogni entered the field of interventional cardiology at a time of rapid and exciting development. Between 1985 and 1998, he was head of the catheterisation lab at San Bortolo Hospital in his hometown of Vicenza, Italy. During that time he started up an interventional cardiology clinic within the Department of Cardiology, which was then directed by Mario Vincenzi, MD. Dr Bedogni recalls, “It was a pioneering period, and I made myself available for all urgent procedures as well as the first primary angioplasties in an historical period in which primary percutaneous coronary intervention was not a mainstream procedure.

“Looking back at that time, I remember the great enthusiasm and efficient involvement of the whole team,
Dr Bedogni with his family. He is married to Maria Grazia, a pharmacist, and he is father to 2 boys aged 5 and 12 years. He says, “My beloved wife, Maria Grazia, has been decisive in my choices; she has always supported me, despite my travelling around the world. My children are too young to decide what to do in the future but my older son is certainly fascinated by the medical profession. Aside from medicine, I have always loved sport and played soccer for several years. I ran the 2000 New York Marathon, I play tennis on a regular basis, I skied at a competitive level until 3 years ago, and now I follow my sons during their ski races. Above all, I love sailing, and I have crossed the Atlantic Ocean twice with a Solaris 43.” Photo courtesy of Dr Bedogni.

including nurses and technicians. Although the hospital was not a university centre, it was still possible to achieve high quality, thanks to the forward-looking support of the 2 cardiac surgeons: Alessandro Frigiola, MD, and Lorenzo Menicanti, MD.” Dr Bedogni describes this time as a period of continuous growth and practical evolution.

The turning point in Dr Bedogni’s career came in 1998, when, together with friends and colleagues Drs Frigiola and Menicanti, he left Vicenza to move to Milan to head the interventional cardiology team in a smaller, but fast-growing hospital. It was a challenging and demanding role. “I started out almost alone, having moved from a small town to the huge metropolis of Milan, where there were several high-volume centres,” he says. During his first year he built up a team and took a gamble on young doctors whom he personally selected on the basis of their curriculum vitae and personal and professional attitudes. The gamble paid off. He says, “Now I am proud to run a Cardiothoracic Department made up of >20 different but complementary cardiologists who work in the same direction with a high level of expertise. This has made us one of the main Italian centres for interventional cardiology.

“We started exclusively with coronary procedures, but we soon became dedicated to all the other aspects of cardio- and endovascular intervention. We were among the first in Italy to perform carotid angioplasty, and we established ourselves and remained for many years, one of the few high-volume centres in Italy. We taught the technique of carotid artery stenting in hospitals in Italy and abroad, including Iran, the United Arab Emirates, Jordan, and China. I also contributed to the development of 2 embolic protection devices and interesting projects on intravascular ultrasound-guided carotid angioplasty.

“Since 2007, inspired by the same interest in new technologies, we decided to focus on the treatment of structural heart disease. We were among the first in Italy to implement transcatheter aortic valve replacement and Mitraclip procedures and to reach a high routine volume. The key for success, in which one of my collaborators, Nedy Brambilla, MD, played a crucial and irreplaceable role, has been to foster full cooperation between all members of the department—interventionalists, clinical cardiologists, cardiac and vascular surgeons, and anaesthesiologists—as a true ‘heart team.’

“I have also been able to export this model, which was derived from such an intense experience in the treatment of valvular heart disease, to several other Italian hospitals proctoring for transcatheter aortic valve replacement and Mitraclip procedures.”

“My Contact With Pioneers of Interventional Cardiology Has Been a Great Inspiration in my Career”

Dr Bedogni was born in Vicenza in the Veneto region of Italy in 1955 and attended a science-orientated high school in the city, where he favoured humanities over scientific subjects. He recalls, “At that time, my only dream was to become a professional football player like most other Italian youngsters, and I was a good goalkeeper.” His life changed at the age of 12 years, however, when his mother died and the reality of illness and “the concept of disease” hit home. The effect on Dr Bedogni was immediate and profound. “During that time, I saw the effort that my father would have to go through to support my studies and I realised that I would have to do well and that both of my parents deserved a son that they could be proud of,” he says.

