Cardiology Update Davos: a remarkable tradition of postgraduate teaching in cardiovascular medicine

Between February 16th and 20th, 2019, the traditional biannual Cardiology Update Davos was again held at the Congress Centre in Davos under the auspices of the European Society of Cardiology.

The postgraduate course started with an enlightening Paul Lichtlen Lecture, commemorating the founder of this educational event and long-time chairman of cardiology at Hannover Medical University. This year’s awardee was Hugo Katus, professor and chairman of cardiology at Heidelberg University in Germany (fig. 1). The story of troponin is the story of Hugo Katus’ professional life and a paradigm of clinical research, starting from the bench with a protein considered of potential importance in cardiac disease to the development of a diagnostic assay that is today used in almost all cardiac centres around the world in patients presenting with chest pain. In the late 1970s, the awardee worked in Edgar Haber’s Cardiac Unit at the Massachusetts General Hospital in Boston, USA. He devoted his work to a hitherto rarely investigated myocardial protein and went on to demonstrate its role in a variety of cardiac disorders. He went on to provide an assay in close collaboration with the medical industry, and eventually convinced the cardiology community of its diagnostic value in the emergency department for patients presenting with chest pain – an almost perfect journey in science!

The opening session continued with four state-of-the-art lectures on hot topics in cardiology. Whereas troponins are currently established in cardiology practice, anti-inflammatory therapy in atherosclerosis is an evolving field, as outlined by Peter Libby from the Harvard Medical School, Boston (fig. 2 left). Indeed, although the CANTOS and CIRT studies together showed that activation of NLRP3 (cryopyrin) and of the interleukins appear to be the crucial inflammatory pathway, the translation of these findings into clinical practice remains currently uncertain as canakinumab has not been developed for a cardiovascular indication.

Remote monitoring and digital health will shape the future of medical practice, in particular, in patients with heart disease, as Gerhard Hindricks from Leipzig tried to convince the audience in his lecture. Such data will be used in precision medicine and are about to be complemented by genetic information. This will allow much more individualised management of patients who have survived sudden cardiac death or are at risk for it, as outlined by Geoffrey S. Pitt from Columbia, New York. Heribert Schunkert from the...
German Heart Centre in Munich reminded the participants that genetics is becoming increasingly important also in patients with coronary artery disease. Genetic risk assessment has made impressive progress over the last few years and today genetic information can be much more easily obtained at lower costs than was the case years ago. Thus, precision medicine is certainly the future in assessing cardiac patients, through use of not only genetic information and digital healthcare, but also biomarkers and other information.

During the rest of the course, cardiovascular medicine was covered from prevention – be it lipids, atherosclerosis or diabetes – to cardio-oncology, cardiomyopathies, pulmonary artery disease and acute coronary syndromes, as well as arrhythmias and heart failure. The educational features included state-of-the-art lectures, meet-the-expert sessions, case-based seminars and satellite symposia. This allowed close contact with key opinion leaders in all fields of cardiology. This interactive format was extensively used and highly appreciated by the attendees.

A particularly attractive feature was the debate on ablation of atrial fibrillation between Gerd Hindricks from Leipzig and Milton Packer from Dallas. The discussion of the available trials, such as CASTLE-AF and CABANA among others, showed that a convincing effect of ablation of atrial fibrillation on outcomes is still not completely established. The pros and cons put forward by both speakers stimulated the participants to consider indications for the procedure more carefully in the future and trialists to plan future studies addressing the outstanding evidence (fig. 3).

ESC Guidelines and their implementation into clinical practice were important topics in several sessions, such as:

**Figure 2**: Peter Libby (left) and Marc Pfeffer (right) lecturing.

**Figure 3**: The debate on the effectiveness of ablation in atrial fibrillation between Gerd Hindricks from Leipzig (left; in favour) and Milton Packer from Dallas (right; against).
as the one on hypertension. The striking change in target blood pressure over the course of five decades was extensively discussed by the course director Thomas F. Lüscher, together with Giuseppe Mancia from Milan and Marc Pfeffer from Boston. In other sessions, the chairs or task force members of the ESC Guidelines on pregnancy and heart disease, dual antiplatelet therapy, peripheral vascular disease and myocardial revascularisation nicely illustrated the clinical implications of their recommendations.

Large poster sessions allowed young cardiologists to present their work and to discuss it with experts in their field during daily sessions, run by Peter Libby from Boston and Giovanni Camici from Zurich, Geoffrey Pitt from New York and Ronald Binder from Wels (fig. 4). The best three posters were awarded research prizes by the scientific committee overseeing the poster sessions.

The Cardiology Update, Davos 2019 was again a true success with over 400 participants from 45 countries and 6 continents – undoubtedly a global event reviewing the state of the art of cardiovascular medicine with an impressive international faculty. Of note, those who missed this important event are invited to watch the streamed sessions on the platform of the Zurich Heart House (fig. 5).

Photographs by Jan Lipton and Sam Rogers