

The Year in Cardiovascular Medicine 2020: Coronary Intervention

Focusing on The Year in Cardiovascular Medicine for 2020 in the field of coronary intervention is Professor Fernando Alfonso and Professor Javier Escaned. Mark Nicholls meets them

Professor Fernando Alfonso



Professor Fernando Alfonso has a strong record of distinguished research in the field of Interventional Cardiology. As Head of the Department of Cardiology at Hospital Universitario La Princesa and Associate Professor of Medicine at the Universidad Autónoma de Madrid, Spain, his research interests centre on stent failure and include in-stent restenosis, stent thrombosis, intracoronary imaging (especially intravascular

ultrasound and optical coherence tomography), trials in drug-eluting stents (DES), drug-eluting balloons, spontaneous coronary artery dissection, and scientific biomedical journals. He coordinates nationwide research initiatives in Spain, including the Restenosis Intra-stent Balloon angioplasty vs. Stent implantation (RIBS) program and the Spanish Registry on Spontaneous Coronary Artery Dissection (SCAD) under the auspices of the Spanish Association of Interventional Cardiology.

Over the last two decades, the RIBS program has included multiple randomized clinical trials and prospective multicentre registries (25 sites) addressing the value of different therapeutic modalities for patients suffering from in-stent restenosis, with a particular focus on comparison of new-generation DES vs. drug-coated balloons.

In SCAD patients, he studied the value of intracoronary imaging to achieve more precise diagnostic insights and the value of a conservative (rather than interventional) initial management strategy.

In the field of intracoronary imaging, he and his colleagues have been working on the value of these techniques to obtain further pathophysiological insights on vulnerable or culprit plaques in patients with acute coronary syndromes (rupture of thin cap fibroatheroma, erosion, calcified nodule) and also the use of these techniques to optimize the results of stent implantation aimed at improving clinical outcomes.

It was the fact that Interventional Cardiology is—and remains—a ‘fascinating, highly-dynamic and exciting field both for clinical practice

and research purposes’ that fires his interest in a field that has evolved over the years. ‘We have drastically improved the results obtained in patients presenting with an always increasing anatomic and clinical complexity’, he explained.

‘We left the femoral approach to embrace radial artery access; interventional devices are always getting better; an evidence-based approach is currently inspiring the field; and coronary imaging and coronary physiology have revolutionized clinical practice, moving away from an angiographic oculo-stenotic approach. In addition, structural interventions are also expanding the field to the extent that nobody can any longer be an expert in all the procedures’.

COVID-19 remains the over-riding factor for 2020 and has disrupted cardiology practice, together with most areas of medicine, and may explain different manifestations of acute coronary syndromes and non-ischaemic myocardial damage, with fewer patients receiving primary PCI and many suffering myocardial infarctions without coming to the hospital.

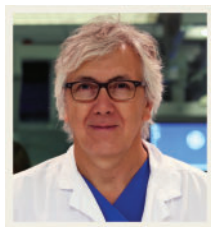
What has emerged during the year, he said, is long-term data on the results of PCI for patients with left main disease; new clinical practice guidelines on chronic and acute coronary syndromes; and new DES and additional very long-term results presented.

‘Adjuvant pharmacotherapy is continuously evolving with new data suggesting the value of very short regimens for selected patients’, continued Prof. Alfonso, ‘and the concept of vulnerable plaque has been resurrected with stimulating new data from several trials’.

Going forward into 2021, there are a number of trends and challenges, with COVID-19 at the core. ‘Attention to cardiovascular patients should be carefully organized and preserved as they represent a major cause of the ‘mortality excess’ detected during the pandemic’, he said. ‘Major care should be also paid to prevent disruption of important research initiatives’.

Prof. Alfonso has been the Chairman of the ESC Editor’s network for a decade, and he is currently serving as Associate Editor for six journals. He has edited 17 textbooks on cardiovascular diseases and is the author of more than 800 publications.

Professor Javier Escaned



Professor Javier Escaned is one of the leading global figures in the field of interventional cardiology. In recent years, he has played a pivotal role in a number of major trials and is a widely recognized expert in the field of functional assessment of the coronary circulation. He is Head of the Interventional Cardiology Section at Hospital Clinico San Carlos, Universidad Complutense de

Madrid in Spain, and as a skilled interventionalist with 30 years of experience, he regularly serves as a live case operator in major global meetings.

Before taking up his roles in Madrid, he trained in three different European countries. After training in Santiago de Compostela in Spain, he obtained his specialist certification working at hospitals in Birmingham and Coventry in the West Midlands area of the UK before moving to the Thoraxcenter in Rotterdam in The Netherlands, where he obtained his PhD degree in 1994 before moving to Madrid.

The main areas of research and education for Prof. Escaned include complex percutaneous coronary intervention (PCI) subsets like multivessel disease, left main, chronic total occlusions, calcific stenoses, and intravascular coronary imaging and physiology.

Asked on his achievements, he highlights showing that outcomes of complex PCI improve by applying a strategy of combined best practices (the key message of the SYNTAX II trial, of which he was a co-principal investigator with Adrian Banning); and his role with Justin Davies, introducing iFR, a non-hyperaemic index of stenosis severity that boosted and widened the use of functional assessment in clinical practice.

He selects four highlights in the coronary field in 2020: the management of stable coronary disease, which is the focus of the ISCHEMIA trial and the ESC Guidelines on Chronic Coronary Syndromes; the prognostic value of high-risk atheroma in non-treated lesions assessed with intracoronary imaging; the importance of assessing the functional results PCI with pressure guidewires or angiography-based

tools; and the safety of specific antiplatelet monotherapy regimes after a 3-month DAPT (dual anti-platelet therapy) period in complex PCI subsets.

In terms of current trends in this area, he believes that, in the aftermath of the ISCHEMIA trial and as a result of case selection, the complexity of patients undergoing PCI procedures in stable coronary disease will increase. 'This will lead to thorough pre-procedural planning, including in silico prediction of PCI results based on imaging and physiology', he said. 'The fast developments in functional coronary imaging based on CT (computed tomography) or invasive coronary angiography will contribute to this'.

He also believes that the identification of microcirculatory disorders, which may cause anginal symptoms and also worsen the outcome of patients with acute coronary syndromes, will become a very hot topic, eventually leading to the adoption of diagnostic technologies for this purpose.

Prof. Escaned is currently Deputy Editor for Interventional Cardiology of the European Heart Journal and has served as Task Force member for several European Society of Cardiology (ESC) Clinical Practice Guidelines, most recently the 2019 Chronic Coronary Syndromes, and also recent European Association of Percutaneous Cardiovascular Interventions (EAPCI) consensus documents on Repeat Revascularisation, ischaemia with Non-Obstructed Coronary Arteries (INOCA), and Intracoronary Imaging. He has held board positions in scientific societies including, EAPCI, the ESC Working Group of Coronary Pathophysiology and Microcirculation, EuroPCR, and EuroCTO. Away from medicine, his additional interests include philosophy, education, and music.

He is the author of over 450 indexed scientific articles (h-index 67), and he is also the editor of two textbooks on coronary imaging and physiology: 'Coronary Stenosis. Imaging, Structure and Physiology' and 'Physiological Assessment of Coronary Stenoses and the Microcirculation'.

Conflict of interest: none declared.



Mark Nicholls
mark.nicholls@mnmedia.co.uk