Registries the feature of 2011
Two new update sessions added to programme

ESC CONGRESS 2011 “represents the year of registries”, ESC president Michel Komajda told a packed opening ceremony yesterday. “Registries are of paramount importance to cardiology,” he said. “They help create a better understanding of medical practice and its geographic variation across ESC countries.

“The breadth of registry studies presented at this year’s meeting demonstrates how cardiologists are more concerned than ever before with practising evidence-based medicine and evaluating how well they’re performing.”

For the first time, he added, two new dedicated registry sessions comprising 12 studies have been incorporated into this year’s scientific programme.

The importance placed by the ESC on registries is reflected in the Euroobservational Research Programme, an ESC project created two years ago to co-ordinate cardiovascular registries across Europe. Plans are currently under way for eight registries involving over 10,000 patients; these include heart failure, pregnancy in cardiac disease, atrial fibrillation ablation, percutaneous valve implantation, ischaemic heart disease, and cardiomyopathy.

Registries go hand in hand with guidelines, said Komajda, and those presented this year include non-ST segment elevation ACS, dyslipidaemias, CVD during pregnancy, and peripheral artery disease (PAD).

Education represents a major priority for the ESC, with the Education Committee currently engaged in developing an online platform for remote distance learning which includes webcasts, webinars and clinical cases.

Last year the ESC Global Scientific Activities initiative was launched with a programme of international courses held in conjunction with Affiliated Societies outside ESC countries. Joint meetings, focused on ESC guidelines and clinical case discussions, have already been held in Saudi Arabia and Malaysia, with further meetings planned in China, Brazil, Argentina and Mexico.

Research is another key area of activity, with the ESC awarding research grants of over €1 million last year. Currently under discussion is the creation of an ESC Research Foundation to foster transborder research networks. “Research now requires a huge investment in time and money and collaboration allows savings in both,” said Komajda.

Advocacy is a growing area of activity, with the ESC calling for the standardisation of CV data collection. “Standardisation would give us valuable information on why there’s so much diversity in CVD management in Europe,” said Komajda.

Ongoing initiatives include the ESC membership of the Biomed Alliance, to co-ordinate medical research across Europe, and of the European Chronic Diseases Alliance, to reverse the rise in incidence through the provision of evidence-based policy recommendations.

Communication within the ESC is facilitated by the ESC family of journals, which, with a total circulation of 58,143, has gone from strength to strength. Most notably, the European Heart Journal has just reached its highest impact factor yet. Additional ESC communication tools include the ESC website, with an average traffic of 100,000 visits per month.

One new feature at this year’s meeting is the “Cardiologists of Tomorrow Track”, whose programme has been devised by a group of eight young cardiologists. The programme offers free congress registration fees to over 600 junior cardiologists selected by their National or Affiliated Cardiac Societies.

In his opening remarks Komajda stressed the international scope of the ESC meeting, which has become a “truly global medical organisation”, proud of its partnerships on the five continents. In 2005 only 25% of congress participants came from non-ESC National Cardiac Societies, whereas in 2011 it has risen to 30%. It is particularly noteworthy, he added, that Brazil now provides the third highest number of conference delegates.
Three ESC gold medals at opening ceremony

Jean Claude Daubert sets the pace of French cardiology

THIS YEAR’S ESC Gold Medalist Jean Claude Daubert, an electrophysiologist from the University of Rennes, pioneered the concept of cardiac resynchronisation therapy (CRT).

“After much initial scepticism from the heart failure community – who were convinced that drugs and new pharmacological therapies coming from ‘electricians’- it’s really gratifying that last year more than 200,000 patients worldwide were implanted with CRT systems,” he says.

Daubert, a fourth generation doctor from Brittany, broke with the family tradition of general practice when he was attracted by the logic and “continuous progress” he observed in the field of cardiology.

It was in the 1980s at the University of Minnesota that he first described the concept of atrial resynchronisation by bi-atrial synchronous pacing for patients with atrio-ventricular conduction delays, which, he says, paved the way for CRT.

“CRT was based on evidence we had in the early 1990s that atrio-ventricular and intra-ventricular conduction delays both further aggravated LV dysfunction in patients with underlying cardiomyopathy,” explains Daubert, who then with Serge Cazeau developed the hypothesis that co-ordinating contraction and relaxation sequences by simultaneously pacing the LV at two opposite sites would result in significant improvements in LV function.

Daubert established the clinical value of CRT in patients with moderate to severe heart failure in the MUSTIC trial in 2001, and later in the CARE-HF trial in 2005 that showed that CRT decreases morbidity and mortality in heart failure patients with NYHA class III–IV, and in the REVERSE trial in 2008 that CRT can prevent heart failure progression in patients with NYHA class I-II.

