SYNTAX II: State-of-the-art PCI yields fewer adverse events in de novo three-vessel disease

In patients with three-vessel disease the use of the SYNTAX II strategy is associated with improved clinical outcomes at one year, compared to matched patients treated percutaneously in the original SYNTAX I trial. In addition, a simpler and more logical coronary artery bypass grafting (CABG) strategy, derived from SYNTAX I, shows that the percutaneous approach following the SYNTAX II strategy is non-inferior to surgery. The results were presented yesterday in a Late Breaking Science in PCI Session by Professor Javier Escaned, Hospital Clinico San Carlos, Madrid, Spain, on behalf of the SYNTAX II investigators.

The objective of SYNTAX II was to investigate if recent technical and procedural developments in percutaneous coronary intervention (PCI), incorporated to form the SYNTAX II strategy, significantly influence outcomes in appropriately-selected patients with three-vessel coronary artery disease. Building on the landmark SYNTAX I study, the new strategy required use of the SYNTAX II score to guide Heart Team decisions on myocardial revascularisation, including physiological assessment (with hybrid use of iFR and FFR), second-generation drug-eluting stents, intravascular ultrasound-guided optimisation of stent deployment, contemporary chronic total occlusion revascularisation techniques and guideline-directed medical therapy. The SYNTAX II score—which incorporates clinical and anatomical variables, and was validated in the international DELTA Registry (n=2,891)—has been shown to offer higher accuracy in risk identification than the anatomical-only SYNTAX score. "The SYNTAX I score shows enormous variability from centre to centre," Prof. Escaned explained. "One of the main advantages of using SYNTAX II is that it incorporates clinical variables with the anatomical SYNTAX II scores in a continuous manner enormously reduces the variability between the measurements in our case—the core lab."

The SYNTAX II study enrolled 454 patients at 22 European centres. The principal investigators are Prof. Escaned and Doctor Adrian Baoz, study coordinator Patrick W Serruya, and the deputy chairman is Doctor Vassan Farooq. The primary endpoint is a composite of major adverse cardiac and cerebrovascular events (MACCE) at one year, compared with a PCI cohort (n=334) from the SYNTAX I trial selected on the basis of equal four-year mortality between CABG and PCI.

The one-year results showed a statistically significant lower rate of MACCE for SYNTAX II patients (10.6%) versus SYNTAX I PCI patients (17.4%, p=0.006). The SYNTAX II strategy also yielded lower rates of myocardial infarction (1.4% vs. 4.8%, p=0.007), any repeat revascularisation (8.2% vs. 15.1%, p=0.015), and definite stent thrombosis (0.7% vs. 2.2%, p=0.043). The difference in all-cause mortality and stroke were not statistically significant.

As an exploratory endpoint, the investigators performed a comparison of SYNTAX II patients with a predefined CABG cohort (n=334) from SYNTAX I. At one year, the MACCE rate for SYNTAX I CABG patients was 11.2%, compared to 10.6% in SYNTAX II patients (p=0.684, and p=0.001 for non-inferiority). "Compared to SYNTAX I, contemporary state-of-the-art PCI in SYNTAX II led to significantly fewer lesions treated with PCI, and significantly higher success rates in chronic total occlusion (CTO) revascularisation," Prof. Escaned told the audience. In addition, one-year outcomes of patients with SYNTAX score ≥22, treated with PCI using the SYNTAX score II risk stratification, were similar to those observed in previous patients with low anatomical risk (SYNTAX score ≤22).

Commenting on the study design, session Chairperson Professor William Wijns said, "The novelty of this approach should not be underestimated. Instead of looking at one technical aspect... you are actually looking at the best possible outcome, if we do the right thing, incorporating the six elements [of the SYNTAX II score]."

When questioned on the limitations of the study—which does not assess the contribution of different parts of the SYNTAX II strategy to its overall success, Prof. Escaned responded, "The rationale of the SYNTAX II trial is that physiology is used to outline which stressors have to be treated, while imaging is used to optimise PCI. It is true that we can say in that state-of-the-art PCI if you incorporate all of the evidence that is there, brings this result."