“The major influence on my career came from within my family in the shape of my older sister Lia. She had been a brilliant medical student and went on to become an accomplished paediatric surgeon. When I was considering what to study at university, she invited me into the operating theatre to watch a procedure in paediatric cardiology. I was fascinated by a young cardiac surgeon (Dr Frigiola), who showed great serenity and self-control. He strongly influenced my subsequent choices. At that time, I probably decided to become a doctor first, and then a cardiologist.”

Inspired by Dr Frigiola and his sister, Dr Bedogni chose to study at the University of Padua, Padua, Italy, an ancient institution and home of the famous anatomical theatre. Padua proved to be an inspired choice, and during his undergraduate years, Dr Bedogni’s passion and enthusiasm for cardiology grew under the tutelage of 2 great teachers: his professor Antonio Pagnan, MD, and Luigi Lusiani, MD. He explains, “They taught me the need for the continuous
use of medical literature and judgement: ‘Know what you are saying, talk about what you know’.

Dr Bedogni made the decision to leave Padua and Italy after his first year of residency in cardiology. It was a bold move driven by a desire to gain experience in both basic research and clinical practice. He says, “In 1984, I had the opportunity, driven by Dr Menicanti, at that time a brilliant young cardiac surgeon and now current president of the Italian Society of Cardiac Surgery, to take up a fellowship in haemodynamics at the Institute Arnault Tzank, Nice, France. The Institute was one of the leading European centres for cardiac surgery, directed by Professor Vincent Dor, MD. At that time, interventional cardiology was new and percutaneous coronary angioplasty had been implemented in few centres across Europe. I spent 1 year at the Institute Arnault Tzank working full time in the cath lab, appreciating the multidisciplinary teamwork attitude. This kind of approach has formed the model I have since tried to export to all my subsequent professional experiences.”

After his work in France, Dr Bedogni developed a passion for interventional cardiology, making it his main focus. He also developed a lasting fascination for, and commitment to, technological innovations, which were developing at a slow pace in those early days. When the progress of these innovations became tumultuous, Dr Bedogni found himself caught up in wave after wave of new developments and inventions and travelled extensively to keep up with the pace of change. He says, “I spent 2 months in Toulouse with Jacques Puel, MD, to see the first coronary stent implantations in humans for restenotic lesions, then witnessed the implantation of the first Palmaz-Schatz stents at the Scripps Clinic, La Jolla, CA, by Richard Schatz, MD. At Centre Hospitalier Universitaire, Rouen, France, I watched the first revolutionary aortic balloon valvuloplasty by Alain Cribier, MD, and at Stanford University, Palo Alto, CA, I learned coronary atherectomy with John Simpson, FRCP. My contact with these pioneers of interventional cardiology has been a great inspiration in my career.”

“I Have Felt a Passion for Interventional Cardiology From the Earliest Days and I Have Had the Chance to Follow Its Development Over the Past 3 Decades”

During his time as head of the Cardiothoracic Department at the Istituto Clinico San Ambrogio in Milan, Dr Bedogni also served as contract professor for the School Of Vascular Surgery at the University of Milan from 2004 to 2009, and is current contract professor at the School of Cardiac Surgery at San Raffaele University, Milan. He is currently also a board member of the Società Italiana di Cardiologia Interventistica and chair of the position documents group as well as of clinical studies. “This is an onerous but rewarding duty, with the aim of providing scientific guidelines as well as practical standards and requirements for cath labs with respect to the new technologies. I have also promoted several national registries, of which I am part of the steering committee or principal investigator, to collect the experiences of Italian cath labs. Indeed, the Italian registries on
transcatheter aortic valve replacement, mitral regurgitation treatment, biodegradable vascular scaffold, and paravalvular leaks are at an advanced stage. The Italian registry on transcatheter aortic valve replacement has provided several major articles in collaboration with Luca Testa, MD, PhD, one of the most brilliant young Italian researchers, who started his collaboration with me after a 2-year fellowship in Oxford, England. I am proud to have him among my assistants.

“I consider myself lucky because I have felt a passion for interventional cardiology from the earliest days and I have had the chance to follow its development in the past 3 decades. Teaching the practical and cultural aspects of this extraordinary job to colleagues working with me or in other hospitals has been the most rewarding activity in my career. I have always been welcomed with great hospitality everywhere and greeted with friendship and gratitude.”