As a member of the ESC Working Group on cardiac pacing, Daubert was involved in the decision to merge the working groups on cardiac pacing and arrhythmias into one single association, the European Heart Rhythm Association.

Earlier this year he co-chaired of the ESC Policy conference on Cardiovascular Devices, with Alan Fraser, where he led groups on coronary interventions and devices for treating arrhythmias and heart failure. “In practice, the problem will be to find equilibrium between regulation and innovation,” he predicts.

Other career highlights include his presidency of the French Society of Cardiology from 2004 to 2005 (succeeding ESC President Michel Komajda), where he was instrumental in creating the “French Heart Hour”, a major event under the same roof the French Society of Cardiology, the French Federation of Cardiology, several professional associations and two research foundations. “The initiative gave a new dynamism to French cardiology,” he says.

As a member of the French National College of Cardiology, Daubert is currently suggesting reforms that will increase the duration of the curricula in France from four to five years, so that France steps in line with some (but not all) other European countries.

Married to an architect, Francoise, and with five young grandchildren, what little free time he has, he enjoys spending with family, though he hopes to find more time in future for his hobbies of cycling, boating, fishing and being with his three children that he sent into medicine, so the family tradition has now been interrupted,” he says.

Peter Libby

born communicator

A streak of "Berkeley" rebelliousness helped shape the career of Peter Libby, one of this year’s ESC Gold Medalists. Instead of taking the conventional hypercholesterolemia route for the investigation of atherosclerosis, in the early 1980s Libby struck out on his own to pursue inflammation.

Cardiology was the perfect way for Libby, who grew up in Berkeley, California, to meld his interests in people and science. His career was greatly influenced by his mentor Eugene Braunwald, whom he met on his first day at medical school at the University of California, San Diego, and for whom he later worked. "Working in Braunwald's lab set the stage for the rest of my professional and personal life," says Libby, adding that Braunwald was incidentally responsible for him meeting his wife, Beryl Benacerraf, a radiologist specialising in women's imaging.

When he started his own laboratory, Libby's contrarian bent led him to leave aside the heart muscle itself and pioneer the then nascent field of vascular biology.

One of his first discoveries was that vascular wall cells actively participate in the inflammatory process, producing pro-inflammatory mediators. Since then he has unravelled the molecular mechanisms of plaque rupture and aneurysm formation.

"For a long time we've focused on collagen metabolism," he explains, "but for aneurysms we've explored elastin breakdown. In both cases, we detect inflammatory cells responsible. He also defined the pathogenic pathway of accelerated atherosclerosis in transplanted hearts, a concept that has now entered the textbooks.

Libby co-founded the International Partnership for Critical Markers of Disease, a non-profit organisation that explores the use of soluble and imaging biomarkers to advance cardiovascular medicine. "If we can monitor better biological processes in intact people, it would allow us to probe human pathophysiology and inform rational dose-ranging for clinical trials," he says.

Peter Libby strives to communicate on all fronts — with colleagues in cardiology, GPs, the public, and political leaders. He was editor-in-chief of the eighth edition of Braunwald's Heart Disease, has published more than 300 original research reports, and has acted as medical advisor to two documentary series, including PBS’s Emmy award-winning The Mysterious Human Heart, and ran a contributed cardiovascular blog posts to the New York Times. "I feel passionately that beyond our one-to-one physician–patient responsibility, we have a duty to communicate broadly with the public, to try and foster healthy lifestyles and understanding of research."

Libby's hobbies include listening to music — favouring the works of J.S. Bach, but confessing a penchant for Puccini — and jogging. "It's not convincing to promote a healthy lifestyle unless you embrace it yourself," says Libby, adding that running offers a perfect escape. "After 20 kilometres of fairground rides you're not concerned about healthcare finances, just about getting to the finish." It is Libby's trainees, several of whom are now chiefs of cardiology in Europe, as well as his two adult children, of whom he is now most proud. "Scientific advances get superseded," he says. "The enduring legacy is the people we train and the satisfaction we take from human interactions along the way."

Henri Kulbertus

former editor of the EHJ

 Asked for his reaction to the award of an ESC gold medal, Henri Kulbertus said he was "amazed". But no doubt, he thought, the medal was for “services rendered.”

The services of Professor Kulbertus to the ESC lasted 15 years - “a pretty long time,” he smiles - beginning in 1980 in the decision to merge the working groups on coronary artery disease and cardiac arrhythmias into a single association, the European Heart Rhythm Association.

Early this year he was co-chair of the ESC Policy conference on Cardiovascular Devices, with Alan Fraser, where he led groups on coronary interventions and devices for treating arrhythmias and heart failure. “In practice, the problem will be to find equilibrium between regulation and innovation,” he predicts.