Prof. Escaned commented on the evolution of approaches observed across the SYNTAX studies. "From the Heart Team to the cath lab, there were two different directions in terms of initial treatment. In SYNTAX I there were more lesions treated than decided at the time of the Heart Team. In SYNTAX II, there were fewer lesions treated before physiology at the time of intervention. "Times are changing," he concluded. "Nowadays, interventionists are much more aware that revascularisation should be performed only when it is required. Even without physiological assessment, we are more cautious about when to treat."
No significant difference between drug-eluting and bare metal stents in saphenous vein graft PCI

The DIVA trial has found no significant difference in either short- or long-term outcomes between the use of drug-eluting and bare metal stents in saphenous vein graft (SVG) percutaneous coronary intervention (PCI). Presented by principal investigator and study chair Doctor Emmanouil S. Brikalis (Minneapolis Heart Institute, Minneapolis, USA) at yesterday’s Late-Breaking Science in PCI sessions, the study compared the incidence of target vessel failure (TVF) among patients treated by SVG PCI using either drug-eluting (DES) or bare metal stents (BMS).

A number of trials have sought to determine whether DES may offer a solution for the high rates of severe lesion restenosis associated with bare metal stents in this setting. “Four studies have been performed to date. Three of them—the SOS, the ISAR-CABG, and the BASKET-SAVAGE have all shown benefit for DES. The fourth one—the RRISC trial—has actually found higher events with DES arm,” Dr. Brikalis told the audience. “All of these studies, however, have important limitations.” Dr. Brikalis noted that none of the trials were blinded, all used first-generation DES and all had a low use of embolic protection devices. Apart from the ISAR-CABG trial n=610, all had small patient cohorts. The DIVA trial sought to address these limitations with a prospective, double-blinded, multi-cohorts. The DIVA trial sought to address these limitations with a prospective, double-blinded, multi-cohorts.

The primary outcome of TVF was defined as a composite of cardiac death, non-fatal myocardial infarction or target vessel revascularization. Procedural techniques and outcomes were observed as secondary outcomes. Of 3,482 patients screened for eligibility across 26 US sites, 597 patients (DES: 292, BMS: 305) were enrolled and randomised, which resulted in a statistical power of 86%. Within this cohort, 592 patients were included in a 12-month follow-up analysis of primary and secondary outcomes (DES: 288, BMS: 304), while 555 patients were followed up to 60 months (DES: 275, BMS: 280).

The authors found no significant difference in primary endpoint at short- or long-term follow-up. At 12 months, 51 TVF events had occurred in the DES group (17%), and 58 in the BMS group (19%; p=0.67). No significant differences were noted on stratification according to diabetes, number of target lesions or age of the newest SVG with number of TVF events. Of 213 events recorded within long-term results, median follow-up period of 2.7 years, no significant difference was found between the DES and BMS groups (p=0.46).

Investigators also found no significant difference between DES and BMS outcomes at short- or long-term follow-up, including death (p=0.64, 0.54), short-term or long-term follow-up, respectively, cardiac death (p=0.36, 0.45), myocardial infarction (p=0.63, 0.51), target vessel myocardial infarction (p=0.71, 0.76), PCI (p=0.65, 0.26), coronary artery bypass grafting (one incident only, DES group at 12-month follow-up), target vessel revascularisation (p=0.82, 0.18), target lesion revascularisation (p=0.74, 0.29), definite stent thrombosis (p=0.84, 0.89) and definite/probable stent thrombosis (p=0.68, 0.69). The use of antiplatelet medication (aspirin or P2Y12 inhibitor) was also similar between the two groups. "The DIVA trial has found no significant difference in either short- or long-term outcomes between DES and BMS, which has important economic implications and highlights the need for new strategies to treat severe graft lesions," Dr. Brikalis said.

Focused update will provide consistency on DAPT

With its focused update on dual antiplatelet therapy (DAPT), which has been developed in collaboration with the European Association for Cardio-Thoracic Surgery (EACTS), the European Society of Cardiology (ESC) aims to ensure its recommendations are consistent with the other ESC Guidelines that are being published this year and are in line with the available evidence.