Dr Bedogni identifies the main change in his own career over the years as one of infrastructure: the move from a big public health institution to a smaller but rapidly evolving hospital “in which I had to plan, structure and follow-up all the aspects inherent to the medical activity, including the internal schedules, research activity, emergency patterns, out and inpatient care, and internal and external cooperations. This was a terrific task, but I was lucky to have great collaborators. In the field of clinical research, I soon realised the need for linking and merging the experience of different centres to obtain a superior level of evidence and scientific strength, in particular in such a moment of economic difficulty.”

The main advice he has for up-and-coming interventionists is that “In real life as well as when facing a clinical problem or an interventional procedure, we need to have a clear strategy to achieve the goal. Moreover, when necessary, we need to adapt to the changing situation without losing the aim. It is important to be aware of the fact that alone you will not go far. Teamwork and an accurate selection of collaborators who will be in charge of specific tasks are fundamental to maximise the different peculiarities.”

Looking to the future he suggests, “Our field is living the future day by day because in the past few years we have observed a fast-paced technological development. As for the coronary field, the major breakthroughs have been the switch from a purely anatomical to a more physiological-functional approach to coronary disease, the widespread diffusion of percutaneous coronary intervention for acute coronary syndromes, and the radial approach. Considering the aging population and that endovascular procedures are often the first choice for the elderly, these issues are increasingly important.

“On the other hand, the treatment of structural heart disease has been characterised by the progressive introduction of transcatheter devices, which determined a paradigm shift in the management of those patients deemed at high risk or even unsuitable for surgery. This specific field will undoubtedly evolve towards an even less invasive approach and to the treatment of patients at lower risk in the near future. Lastly, a tighter collaboration between the interventional cardiologist and the cardiac surgeon will definitely help to improve our capacity to provide the best and less invasive treatment to our patients.”

References

Contact details for Dr Bedogni: head, Cardiothoracic Department, Istituto Clinico S. Ambrogio, Istituto di Ricerca e Cura a Carattere Scientifico San Donato, Milan, Italy; contract professor, School of Cardiac Surgery, San Raffaele University, Milan, Italy. E-mail: francesco.bedogni@grupposandonato.it

Judy Ozkan is a freelance medical journalist.
Awards: British Cardiovascular Society Michael Davies Early Career Award

“My Research Programme Will Improve Understanding of the Molecular Mechanisms That Give Rise to the Spatial Distribution of Atherosclerotic Plaques and Has Translational Potential Through the Identification of Novel Therapeutic Targets for the Prevention or Treatment of Atherosclerosis”

Paul Evans, PhD, professor of cardiovascular science, Department of Cardiovascular Science, Faculty of Medicine, Dentistry and Health, University of Sheffield, Sheffield, England, received the British Cardiovascular Society Michael Davies Early Career Award in 2011 and describes his research to Jennifer Taylor, BSc, MSc, MPhil.

Paul Evans, PhD, professor of cardiovascular science, Department of Cardiovascular Science, Faculty of Medicine, Dentistry and Health, University of Sheffield, Sheffield, England, received the British Cardiovascular Society Michael Davies Early Career Award in 2011. His research focusses on the effects of shear stress generated by flowing blood on the physiology of vascular endothelial cells. Vascular injury and atherosclerosis develop predominantly at branches and bends in the arterial tree exposed to disturbed patterns of blood flow. The cross-disciplinary nature of his work has led to interactions with molecular and cellular biologists, vascular physiologists and bioengineers.

“My research programme, which is funded by the British Heart Foundation, will improve our understanding of the molecular mechanisms that give rise to the spatial distribution of atherosclerotic plaques,” says Professor Evans. “It also has translational potential through the identification of novel therapeutic targets for the prevention or treatment of atherosclerosis.

Professor Evans’s studies into vascular biomechanics were carried out at Imperial College London, London, from 2004 to 2011. During this time, he headed the Intracellular Signalling Laboratory within the BHF Cardiovascular Sciences Unit, which is headed by Professor Dorian Haskard, DM, FCRP, FMedSci (see http://circ.ahajournals.org/content/126/11/f61). Professor Evans moved to the University of Sheffield in 2011 where he was appointed to the chair in cardiovascular science.