Other career highlights include his presidency of the French Society of Cardiology from 2004 to 2005 (succeeding ESC President Michel Komajda), where he was instrumental in creating the “French Heart Hour”, a major event under the same roof the French Society of Cardiology, the French Federation of Cardiology, several professional associations and two research foundations. “The initiative gave a new dynamism to French cardiology,” he says.

As a member of the French National College of Cardiology, Daubert is currently suggesting reforms that will increase the duration of the curricula in France from four to five years, so that France steps in line with some (but not all) other European countries.

Married to an architect, Francoise, and with five young grandchildren, what little free time he has, he enjoys spending with family, though he hopes to find more time in future for his hobbies of cycling, boating, fishing and being with his three children that he sent into medicine, so the family tradition has now been interrupted,” he says.

Henri Kulbertus would remain in the editor’s chair until 1995, during which time (in 1993) it would reach a heady impact factor of 1.425! “I have to admit that the journal was run in a terribly amateurish way,” Kulbertus recalls. “Of course, all our submissions were on paper, and I still remember going on holiday with a suitcase full of manuscripts for review. The scope for the journal - in terms of subscription and distribution was very limited.” Indeed, it was a bone of contention with Kulbertus that subscription to the EHJ was not included in ESC membership, for that would have increased the readership substantially. Today, he notes, all ESC congress delegates receive a free one-year subscription to either the EHJ or Cardiovascular Research.

Henri Kulbertus, who retired in 2002, has spent the majority of his career at the University of Liège in Belgium. In 1988, as Chief of Cardiology, he devoted his time to the development of a dedicated cardiology department at the new University Hospital Dar El Tifan in Liège. "Before then," he smiles, "cardiology was simply "internal medicine". During that time, his main areas of clinical and research interest were in coronary artery disease and cardiac arrhythmias.

It’s ten years since Professor Kulbertus last attended an ESC congress, and no doubt there’ll be big changes for him to see, just as there have been changes in the EHJuth. The impact factor of the journal has now reached a record high, and in Paris there are more than 30,000 in attendance. Back in 1980, when Professor Kulbertus began his association with the ESC, there were just 6800 registered for the congress, and the venue was . . . Paris.
New guidelines on the diagnosis and treatment of PAD emphasise a multidisciplinary approach

By Philippe Kolh, left, University of Liège, Belgium, and Adam Torbicki, Institute of Tuberculosis and Lung Diseases, Warsaw, Poland. Both are members of the ESC Committee for Practice Guidelines.

THE NEW GUIDELINES on peripheral artery disease (PAD) are the first produced by the ESC to address all aspects – with the exception of the aorta – of peripheral atherosclerotic disease, including disease of extracranial carotid and vertebral, mesenteric, renal, upper and lower extremity arteries. They are the result of close collaboration between physicians from cardiology, neurology, radiology, vascular surgery, and vascular medicine, and have been endorsed by the European Stroke Association.

The first section covers general issues such as epidemiology, risk factors, diagnostic approaches, and general rules for treatment. The detailed clinical presentations are then discussed in specific sections for each vascular site. Particular emphasis is placed on multi-site artery disease, such as in patients with coronary artery disease or disease in another vascular bed. The document ends with a list of significant gaps in evidence, which will hopefully stimulate new research.

The section on treatment modalities in patients with carotid artery disease covers medical therapy, surgery, and endovascular techniques. The Guidelines clearly differentiate the management of symptomatic and asymptomatic patients.

In the former, neurological assessment and appropriate treatment should be proposed as soon as possible after the index event. At a very minimum, patients should be examined and treated within two weeks, with important benefits derived from starting medical treatment and revascularisation – if indicated - as soon as possible after the onset of symptoms.

The Guidelines extensively cover diagnosis (with an emphasis on the importance of the ankle-brachial index) and treatment with endovascular or surgical techniques in patients with lower extremity artery disease (LEAD), differentiating between those suffering from claudication and those with critical limb ischaemia.

There is an emphasis on adequate balance between supervised exercise and best medical therapy as compared to revascularisation in patients with LEAD, taking into account the level of disability and the localisation of disease.

A very important section of these Guidelines concerns the management of patients with multi-site artery disease. Indeed, although such patients are encountered regularly, no randomised trials have yet been designed to compare different treatment strategies.

From a clinical perspective, the Guidelines emphasise the need for greater awareness of atherosclerotic disease occurring at sites other than the presenting one. This is particularly so in elderly patients in whom the degree of overlap of coronary artery disease, cerebrovascular disease and lower extremity artery disease is high. Attention should be focused not only on lesion sites, but also on the overall clinical status of the patient, taking into account the presence of all cardiovascular risk factors and co-morbidities.