Speaking to ESC Congress News, Task Force member Professor Jean-Philippe Collot (Institute of Cardiology, Pitié-Salpêtrière Hospital, Paris, France) says that the intention is to provide guidelines for physicians on how to use DAPT in various settings. “It covers a vast spectrum of views. This could be post percutaneous coronary intervention (PCI), secondary prevention, but also in acute coronary syndrome (ACS) that is medically-managed and in DAPT combined with oral anticoagulation. The idea is to be consistent with all the other ESC Guidelines on this topic including acute myocardial infarction-ST-segment elevation myocardial infarction (AMI-STEMI), those on the diagnosis and treatment of peripheral arterial diseases (in collaboration with the European Society for Vascular Surgery, ESVS) and those on valvular heart disease (VHD) that are also being published at ESC Congress 2017,” he notes.

Findings from a number of studies and meta-analyses have contributed to the update, most notably DAPT and PEGASUS. Prof. Collot outlines the changes in the recommendations, noting: “One of the recommendations that have been upgraded deals with pre-treatment with P2Y12 inhibitors in planned PCI. It was a Class IIb recommendation and now it is Class IIa. And the option of stopping ticagrelor prior to a planned invasive procedure, previously set at five days, is now three days.”

The focused update has also removed the previous differentiation in DAPT duration between next-generation drug-eluting stents (DES) and bare metal stents (BMS). Task Force Chairperson Professor Marco Valgimigli (Department of Cardiology, Bern University Hospital, University of Bern, Bern, Switzerland) who is chairing these guidelines explains that this change is based on studies that have shown the “clear superiority” of next-generation DES over BMS in patients even with short (i.e. three to six months) or ultra-short (i.e. one month) DAPT duration after stent implantation. Therefore, according to Prof. Valgimigli, there is “no longer any justification” for preferring BMS over DES on the grounds that using a BMS would allow a shorter duration of DAPT—something he believes is a “major breakthrough”. However, with biodegradable scaffolds, DAPT should be prescribed for at least one year after PCI.

When assessing bleeding risk, the update recommends using the PRECISE-DAPT scoring system, particularly in relation to discontinuation of P2Y12 inhibitors in ACS patients. A new concept of specific patient profiling has been introduced, with a clearer definition of an unfavourable profile for the combination of oral anticoagulation and antiplatelet therapy. Prof. Collot says this will provide clear, helpful guidance for clinicians.

Additionally, the update introduces a new chapter on anticoagulation in DAPT that focuses on the acute and chronic setting, and on dosing regimens for novel oral anticoagulants (NOACs) in patients with atrial fibrillation.
Studies help to build case for adenosine-free measurements as an alternative to FFR

Two new studies, both presented at the 2017 Scientific Session of the American College of Cardiology and simultaneously published in the NEJM, have raised the possibility that “instantaneous wave-free ratio” (iFR), a measure that can be obtained without injection of adenosine or other drugs for vasodilation, may be an alternative approach to physiological assessment of coronary lesions by fractional flow reserve (FFR). Both indicate that compared with FFR, iFR is associated with a similar rate of major adverse cardiac events (MACE) at one year but is associated with a significantly lower rate of adverse effects.

In DEFINE-FLAIR, patients randomised to undergo assessment with iFR (1,342) had significantly fewer lesions classified as “functionally significant” than those randomised to undergo assessment with FFR (1,250)—meaning fewer patients in the iFR group underwent PCI. However, at one year, the rate of MACE (the study’s primary endpoint) was not significantly different between groups: 6.8% for iFR vs. 7% for FFR (p=0.078). Similarly, the iFR-SWEDEHEART trial did not find a significant difference in the 12-month rate of MACE between iFR and FFR: 6.7% vs. 6.1%, respectively (p=0.007 for non-inferiority).

A key difference between the modalities is that, unlike FFR, iFR does not require the use of adenosine. Adenosine is associated with side-effects such as flushing, shortness of breath and chest discomfort, as well as transient bradycardia. An important concern is that the requirement to inject adenosine may deter operators from using physiological assessment at all—despite substantial data and guideline recommendations that support its use in the setting of indeterminate stenoses.

