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CARDIOPULSE

We made it! *European Heart Journal* impact factor reaches 14.1

With an increase of 4 from the previous year, *European Heart Journal* now becomes the number 2 journal in cardiovascular medicine

IF 2011. Onward to new heights. (photo Sam Rogers)

EHJ IF 2012

Celebrating 2012 IF (photo Sam Rogers)

Over the 33 years of its existence, the *European Heart Journal* (*EHJ*) has enjoyed a steady increase of its impact and influence. Starting low in 1980 with few submissions and an impact factor (IF) of 1.0, the *EHJ* received an ever increasing number of manuscripts eventually reaching close to 3700 last year. With more submissions, the editors enjoyed an ever wider choice, and hence, the quality of the *EHJ* increased markedly over the years. As a downside, the overall acceptance rate dropped to the current 10%.

The quality of scientific journals is not easy to measure; indeed, all currently available systems have their advantages as well as their shortcomings. Most of them, however, assess in some way or another the citations in the scientific literature that the published papers receive. The most commonly used is the IF (developed by Eugene Garfield the founder of the Institute for Scientific Information), which is a measure of the average number of citations to recent articles published in a given journal in the 2 preceding years divided by the number of citable items (i.e. original research articles and reviews). Since 1975, IFs have been calculated annually for journals indexed in the *Journal Citation Reports*.

When the current editorial team took over, the *EHJ* was number 3 among the cardiovascular journals with an IF of 9.8, far away from the leading competitors such as *Circulation* and the *Journal of the American College of Cardiology* (*JACC*). The current editorial team is, therefore, proud to announce that in 2012 the *EHJ* reached an IF of 14.1 (a huge jump from 10.5 in 2011) and has thus become number 2 in cardiovascular medicine, just 1.103 behind *Circulation*. The comparison with the 2011 IF calculation revealed an impressive 31% increase in citations from 5983 to 7852 with a consistently low self-citation rate of 4%, which is markedly lower than that of its major competitors *JACC* (8%) and *Circulation* (6%). Of note, in 2011 and 2012 the *EHJ* had the highest rate of growth of all competitor titles (34%) and fewer papers receiving five or less citations and a greater proportion of highly cited papers.

However, the IF is not all; indeed, this measure mainly reflects the influence a journal has on the scientific community. The influence of a journal among practising physicians is not reflected by this measure. As outlined earlier, the recent guideline published in the *European Heart Journal* on 'Prevention, diagnosis, and treatment of infective endocarditis' has received less than 200 citations for January-June 2013, because this is a field with little innovation at the moment. However, it has received an impressive 87 638 full-text downloads for the same period, which reflects how important endocarditis is in daily practice. Similar examples exist for other guidelines as well. Indeed, per year 2 719 256 editorials, papers, guidelines, or current opinions are downloaded from the EHJ platform.

Guidelines on prevention, diagnosis and treatment of infective endocarditis (new version 2009) downloads (10.1093/eurheartj/ehp285).

Year	2008	2009	2010	2011	2012
Full-text EHJ downloads	2164112	2262840	2057094	2398783	2719256
10.1093/eurheartj/ehp285 (August 2009)	NA	8027	17959	22529	28873

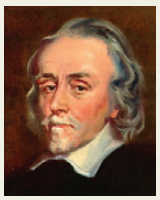
Thus, medical journals should be rated based both on their impact in the scientific literature and on their influence in clinical practice. We are grateful to our authors, reviewers, and international editors, as well as to the editorial team in Zurich, for helping us to make the *EHJ* a prime journal in cardiovascular medicine both for scientists and for clinicians.

Thomas F. Lüscher

Andros Tofield

European database for mechanical circulatory support gets into its stride

Mechanical devices for supporting circulation are now fitted so frequently that specialists need a platform for collecting data for extending research in the field, reports *Barry Shurlock* PhD



Since the days of William Harvey, visionary doctors have dreamt of replacing the failing heart with a machine. But it was not until 1966 that the first successful clinical application of a mechanical device for supporting the circulation (MCS) was achieved, when Liotta and De Bakey used a ventricular assist device (VAD) to provide a bridge to recovery (BTR). In the following year, Barnard performed the first heart transplant and it seemed to some as if MCS devices might be overtaken by a surgical solution. But 2 years later (1969), Cooley successfully implanted an artificial heart designed by Liotta as a bridge to transplantation (BTT). However, it was only the start for MCS devices, which have gone on to offer hopes to patients at both ends of life, to children needing BTR or BTT and the burgeoning number of elderly people with end-stage heart failure. The need to build on these past successes has been intensified by a worldwide shortage of donor organs.