Thus, the new ESC Guidelines on the diagnosis and treatment of peripheral artery disease will help physicians manage the most common aspects of PAD from a variety of complex clinical scenarios. The Guidelines emphasise that the management of patients with PAD should always be decided after multidisciplinary discussion, which includes specialists beyond the area of cardiovascular medicine. This was also the way in which current Guidelines were created.
Has cardiac magnetic resonance replaced nuclear imaging?

Ahead of today’s debate

Yes, says

Elke Nagel
King’s College London, UK

CARDIAC MAGNETIC resonance (CMR) perfusion imaging has developed from a niche technique into mainstream cardiology. Whereas earlier reports on CMR perfusion were dominated by technical considerations and mainly discussed among CMR specialists, the technique is now robust, well validated and available for many centres.

In a recent meta-analysis on the diagnostic accuracy of CMR stress testing in the diagnosis of CAD, sensitivity and specificity of CMR perfusion was reported as 89% and 80% for the detection of coronary artery stenoses of ≥70% based on 35 studies covering 2125 patients.

Since then further evidence has been provided comparing CMR perfusion to fractional flow reserve (FFR), PET and coronary flow reserve (CFR). Outcome data is available from ten trials, following more than 3400 patients for at least one year. All of them show a very high event-free survival rate in patients with a negative test.

There are several studies which compare SPECT and CMR perfusion directly. Evidence trails show a higher sensitivity of CMR perfusion imaging to SPECT for the detection of moderate flow reduction as measured by microspheres, most likely due to the higher spatial resolution of CMR (approx 3 mm x 3 mm for standard perfusion techniques). A multicentre dose-finding trial showed the non-inferiority of CMR perfusion in comparison to SPECT in the best dose group. These findings led to an international multicentre trial using the best dose; 465 patients were examined with SPECT, CMR perfusion and invasive angiography and a significant superiority of CMR perfusion was found. Similarly, the larger CMR trial presented so far found sensitivities of 87% and 67% with specificities of 83% and 83% for CMR perfusion and SPECT respectively, yielding a significantly higher overall accuracy for CMR.

Safety

Though the exact relationship between ionizing radiation and cancer risk is still not fully understood, there is general agreement (enforced by radiation protection laws) that radiation should be kept as low as reasonably achievable. Recent evidence on 64-slice CTCA suggests that CTCA is associated with a non-negligible lifetime attributable risk of cancer, which is highest for women and younger patients. Given that a SPECT study induces a similar level of exposure (approx. 9-11 mSv for a stress-rest protocol) the lifetime attributable risk for cancer due to a SPECT study can be estimated as approximately 1:1250 for men and 1:750 for women.

The main risk of a CMR study is the occurrence of nephrogenic systemic fibrosis, a disabling and potentially lethal disease which has been reported after MR scans in patients with reduced kidney function, usually in combination with high doses of gadolinium-containing contrast agents. With the use of even safer contrast agents, lower contrast agent doses and careful consideration of contrast injection patients with an eGFR < 30 ml/min/m², this disease has literally been eliminated, as no cases have been reported in patients with sufficient renal function.

So, given the current evidence of superior diagnostic accuracy and better safety profile of CMR perfusion in comparison to SPECT, CMR perfusion should be the preferred method whenever adequately trained physicians are available to perform and read CMR perfusion scans. This might not be the case in every environment, but we should further standardise the imaging procedure and train more users and referrers.

No, says

Juhani Knutti
Turku University Hospital
Turku, Finland

There is no doubt that CMR has become an important imaging tool for cardiac patients. The number of CMR studies is continuously increasing. In 2004, 70% of the cardiac patients in Germany, where CMR has been exceptionally popular, the message is still the same: about 200,000 nuclear perfusion tests but fewer than 30,000 CMR tests. One of the main reasons is that CMR has indeed become a very popular means of studying various cardiac diseases. However, statistics from clinical routine in Europe do not support the view that CMR has replaced nuclear imaging tests - or indeed any other tests. The 2009 European survey of nuclear cardiology showed that the average rate of examinations was around 2500 studies per million population, a rate steadily increasing from the 2005 and 2007 surveys.

In comparison, the number of CMR studies ranged from 50 to 320 per million population in 2004, only about 10% of the numbers of nuclear perfusion imaging. Therefore, CMR has indeed become a very popular means of studying various cardiac diseases.

But what will happen in the future? Will CMR replace any of the other imaging modalities, or vice versa? There is no question that echocardiography remains the main imaging technique for our patients. The rapid development of cardiac CT made the field of imaging much tighter, especially for CMR. However, the strengths of CT are not the same as CMR or other imaging modalities. Cardiac CT is unique in its ability to perform robust non-invasive coronary angiography. Although some potential CT applications are directly competing with CMR, it is not obvious that these techniques will overtake the role of CMR.