A pooled patient-level analysis of the two studies presented at this year’s EuroPCR provided further evidence that iFR is associated with fewer PCI procedures but a similar rate of MACE at one year. Some experts raise several issues that are yet unclarified regarding the relative merits of iFR and FFR measurements. Some argue that the lack of improved outcome with FFR, as compared to iFR, may indicate that the commonly used FFR threshold of 0.80 may be set too high. They also suggest that based on the RESOLVE study published in 2014, pd/pa, another adenosine-free measure, may be equally good as iFR, but has been insufficiently evaluated. Finally, intracoronary administration of adenosine is an alternative to intravenous injection, has fewer side effects and a lower threshold to use.

Dr. Johannes Rieber (Department of Cardiology, Division of Internal Medicine, University of Munich, Munich, Germany) told ESC Congress News: “In my opinion DEFINE-FLAIR and SWEDHEART show promising results for iFR with an equal outcome during 12 months follow-up. However, the amount of outcome data is still much less than for adenosine FFR. I am curious to see if the equality of iFR and FFR is still maintained over a longer follow-up period or one method will prevail!”

To further explore the latest data for physiological assessment, attend the Imaging versus functional guided PCI session on Monday; Doctor Javier Escaned (Hospital Clinico San Carlos/ Faculty of Medicine Complutense University, Madrid, Spain) will be giving the talk FFR/iFR for PCI guidance.

The Changing Landscape of Oral Anticoagulation for Atrial Fibrillation

Satellite Symposium
27 August, 2017 12-15h, Estadi Olímpic Lluís Companys, Barcelona, Spain

12:45 Introduction Andreas Goette, Germany
12:50 Expanding the clinical landscape: the evolving role of non-vitamin K antagonist oral anticoagulants Jeffrey I. Witzt, Canada
1300 How to choose the right NOAC for your patients Luc De Rezé, Switzerland
13:15 Translating ENGAGE AF TIMI 48 into clinical practice Robert P. Giugliano, USA
13:35 Panel Discussion Moderated by Co-chairs
13:40 Wrap-up Jeffrey I. Witzt, Canada

A plaque of peace given to the city of Barcelona

Yesterday, during the opening ceremony of the ESC’s public event, the President of the Brazilian Society of Cardiology, Doctor Marcus Malachias, gave the city of Barcelona a “glass plaque of peace” following the terrible terrorist attack that occurred on 17 August at Las Ramblas. The public event, which is held every year and is running until Monday, is taking place at Arco de Triunfo in the city centre (about 5km away from Fira Gran Via).

The aim of the interactive and convivial public event is to honour Barcelona, the host city—Barcelona has been the site of the ESC Congress many times before. At the opening ceremony, in addition to the presentation of the plaque by Dr. Malachias, ESC President Professor Jeroen Bax, the Deputy Mayor of Barcelona, Mr Jaume Collboni, Professor Josep Brugada (Cardiovascular Institute, Hospital Clinic, University of Barcelona, Barcelona, Spain), and Spain’s Secretary General of Health and Consumption, Mr Javier Castrodeza were there to welcome the citizens of Barcelona to the event.

During this ceremony, Chema Martinez, a well-known long-distance runner who has twice represented Spain at the Olympics, gave an automated external defibrillator to the Olympic stadium (Estadi Olímpic Lluís Companys) on the behalf of Philips. This was in support of an ongoing campaign to make Barcelona a “cardioprotected city”.

The event is a great opportunity for adults, teenagers, families and children to enjoy socialising while being educated about health. Those attending will be able to join workshops on using defibrillators, be surprised by an original and astonishing flashmob performance, enjoy healthy cooking, and discover many other interesting and fun activities.

Moreover, many renowned ESC partners will support this event such as the FC Barcelona, the Spanish Society of Cardiology, the Spanish Heart Foundation, and the Brugada Foundation. The ESC is proud to have them by its side!
Statins remain the “workhorse” of LDL cholesterol lowering

Low density lipo protein cholesterol (LDL-C) is the main risk factor for atherosclerosis and atherosclerotic heart disease. From diet to medical intervention, a number of approaches should be considered to ensure optimal patient care. Renowned expert, Professor Eugene Braunwald (Brigham and Women’s Hospital and Harvard Medical School, Boston, USA) speaks to ESC Congress News about the options.