They are now fitted so frequently that a European registry has been set up. The European Registry of Patients with Mechanical Circulatory Support (EUROMACS) was created in 2009 at the instigation of Prof. Roland Hetzer MD, PhD, head of the Deutsches Herzzentrum, Berlin (DHZB), the German Heart Institute, and it recently linked up with the European Association for Cardio-Thoracic Surgery (EACTS), which is already responsible for a number of other databases. Hosted by the DHZB, EUROMACS will increase opportunities for research based on a Europe-wide patient population. At the last count (29 May 2013), data for 570 patient profiles from 34 clinical centres in 8 countries had already been collected and the expectation is that in the future the registry will play a major role in studies aimed at comparing various devices and different clinical procedures. Most patient profiles filed to date are categorized as 'stable, inotrope dependent', 'critical cardiogenic shock', or 'progressive decline', and the vast majority involve left- VADs.

National databases for MCS devices already exist locally and nationally in some European Countries—including Belgium, Spain, and the UK—and one of the challenges of EUROMACS has been to garner data from these without adding to the burden of inputting. As a result, a 'core database' has been formulated which can be created from the more extensive data collected at national level.

Managing director Theo de By MBA said that national societies may choose either to upload core data to the registry or to upload all fields and then download their national requirements. In association with software developer Dendrite Clinical systems, an 'upload-my-data' tool is available, which allows centres to copy their existing data to EUROMACS. An agreement has recently (February 2013) been reached with the Spanish Cardiothoracic Surgery Society which will aid both bodies, according to chairman of the society, Prof. Angel Fernández, quoted in a *Euromacs Newsletter* (No. 4, April 2913): 'The agreement with EUROMACS offers the advantages on a national, as well as on an international level. Our society expects scientific and clinical benefits of the cooperation with EUROMACS'.

The registry includes baseline data on the patient, details of the implantation and immediate clinical outcome, and follow-up, including replacement of the device or placement of a second device, as in extension to biventricular support. Patient consent is required and individual clinical centres need ethics committee approval.

In the near future a 'statistics dashboard' will be freely available online, so that centres may compare their procedures and performance with the totality of the data. However, although researchers can have free access to the data, the EUROMACS board has put a ban on using it to compare centres without the consent of both parties.

Although methods of approval of devices for MCS, and devices in general, differ on both sides of the Atlantic—the CE mark in Europe vs. FDA approval in the USA—EUROMACS has chosen to make its data compatible with the North American registry INTERMACS (Interagency Registry for Mechanical Assisted Circulatory Support), and its paediatric sister PediMACS, which only record data from the USA and Canada. The registry is hosted at the University of Alabama, Birmingham, Alabama, where it was set up in 2005 at the instigation of Dr James K. Kirklin, working with the National Heart, Lung and Blood Institute, the Centers for Medicare and Medicaid Services, and the Food and Drug Administration. It has already started to provide data for several peer-reviewed papers.

Commenting on the future of the MCS field, where rotary pumps seem set to become the device of choice, Prof. Hetzer said: 'I believe that we will have more such pumps, smaller ones that are easier to implant. Miniaturising systems for both the left and right heart will mean that destination therapy –though I don't like the term! – will become routine. Even patients older than 80 can do well and a whole spectrum of new devices will become available in the future'.

Practical approach makes new ESC Cardiac Pacing and Cardiac Resynchronization Therapy Guidelines accessible to all

The Guidelines have been redesigned to offer a more accessible format for users

The 2013 ESC Guidelines on Cardiac Pacing and Cardiac Resynchronization Therapy, which were presented at the European Heart Rhythm Association (EHRA) EUROPACE meeting 23–26 June in Athens, Greece, were developed in collaboration with the EHRA. They have been redesigned to offer a more accessible format for users and created a new classification system for bradyarrhythmias according to mechanisms rather than aetiology. Emphasis is on a practical 'how to' approach targeted at generalists, including GPs and geriatricians, as well as expert cardiologists and electro-physiologists.

The 2013 Guidelines, revised for the first time since 2007, were developed with input from 70 clinicians, including an expert Task Force of 18 cardiologists specializing in cardiac pacing and resynchronization, and a further 26 experts in the field who reviewed the document, the entire process being overseen by the ESC Committee for Practice Guidelines.