Instead, it seems that the current trend is actually to combine the modalities. CT combined with SPECT or PET is now readily available (Figure 1), and systems with combined MRI and PET are being introduced (Figures 2). It is unlikely that these novel techniques will replace our existing established methods, but they do provide completely new possibilities. The imaging of molecular targets (such as neural function and receptors) as well as fibrosis, gene therapies and stem cells, could all be the potential applications of these new techniques.

Figure 1. A hybrid PET/CT image of coronary artery and myocardial perfusion in patient with CAD. Ischaemia in LCX region.

Figure 2. Extended transmural uptake in the late enhancement image in MR fused FDG PET shows preserved viability in this area. (courtesy of O. Rabih, R. Nkouli and T. Schindler, University Hospital Geneva)
Onwards and upwards: new double-digit impact factor for European Heart Journal

By Simon Brown
ESC Congress News

For the first time in its 31-year history the European Heart Journal has a double-digit impact factor. In June, when the ISI Web of Knowledge announced impact factors for 2010, the EHJ had climbed from a figure of 9.8 in 2009 to 10.046, thereby joining two other titles - Circulation and JACC - as the only cardiology journals with impact factors above 10.

"We're very proud of the achievement," says Editor-in-Chief Thomas F. Lüscher. "Psychologically it's important to have a two-digit impact factor, but it's also a reflection of our strategy to make the EHJ into a more global journal."

That strategy, Lüscher explains, has seen the involvement of more Asian and American colleagues in the editorial board and more invitations to world experts for review articles. In addition, says Lüscher, the EHJ has stepped up its editorial mix with the introduction of free web access to "editor's choice" papers, fast track publication for web access to "editor's choice" papers, and editorial and invited reviews, and of course make the journal more visible. The high impact factor journals are weekly, but there's a huge cost implication. Weekly publication, he adds, would not affect acceptance rate (currently around 10%) nor the number of original articles per issue. The most cited articles of the EHJ are - without exception ESC guidelines, and thus a huge contributor to the journal's impact factor. But here in Paris the showcase of the journal is not the most cited papers but those articles deemed of most interest in three clinical fields - cardiomypathies, coronary heart disease, and acute coronary syndrome - each presented at a special session (on Sunday, Monday and Tuesday) as "The best of the European Heart Journal."

"We've asked the editorial board to make the choices," explains Lüscher. "So what we are presenting are those papers that we consider the best, not just those that are highly cited." Each of the three sessions will feature four papers presented for discussion by the original authors, with the sessions chaired by members of the EHJ's editorial board. Today's session, on coronary heart disease "from prevention to intervention", includes a three-year follow-up comparison of CABG and drug-eluting stenting from the SYNTAX trial.

The best of the EHJ: coronary heart diseases: from prevention to intervention - Monday 29 August 10:05 - 10:55, Sofia - Zone B, FP# 2026 to 2030
The best of the EHJ: Acute Coronary Syndromes - Tuesday 30 August 10:05 - 10:55, Sofia - Zone B, FP# 3835 to 3839

"Pulmonary Hypertension. Do we really understand the disease?"

Bayer HealthCare Satellite Symposium

Missed yesterday’s paper? Download it today on www.escardio.org
Resuming sex after MI: it’s good to talk

By Janet Fricker
ESC Congress News

A NURSING Symposium on Tuesday - “Let’s talk about sex” - will encourage healthcare providers to routinely raise the question of sexual activity in patients who have suffered a myocardial infarction or other cardiac problem.

According to Elaine Steinke, Professor of Nursing at Wichita State University, Kansas, USA, information about the resumption of sexual relations should be provided seamlessly, first in the hospital setting immediately before discharge, then during cardiac rehabilitation and finally in the primary care setting.

“All too often healthcare providers leave it to patients and their partners to ask about sex,” she says, “either because they feel uncomfortable about raising the subject or have insufficient knowledge. But patients also get embarrassed that sexual matters are often not even mentioned.” Steinke believes that cardiologists, family doctors and nurses all have a proactive role to play in addressing patients’ sexual concerns.

A survey of 157 cardiovascular nurses questioned at the 2009 annual spring meeting on cardiovascular nursing in Dublin, 97.8% of respondents agreed nurses had a responsibility to discuss patients’ sexual concerns, only one in ten frequently assessed their patient’s sexual health; and one in five felt they had insufficient knowledge to tackle the problem.

“When a resumption of sexual activity has not been associated with adverse cardiovascular outcomes for most cardiac patients,” said Steinke, “it’s a really important issue for improving the quality of life of both patients and their partners.” She emphasised that age should not preclude having an active sex life. “In one survey we’ve just undertaken on sexuality and cardiac patients, even those in their mid 80s or even 90s were happy to respond,” she said.