“LDL-C is the principal cause of coronary artery disease,” Prof. Braunwald comments. “Over the last few years we have gathered a lot of new information that has not yet been incorporated into guidelines. In a number of trials, LDL cholesterol has been reduced to levels that in the past would have been considered extreme and perhaps dangerous.”

In both the IMPROVE-IT trial with ezetimibe (led by Prof. Braunwald) and the FOURIER trial—which studied a PCSK9 inhibitor —patients tolerated LDL cholesterol levels as low as 20mg/dl, and demonstrated benefit. “There had been fear that if you reduce the LDL-C too much, patients might experience changes in the central nervous system and in the liver,” Prof. Braunwald explains, adding: “None of that panned out. These ‘ultra-low’ levels of LDL-C were well tolerated.”

The first approach to managing LDL-C is a change of diet. If that fails to improve measurements, the next step is to prescribe statins. “Statins are the workhorse of cholesterol lowering.” Prof. Braunwald says. A minority of patients, however, struggle with statin tolerance, with potential side-effects. Braunwald advises physicians to try switching to a different statin, and lowering the dose. “Ezetimibe—a drug about half as potent as a statin with minimal side effects—should also be considered. When necessary, a more potent option comes in the form of PCSK9 inhibitors, monoclonal antibodies that require injection. “On the downside, they are quite expensive.” Prof. Braunwald notes. However, “patients at increased risk whose LDL-C cannot be brought down to below 70mg/dl should receive PCSK9 inhibition,” he points out, stating “this certainly includes patients who have just experienced a heart attack.”

“LDL-C is a silent killer,” Prof. Braunwald concluded. “Good patient education is fundamental to maintain the reduction of a LDL-C.”

Valentin Fuster: Give back to medicine what you have received

Professor Valentin Fuster (Mount Sinai Heart Center, Icahn School of Medicine at Mount Sinai, New York, USA) talks to ESC Congress News about the importance of mentoring, and his role in global health projects for disease prevention.

Having been mentored yourself, how do you help those at the early stage of their career?

I direct multiple mentoring programmes with the American Heart Association, and also mentor as part of my role as general director of the Spanish National Centre for Cardiovascular Research (CNIC) in Madrid. The CNIC has trained many students, who are now becoming the country’s scientists.

You grew up in Spain, trained in Europe to work one day a week at CNIC. What are the differences in how these countries approach medicine?

When I finished medical school, I was dispont-pointed with the Spanish educational system. My mentor told me the UK was the best place for clinical education—some of the best advice I have ever received. UK educational programmes had a pragmatic approach to the patient that was unique. Training programmes in the USA were technology focused, perhaps too much so. However, I wanted to try some of these aspects. If you work hard and do well, the US system is very supportive. I have been there for 45 years. But I still come to Europe to work one day a week at CNIC.

How did your influence in Latin America, particularly Colombia, come about?

I am involved in seven global health projects. One of them, the Children’s Project, started in Colombia. We have now enrolled 50,000 children worldwide, with 3-6-year-olds learning the importance of health and nutrition. We have also focused on disease prevention, trying to identify adults (following 12,000 subjects) who have undetected subclinical disease—cardiovascular and microvascular of the brain—to implement two different behaviour protocols.

The development of new concepts for disease treatment, prevention and health promotion is what I am most proud of, in parallel with having developed mentorship programmes for young clinicians and investigators. My driving force has been to give back to society what has been given to me.

What has your involvement with the ESC Congress been?

I have been involved from the beginning, and have not missed one. I am proud to be European, and to see how the ESC Congress has grown, with tremendous scientific, clinical and social impact.
ESC Gold Medal recognises inspiring figures in echocardiography and interventional cardiology

The purpose of the European Society of Cardiology (ESC) Gold Medal is to recognise the outstanding achievements of exceptional cardiologists for their contribution to medicine. This year’s recipients are echocardiographer Professor Anthony DeMaria (Judy and Jack White Chair in Cardiology, UCSD Medical Center, Division of Cardiovascular Medicine, San Diego, USA) and interventional cardiologist Professor William Wijns (National University of Ireland, Galway, Ireland).