Professor Evans’s studies in the cardiovascular biomechanics field have been recognised by the British Atherosclerosis Society (John French Lecture 2011) and the British Cardiovascular Society (Michael Davies Award 2011). Members of his research group have also won prestigious prizes including the Promega UK Young Life Scientist Award in 2009 (Kim Van der Heiden, PhD), the British Atherosclerosis Society Young Investigator Award in 2010 (Simon Cuhlmann, PhD), and the Society for Cardiovascular Surgery in Great Britain and Ireland—Ronald Edwards Medal in 2010 (Mustafa Zakkar, PhD, MRCS) and 2011 (Mr Bao Nguyen, MD, PhD).

Jennifer Taylor is a freelance medical journalist.
European Meetings Update

26 September to 14 October, 2013

26 to 28 September
17th International Congress of the Polish Cardiac Society
Wroclaw, Poland
For further details, contact http://www.ptkardio2013.pl/

26 to 29 September
3rd Dubrovnik Cardiology Highlights
Dubrovnik, Croatia
For further details, see http://www.escardio.org/education/live-events/courses/cardiology-update-dubrovnik

26 to 29 September
Berlin Cardiovascular Development Meeting 2013
Berlin, Germany
For further details, contact workinggroups@escardio.org

27 to 28 September
2nd International Congress Advanced Practice Nursing and Advanced Nursing Practice
Berlin, Germany
For further details, see http://www.dnapn.de

27 to 29 September
The 2nd Annual Congress of the Azerbaijan Society of Cardiology
Baku, Azerbaijan
For further details, contact akc@akc.az

28 to 29 September
Physical Exercise, Health Prevention, and Rehabilitation
Republic of San Marino, Italy
For further details, see www.vittoriobianchi.com/convegno01.html

2 to 4 October
Clinical Workshop on Cardiac MR Stress Imaging
Barts Health NHS Trust, United Kingdom

2 to 5 October
EuroThrombosis Summit 2013
Uppsala, Sweden
For further details, see http://www-conference.slu.se/eurothrombosis2013/

3 to 4 October
Belgian Heart Rhythm Meeting—Arrhythmias for Every Cardiologist
Brussels, Belgium
For further details, see http://www.bhmr.be/en/home_95.aspx

3 to 5 October
52nd National Congress of the Romanian Society of Cardiology
Sinaia, Romania
For further details, see http://www.cardioportal.ro/congres/

3 to 5 October
Magnetic Resonance Cardiology—Second Edition
Lago di Garda, Italy
For further details, see http://iscrizioni.fclass.it/eventi/mr2013/

4 to 5 October
Top Ten in Cardiology
Lausanne, Switzerland
For further details, see http://www.toptencardiology.com

4 to 5 October
First European Conference on Neonatal and Pediatric Pulmonary Vascular Disease
Groningen, Netherlands
For further details, see http://www.pedpvdconference.com/index.html

9 to 11 October
34th Congress of the Italian Society of Invasive Cardiology
Genoa, Italy
For further details, see http://www.oic.it/gise2013/

10 to 12 October
EACVI Teaching Course on Valvular Heart Disease
Budapest, Hungary
For further details, see http://www.escardio.org/communities/EACVI/congress-meetings/Pages/teaching-course-budapest-2013.aspx

10 to 12 October
34th Panhellenic Congress of Cardiology
Athens, Greece
For further details, see http://www.hcs.gr/?lang=en

10 to 12 October
Basic Invasive Cardiac Electrophysiology
Sophia Antipolis, France
For further details, contact seminars@escardio.org

10 to 13 October
29th Turkish Cardiology Congress with International Participation
Istanbul, Turkey
For further details, see http://www.tkd.org.tr/ENG/

12 to 14 October
Acute Cardiac Care 2013
Madrid, Spain
For further details, see http://www.escardio.org/congresses/acute-cardiac-care-2013/Pages/welcome.aspx?hit=wca

Editor: Christoph Bode, MD, FESC, FACC, FAHA
Managing Editor: Lindy van den Berghe, BMedSci, BM, BS
We welcome comments. E-mail: lindy@circulationjournal.org

The opinions expressed in Circulation: European Perspectives in Cardiology are not necessarily those of the editors or of the American Heart Association.