An easy way to broach the subject, she advises, is to talk about sex in the context of exercise or in discussion of cardiovascular disease in daily life. Open-ended questions are usually best to facilitate discussion. “Your script could go something like - tell me what most concerns you about resuming sexual activity?” Healthcare providers could ask specific questions to assess sexual health.

The type of information which patients might find reassuring is on the energy requirements for sex, which have been estimated as the equivalent of 3 to 4 metabolic equivalents (METs) - which corresponds to mild-to-moderate physical activity. They might also take comfort from the evidence that sexual intercourse is a low-frequency trigger for MI. In a survey of 1712 post-MI people, sex was a trigger in 1.5% of incidents compared with chest pain, stress, beta-blockers, clonidine, moderate exertion in 4.9%, and psychological stress in 11.6%.

However, the information that MI patients most want to know is how soon they can safely resume their sexual relations and how to do it. Guidelines state that sexual intercourse can be resumed within a few weeks after an uncomplicated MI, but that longer is needed if the patient has required cardiopulmonary resuscitation or suffered hypotension, serious dysrhythmias or heart failure. Most MI patients have resumed sexual activity by one month after the event.

“It’s often no more than providing common sense information,” says Steinke, “such as the importance of being well rested at the time of sexual activity, waiting two to three hours after a heavy meal, because blood flow focuses on digestion, and avoiding alcohol, because that diminishes sexual performance and can also adversely affect the heart.” She added that some patients may have more complex issues that may require referral to sex therapists.

Patients also need information about the warning signs of cardiac stress, such as chest pain, shortness of breath, rapid or irregular heart rate, dizziness, insomnia or extreme fatigue the day after sex. Healthcare providers should be told of all such signs. And it can help to advise them of the medications used in their treatment - thiazide diuretics, calcium channel blockers, androgens, blockers, vasodilators and lipid lowering agents can all affect sexual function. “Patients need to be instructed not to stop any drug that may be affecting their sexual function without talking to their healthcare providers,” said Steinke.

How late is too late for revascularisation in STEMI?

When is late too late? This is the question to be posed at a symposium on Tuesday exploring the timing of revascularisation for stable patients with acute ST segment elevation myocardial infarction (STEMI).

Studies have suggested that around one-third of STEMI patients present to hospital more than 24 hours after the onset of symptoms. Reasons for the delay, suggests Frans Van de Werf from the Katholieke Universiteit Leuven, Belgium, maybe because patients - or their doctors - mistake the MI symptoms for something else. Matters are not helped by a tendency for chest pain symptoms to disappear and then reappear.

The “open artery hypothesis”, first proposed by Eugene Braunwald in 1989, suggests that patients experiencing STEMI always derive benefit from PCI, even if performed late. Rather than the benefit being derived from the reperfusion limiting infarct size (as occurs with early opening) the benefit is thought more likely to be derived from a reduction in the development of abnormal heart rhythms and heart failure remodelling.

“While we all agree that the benefits of reperfusion decline exponentially over time, there still remains controversy over when it stops being beneficial to perform PCI,” says Van de Werf.

Evidence of benefit for up to 12 hours after the onset of STEMI was firmly established by the Oxford Fibrinolytic Therapy Trialist group, who, in 1994 performed a meta-analysis of all randomised fibrinolysis trials involving more than 1000 STEMI patients. Results showed that for patients treated within one hour of symptom onset (“the golden hour”) 39 lives were saved per 1000 patients treated. However, the analysis also showed that thereafter the benefits declined with time. Patients treated between two and three hours after PCI, 30 lives were saved per 1000 patients treated; and for patients treated between seven and 12 hours, 21 lives were saved per 1000. Although 2% of MI patients treated with PCI, it has been assumed that comparable results can be extrapolated.

However, evidence from the Occluded Artery Trial (OAT) of 2006 suggests that benefit beyond 24 hours is unlikely. In this study 2166 stable STEMI patients with total occlusions of infarct-related arteries were randomised to routine PCI plus stenting and optimal medical therapy or optimal medical therapy alone three to 28 days after MI. Results at four years’ follow-up showed that the cumulative primary event rate (a composite of death, reinfarction or heart failure) did not differ between the PCI and the medical group (P=0.20), although rates of non-fatal reinfarction were higher among the PCI-treated patients (P=0.08).

One explanation for this higher rate of MI in the PCI group, suggests Vladimir Dzavik from University Health Network in Toronto, Canada, may be the increased incidence of late in-stent thrombosis. While no difference was found when the OAT data was analysed according to whether patients received drug eluting stents or bare metal stents, Dzavik believes the introduction of the new drug-dissolving stents may change the story.