Prof. Anthony DeMaria

The ESC Gold Medal, says Prof. DeMaria, provides “tangible evidence” that the hard work and sacrifices made by himself and family have “yielded something of value”. He says: “My career was in large measure determined by being in the right place at the right time, and getting to work with really talented people.”

Indeed, DeMaria’s introduction to echocardiography occurred after he stumbled across a lecture by Harvey Feigenbaum (the Father of Echocardiography) at an American Heart Association meeting. The encounter inspired DeMaria to become an early adopter of M-mode, followed by 2D, pulse Doppler and M-mode, followed by 2D, pulse Doppler and M-mode, followed by 2D, pulse Doppler and... (Continued)

Prof. William Wijns

Prof. Wijns modestly believes that his ESC Gold Medal is in recognition of the entire field of his untimely coronary intervention (PCI), which this year celebrates its 40th anniversary, and being Editor-in-Chief of the Journal of the American College of Cardiology from 2002 to 2014. Being entrusted to evaluate the research of others, he describes as “an awesome and sacred responsibility”. In this post, he relished writing his monthly editor’s page, focused on the human aspects of medicine, altogether clocking up more than 120 editorials. However, Prof. DeMaria feels that his most enduring contribution has been overseeing the training of “some extraordinarily talented cardiologists”, who went on to become “thought-leaders in their medical communities”.

Therapeutically, DeMaria’s work in echocardiography has been really good for patients because concepts like the heart team are much more obvious to implement when you don’t work in isolation on your little interventional island,” he says.

Prof. Wijns is also co-director of EuroPCR, a world-leading course in interventional cardiovascular medicine which each May brings together 12,000 participants in Paris, chairman of PCR and a deputy editor of the European Heart Journal.

Highlights of Prof. Wijn’s time with the ESC include his chairmanship of the ESC Congress Programme Committee (2002–2004), the European Health Charter in 2007, and the Stent for Life initiative. He launched it with Professor Petr Widimsky in 2008 to encourage better access to life-saving primary PCI interventions for acute myocardial infarction, focusing on European countries where implementation of reperfusion therapies was lagging behind. The success of this programme justifies its current extension to other continents including South East Asia, Latin America and Africa. He has also enjoyed a distinguished research career outside coronary interventions, showing that under repeated and chronic ischaemic conditions, heart cells change their phenotypes, accumulating glycogen and losing contractile proteins, and has undertaken stem cell research for acute myocardial infarction and heart failure.

The ESC Congress, he maintains, provides the perfect opportunity for interventional cardiologists to network with other colleagues.

See page 6 for solution.

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Social media is a tool for personal branding, keeping up to date, and educating others.

Social media provides multiple platforms for discussion on topics ranging from government policy to what you are having for breakfast. A session today will explore how cardiologists can harness this ever-present force to share and gain knowledge and avoid its potential pitfalls.

Dr. Chadi Alraies (MedStar Washington Hospital Center, Washington, DC, USA), who is giving the talk Why a cardiologist should use social media at a session today, says that Twitter is the most useful social media platform for cardiologists. “The reason for this is that Instagram, Snapchat, and Facebook tend to be private and nobody can follow you without your permission; equally, LinkedIn—although designed for professional networking—requires that you ‘accept’ contacts before they can see your profile. But Twitter, at least with the default setting, is an open platform as people can follow you without needing your permission,” he says. Dr. Alraies adds that Twitter is a “big discussion group” in which you can share papers or cases with other medical professionals across the globe.

However, an obvious pitfall to discussing cases online is for patients’ anonymity to be compromised. Therefore, great steps should be taken to ensure no patient, hospital, or time details are shown—the time and hospital name, according to Dr. Alraies, could identify a patient even if their name is not shown. He adds that, to be on the safe side, get permission from the patient or their relatives before discussing any case online. Furthermore, to avoid falling foul of Twitter in general, Prof. Alraies has come up with several “golden rules”. These include being “respectful to your colleagues, to your patients, to your community and to your followers” and “expect every message to be read out in a court of law”.

