Cardiology Update 18 London

The second Royal Brompton & Harefield Christmas Postgraduate Course held at the Royal Society of Medicine in London, under the auspices of the ESC and Zurich Heart House, on the Year in Cardiology, was a resounding success.

For the second time, key-opinion leaders from the United Kingdom, Europe, and the United States reviewed the year in cardiology at the Royal Society of Medicine in the heart of London before Christmas 2018. This novel course supported by the European Society of Cardiology (ESC) in its second-ever version, grew substantially and welcomed 312 participants from 22 countries of the world (Figure 1).

The postgraduate course set out with three state-of-the-art lectures by Peter Libby from the Harvard Medical School in Boston, by Patrick Serruys from the National Heart and Lung Institute at Imperial College, London and Milton Packer from the Baylor University Medical Center in Dallas.

Peter Libby set the stage with a lecture on Clonal Haematopoiesis (Figure 2), a newly recognized cardiovascular risk factor. Indeed, we acquire over our lifetime somatic mutations which are associated with haematological disorders (N Engl J Med 2014;371:2488; Circulation 2018;138:666). The majority of the variants occur in three genes: DNMT3A, TET2, and ASXL1. Although these mutations markedly increase the risk for haematological disorders, not all individuals develop such diseases. Interestingly, age-related clonal haematopoiesis due to such mutations also markedly double the risk of coronary artery disease and stroke. White blood cells carrying such mutation are proinflammatory and develop more neutrophil extracellular traps and as a result the risk of atherothrombotic complications increases.

Patrick W. Serruys then convinced the audience with an impressive lecture of the enormous potential of modern coronary computed tomography (CT) for the assessment of patients prior to cardiac procedures. Indeed, coronary CT provides with less and less radiation...
not only precise structural information of coronary arteries including the SYNTAX Score (Figure 3) but also on the haemodynamic significance of plaques using CT-based fractional flow reserve (FFR). This allows proper and non-invasive planning of coronary and valvular procedures. Indeed, the vision of Patrick W. Serruys is that eventually surgeons and interventional cardiologists will reach therapeutic decisions and precisely plan their procedures non-invasively using CT, with hopefully better results to the benefit of the patients.

The third state-of-the-art lecture was given by Milton Packer on the Future of Heart Failure. He suggested that novel therapies will become available such as drugs modulating autophagy, an intracellular process that disassembles unnecessary or dysfunctional components that occur at a considerable rate in disease states such as heart failure. Of note, molecules modulating this process are already available and might be developed for clinical use in the near future. Furthermore, he predicted an increasing use of devices in this patient population. Finally, as the number of heart failure patients increases, there will be a shortage not only of heart failure specialists, but also general cardiologists to manage these patients. Because even general practitioners do not have the time and resources to provide guidelines-based management of patients with heart failure, paraprofessionals, and possible even robots might take part in the care of this patient population.

Following the inaugural session, the programme of this postgraduate course then continued with seven sessions on all relevant topics of cardiovascular medicine. The focus was on important new developments in cardiovascular medicine during the past year, from prevention to intervention, from valvular heart disease to heart failure and from conservative management to revascularisation procedures. Presentations on acute and chronic coronary syndromes, arrhythmias, valvular heart disease, heart failure, and cardiomyopathies, were covered by experts in the field.

Ulf Landmesser from Berlin, Gabriel Steg from Paris, and Neil Poulter from London discussed current prevention guidelines and the use of novel drugs such as PCSK9-antibodies, SGLT2-inhibitors, and GLP-1 agonists.
Imaging to diagnose coronary artery disease and prior to structural interventions was reviewed in two excellent lectures by Jeroen Bax, the Past-President of the ESC from Leiden (Figure 5).

The session on arrhythmias included lectures on atrial fibrillation by John A. Camm from London, on genetically mediated sudden death by Josep Brugada, the discoverer of the Brugada Syndrome, and on syncope by the chairman of the 2018 ESC Guidelines Michele Brignole.

Valvular heart disease remains centre stage with now trans arterial valve implantation or TAVI evolving to a standard procedure in high- and intermediate-risk patients with aortic stenosis as outlined by Bernard Prendergast from London. He also pointed out that with the broadening indication for TAVI procedures there will be an increasing need for operators and centres to cope with this clinical demand which will be challenging for the health care systems of many countries.

Georg Nickenig from Bonn dissected the COAPT (N Engl J Med 2018; doi: 10.1056/NEJMoa1806640) and the somewhat smaller Mitra-FR trial (N Engl J Med 2018;379:2297–2306) that revealed divergent results. Importantly, patients in COAPT had more severe heart failure and mitral regurgitation and larger ventricles and a higher event rate suggesting that this patient population may be more suitable for the procedure.

Sabine Ernst, London, discussed the ever-expanding indications for atrial fibrillation ablations with its increasing safety whilst Henry O. Savage from Basildon presented an unusual clinical case of heart failure.

Amir Lerman from Mayo Clinic, Rochester, spoke of Myocardial Infarction with Nonobstructive Coronary Artery (MINOCA) disease. This occurs in about 10% of patients with an acute myocardial infarction and is being increasingly diagnosed with the more frequent use of coronary angiography.

Figure 5 Jeroen Bax, Leiden, immediate Past-President of the European Society of Cardiology during his lecture on imaging of coronary artery disease chaired by Ulf Landmesser, Berlin and K. Mohan, India.
The postgraduate course ended with a splendid Paul Hamilton Wood Lecture by Marc Pfeffer from Boston of Ventricular remodelling: A personal journey, who reviewed the development of evidence-based management of hypertension, remodelling and heart failure during the last decades.

Cardiology Update London was a very successful meeting reviewing the year in cardiology with an inspiring scientific programme and lively discussions by an enthusiastic audience.

The efforts of the course organizer, Zurich Heart House, succeeded in promoting the event around the globe and were greatly appreciated.

A special acknowledgement is attributed to the unrestricted educational grants by six pharmaceutical companies (A. Menarini, Amgen, Bristol-Myers Squibb, Daiichi-Sankyo, Sanofi, and Astra Zeneca). Their generous support facilitated collaboration with the Mayo Clinic and the Brigham and Women’s Hospital, both in the USA, and the invitation of renowned faculty members, including Peter Libby, Marc Pfeffer, Bernard Gersh, and Amir Lerman.

Directors of the meeting were Thomas F. Lüscher, Richard Grocott-Mason, Kim Fox, and Ruth Amstein (Panorama 4). Cardiology Update London will be an established annual Christmas event on the London congress calendar: www.cardiologyupdate.uk.

Andros Tofield
docandros@bluewin.ch

Conflict of interest: A.T. received travel expenses for meeting.