The introduction of stem cell therapy for STEMI will make a strong case for late revascularisation, according to Andreas Zeiher (pictured left) of the University of Freiburg, Germany. “We should make no sense to infuse stem cells into an occluded artery,” he said, “because those cells would have no chance of getting where they’re supposed to be.” Results in 2006 from the pilot REPAIR-AMI trial in over 200 patients showed that intracoronary infusion of bone marrow-derived progenitor cells was associated with a reduction in death, recurrence of MI and any revascularisation procedure (P=0.01).

Stem cells, Zeiher believes, exert their benefits by adhering to the border zone of the infarct and releasing factors that protect the cardiomyocytes from additional cell death - and may also contribute to blood vessel formation. Later in the year Zeiher and colleagues hope to start recruiting patients to the Bone Marrow Cells in Acute Myocardial Infarction (BAMI) study, with the aim of giving stem cells to patients who, four days after reperfusion, still have an ejection fraction below 45%. The study, which aims to recruit 3,000 patients, has been funded by a European Union grant and is being co-ordinated by the ESC. “The aim of the study will be to see if we can prevent progression to full blown heart failure,” says Zeiher.

Controversial issues on late-comers with STEMI
Tuesday 30 August 11:00 - 12:30, Athens - Zone F, FP# 3923 to 3926

Let’s talk about sex
Tuesday 30 August 11:00 - 12:30, Athens - Zone D, FP# 3929 to 3972

All ESC Congress resources available on www.escardio.org
The universal effects of disease prevention

By Simon Brown
ESC Congress News

THE SUBJECT of this year's Geoffrey Rose Lecture on Population Science is a fitting tribute to the epidemiologist eponymously honored, for it was Rose in his 1992 book on The Strategy of Preventive Medicine who drew the distinction between a clinical approach to prevention by targeting high-risk individuals and a public health approach which targets risk factor behaviour in the general population. The latter approach, argued Rose, will bring large benefits to large numbers, even though some vulnerable individuals may be missed.

It is this very population approach which epidemiologist Jaakko Tuomilehto will pursue in tomorrow's Geoffrey Rose lecture. His case is that lifestyle measures encouraged at the population level for the prevention of type 2 diabetes will have far greater benefits than in diabetes alone.

"We know that lifestyle interventions are the most effective means of preventing type 2 diabetes," he says, "but it's also clear that these same lifestyle measures have benefits in the prevention of cardiovascular diseases, cancers and Alzheimer's disease. Of course, high risk individuals will benefit from medical interventions, but the bigger impact will come at the population level from the prevention of just a few common risk factors."

The evidence in support of preventing type 2 diabetes through lifestyle measures is, says Tuomilehto, as strong as that linking tobacco to lung cancer, and it's now quite clear that these same lifestyle risk factors - excess weight, physical inactivity, high blood pressure, smoking, poor diet - when reduced in the prevention of diabetes will also have benefits in a range of other chronic diseases.

Indeed, this was a theme of a recent WHO report on the global status of non-communicable diseases. The recommended "best buys" of the report at the population level were restrictions on smoking, raised taxes on tobacco and alcohol, reduced salt in foods, the replacement of trans-fats with polyunsaturated fat, and public awareness about diet and physical activity. The report also noted that the culprit risk factors are now the "pervasive aspects of economic transition, rapid urbanization and 21st-century life".

And shortly after the conclusion of this year's ESC Congress the United Nations will host a summit meeting in New York on the control of non-communicable diseases with a view to adopting an action plan to which member states will subscribe. The meeting, says the UN, "presents a unique opportunity for the international community to take action against the epidemic."

Such a perspective was also behind the ESC's founding membership of the Chronic Disease Alliance, an association of ten science-based European organisations, which has also declared its objective of reversing the rise in chronic non-communicable diseases through political action against tobacco use, poor nutrition, lack of physical activity and alcohol.

Jaakko Tuomilehto, from the Department of Public Health at the University of Helsinki, Finland, and Danube University Krems in Austria, was a member of the ESC (and EASD) Task Force for the 2007 guidelines on diabetes, pre-diabetes, and cardiovascular diseases. He too recognises that "changing society" will not be done without major political interventions (as has been seen in some anti-smoking campaigns, for example), even though the public rewards are huge. Indeed, studies show that the number needed to treat to prevent one case of type 2 diabetes with lifestyle intervention in people with impaired glucose tolerance is dramatically low.