Aside from obvious pitfalls you and your patient could face, there is also the issue of misinformation. Anybody can set up a Twitter account and call themselves a physician—regardless of whether or not they actually have a medical degree. Therefore, they could potentially be providing “information” when they are not actually qualified to do so. Also, given that social media tends to be associated with younger generations, many physicians on Twitter will be at the start of their career and may not have the relevant experience to properly answer questions. For this reason, Dr. Alraies is keen to see more experienced cardiologists on Twitter so that they can share their knowledge with younger colleagues.

Dr. Alraies recently conducted a Twitter poll to ask why cardiologists should be interested in attending a session on social media for cardiologists and found that most believe that such a session would be useful. While he acknowledges that the poll was biased because everyone who responded was already using Twitter, Dr. Alraies hopes that both social media aficionados and those who are more reluctant will attend today to learn how social media can be a tool for “personal branding, getting up to date with the latest information, and educating others”.

The registries, Prof. Vahanian explains, tend to fall into one of three main categories—including general cardiology which, he says, deals with “very important, predominant” diseases such as heart failure or coronary artery disease and clinical cardiology. Another category assesses interventional procedures such as transcatheter aortic valve implantation. He adds that the third category includes so-called “special registries”, where “we look at quite rare conditions, such as cardiac disease in pregnancy”.

Overall, 80 countries, 1,700 centres and 130,000 patients are participating in the EURObservational Research Programme. Furthermore, data from the registries have been published in numerous specialist cardiovascular journals. A session today (16:30–18:00, Goya - The Hub) will look at the valuable lessons on frequent diseases that the registries have provided. Those attending will not only discover, according to Prof. Vahanian, the results of some of the registries but will also hear about the ESC’s new approach to performing registries, so that the data from these registries is collected (and used) more effectively.
A plate to suit all palates

If there is one thing you can be sure of while in Barcelona it is that you will find a good place to eat—whether you are into fine dining or whether you prefer something simple. With eateries ranging from Michelin-starred restaurants to traditional tapas bars, there is certainly no shortage of venues to try.

The Barcelona Tourist Information Office (www.barcelonaturisme.com) says that eating Catalan cuisine is a must while in Barcelona. It reports that Catalonia’s gastronomic heritage can be traced back to medieval times and is still based on the value of produce and terroir stemming from “locally sourced, seasonal ingredients that reflect the vast wealth of the Catalan landscape: the sea, the mountains, vegetable gardens, orchards and woodland”, adding that this tradition has given rise to such popular recipes as escudella i carn d’olla or escalivada. Furthermore, in 2016, Catalonia was named European Region of Gastronomy.

You can sample Catalan cuisine at one of Barcelona’s 23 Michelin-starred restaurants. These include Lasarte, which is the first and only Barcelona restaurant to be awarded three Michelin stars. Time Out calls it “one of the essential restaurants not only in the city but in all of Catalonia and Spain”. There is also the two-starred ÀBaC, which serves an egg and asparagus dish that is not as simple as it may first sound. Apparently, the yolk is cooked at 62°C and then cured in salt water before being served with white asparagus, a thin slice of Serrano ham and a spoonful of caviar.

If a Michelin-starred restaurant is not what you fancy—ÀBaC’s sampling menu will set you back €140 after all—then you can still eat well at one of Barcelona’s many tapas bars. There is Quimet i Quimet, which is what estate agents would call “cosy” (in other words, small) but has plenty of good tapas dishes on offer. The average prices range from €11 to €20. For those who want a more modern take on tapas, there is E1 58. Its imaginative dishes include langoustine and sweet chilli brochette. However, as the menu changes with the season, it is probably best to go along and see what they have on offer!

However, as wonderful as Spanish food is, you may not want to eat it every night you are here. Therefore, there are many places serving different cuisines—such as the Japanese restaurant Shunka, the Italian restaurant La Bella Napoli, and gourmet burger place Bacoa. And as seems to be obligatory wherever you go, there is your “traditional” (except in Ireland itself) Irish bar. For some good “craic” (enjoyment!), check out Flaherty’s Irish Pub. While not exactly coming under the banner of Catalan cuisine, according to reviews, it is a good place to go for breakfast.