The Finnish Diabetes Prevention Study, led by Tuomilehto, found that a reduction in body weight achieved through an intensive diet and exercise programme was associated with a 58% reduction in risk of developing type 2 diabetes. The lifestyle goals in this study were a 5% reduction in body weight, a reduction of all fat intake to less than 30% of energy consumption, an increase in fibre intake, and programme of moderate exercise for 30 minutes a day or more. Even after one year of the study those following the plan had achieved a significantly greater reduction in body weight than the control group and favourable changes in glucose levels. Most importantly, fewer subjects in the lifestyle intervention group developed type 2 diabetes than in the control group, with the reduction in risk directly related to the magnitude of the changes in lifestyle. Similar results have been found in several other diabetes prevention studies in many different populations.

"So the evidence for lifestyle intervention is compelling," says Tuomilehto, "the problem lies with its universal application." But what the epidemiology of diabetes makes clear is that the implementation of a healthier lifestyle policy, with an increase in physical activity, the uptake of a healthier diet and a reduction of body weight, is the basis for preventing type 2 diabetes, and that this same principle will yield commensurate benefits in the prevention of the world's other principal non-communicable diseases. And as for "prevention without borders", Tuomilehto insists that disease prevention through healthy lifestyle "does not recognise borders between different non-communicable diseases", but provides universally beneficial effects for multiple areas of health.

A new option for your high-risk patients with aortic stenosis

In the landmark clinical study—The PARTNER Trial—patients receiving a balloon-expandable transcatheter aortic valve had a 23-point improvement in quality of life (QoL) scores compared to the standard treatment control group at one year! Additionally, the reduction in mortality and rehospitalization versus standard treatment at one year was 40%.

For more information & to find a TAVI center near you please visit edwards.com/eu/products/transcathetervalves


Edwards Lifesciences
USA | Switzerland | Japan | Singapore | Brazil
edwards.com

Missed yesterday’s paper? Download it today on www.escardio.org
How does gender affect your day-to-day practice?

We get heart disease in both genders and I scan both genders. If we see something on the echo, it doesn’t matter what gender the patient is, but if we get a request to scan a female patient we know that females are prone to different diagnoses - so it could be, say, post partum cardiomyopathy. If we’re doing stress echo, females are more likely to get false positives or false negatives than males. A positive stress test in a female who is middle aged and hitting the menopause could be false. But in the grand scheme of things, there’s not much difference between genders.

I work in the south of Turkey and I’d say that gender does not have an effect in my daily practice, except that between 80 and 90% of my patients are male. Part of the reason may be social and cultural. Women may be reluctant to come to the hospital for examinations or they may face opposition from their husband or families. In our area, the women who do come tend to present with atypical chest pain, dyspnea, headaches or hypertension. The problem is often psychological rather than a real cardiology problem. It is usually the male patients who have the real problems.

It’s an important question. Various diseases have a gender difference and many research papers report on the influence of gender. In epidemiology, it is found to be very important. But I’m a clinical doctor and in the clinical setting I don’t think that it makes a difference. I’m frequently assessing ischemic cardiac disease, which is more common among men, but the treatment doesn’t differ according to gender. I don’t think that underdiagnosis is a problem in women. I’d say it’s an important area for research but it doesn’t make much difference to the daily practice of an echocardiologist.

Gender plays a huge role. We know that women with acute myocardial infarctions don’t complain of the same typical pains as men, so it can be more difficult to diagnose. If a woman comes into the emergency room with atypical chest pain, we have to think that she may have a big problem and do all the necessary investigations. Another example is that women sometimes react differently to certain therapeutic approaches. Some medications don’t work in women or they may lead to more complications, especially bleeding. It’s not clear why this is the case. Sometimes it’s relative overdosing but sometimes women just react differently.

ESC CONGRESS NEWS
27-31 August 2011

Editor-in-chief: Michel Bertrand, Stephan Windecker
Sub-editor: Susan Brocco
Sponsoring organisations: ESC Congress 2011 Press Committee. Free distribution at 20,000 copies per day. Copyright ©ESC 2011

Join the REVOLUTION®
Re-VOLUTION® is a clerical initiative to raise awareness of diseases by Boehringer Ingelheim.

Advances in Stroke Prevention in Atrial Fibrillation

Monday 29 August 2011
18:30-20:00, Budapest, Zone E
Parc des Expositions de Paris Nord Vélodrome

Boehringer Ingelheim

Programme

Co-Chairs: Elaine Hylek & Gregory Lip

18:30 Stroke prevention in atrial fibrillation: where are we now?
Elaine Hylek
USA

18:45 New insights and results from the RE-LY® trial: oral anticoagulation is working
Gregory Lip
UK

19:05 New treatment guidelines for anticoagulation in stroke prevention: the future is now
Raffaele De Caterina
Italy

19:20 New landscape for stroke prevention in atrial fibrillation: implications for clinical practice
Paul Dorian
Canada

19:40 Round table wrap-up
All faculty

19:55 Closing remarks
Gregory Lip
UK