The first part of the Guidelines explores indications for pacing in patients who have cardiac arrhythmias. The second part looks at indications for cardiac resynchronization therapy in heart failure. The third part includes indications for pacing in specific conditions, such as acute myocardial infarction (MI), after cardiac surgery, TAVI, and heart transplantation, and pacing in children and individuals with congenital heart diseases. Finally, the Guidelines explore management considerations such as re-implantation after device extraction for infection, MRI in patients with implanted cardiac devices, emergency (transvenous) temporary pacing, and remote management of arrhythmias and devices.

The new ESC Guidelines take into account whether the patient has an intermittent or persistent problem and whether it has been ECG documented or ECG-undocumented. Until now, guidelines have classified bradyarrhythmias according to aetiology, for example, whether the problem has been caused by sinus node dysfunction, MI, or bundle branch block.

(Photo credit Sam Rogers)

Michele Brignole, Chairperson of the Guidelines on Cardiac Pacing and Cardiac Resynchronization Therapy Task Force, stated: 'With this user friendly approach our messages go out to the wider medical community, which should allow more patients to benefit from the latest evidence-based medicine'. These ESC Guidelines are the first ever to incorporate a new section called 'Clinical perspectives'. 'This section gives advice on how to apply guidelines in real life clinical situations, taking into account things like what to do when patients have co-morbidities or are taking concomitant drugs', explained Prof. Brignole.

Prof. Perry Elliott (London, UK) a member of the Guidelines committee commented, 'One of the big innovations of these guidelines is the development of a logical decision tree displaying the different pacing modes according to different clinical situations. In effect these guidelines take the clinicians by the hand and lead them through a series of 3 or 4 questions'.

The abridged pocket version of the Guidelines, launched at the main ESC Congress in Amsterdam, 31 August to 4 September 2013, should further simplify the guidelines and make them accessible to an even wider audience.

Andros Tofield

Personal experiences of émigré cardiologist: Eric Eeckhout

A period abroad is essential for a career in academic medicine

Eric Eeckhout advises making the move early in a career, when motivation is high and family responsibilities are few

Belgium

Eric Eeckhout

Switzerland

Prof. Eric Eeckhout's move to Lausanne, Switzerland, in 1991 kick-started a successful career in interventional cardiology.

Now head of the Interventional Cardiology Unit in Lausanne, Eeckhout was born in 1959 in Belgium. He studied medicine and internal medicine in Brussels and applied for a Fellowship to Lausanne in 1990. It was one of a number of Fellowship applications he submitted after receiving a small textbook on interventional cardiology at a meeting in Geneva.

'I wrote to all the different authors to request a Fellowship and the position that came open first was in Lausanne', says Eeckhout. 'At the same time I realised that among the first stents to be implanted in the world were in Lausanne'.

The move coincided with the publication of the first landmark paper on coronary stenting in the *New England Journal of Medicine*. It concluded that the high stent thrombosis rate of up to 24% made the future of intracoronary stenting doubtful. It was in this context that Eeckhout and his wife, a nurse, left their native country for a 1-year Fellowship in Switzerland.

After 6 months, the head of cardiology asked Eeckhout whether he could stay longer. He says: 'We enjoyed the country and the atmosphere and decided to stay for one more year'.

The second year was almost automatically extended. In 1994 they had their first child in Switzerland and moved there permanently.

During those early years without children, Eeckhout's wife worked three weekends in four and he had time to devote to clinical research. He had data on the first stents implanted in Lausanne between 1986 and 1991 and besides enjoying the country, published a number of papers. He says: 'It was a kind of symbiosis between the staff members and me as a young Fellow. I had time, I was motivated, and in those days it was easier to publish a paper than today. I think generally speaking foreign Fellows are more motivated because they have a stricter time period'.

The decision to stay in Switzerland had been made equally by Eeckhout and his wife, whose parents fully supported the move and visit regularly. Unfortunately, Eeckhout's father opposed the move, and still does.

In 1999 the head of the cath lab left for private practice and Eeckhout was asked to apply for the job. In the 1990s, restrictions were imposed on foreign doctors and it took 2 years to make the position official.

In the early 2000s Eeckhout worked hard and received international recognition. He became involved with the European Society of Cardiology (ESC) and EuroPCR, and taught interventional cardiology in Asia.

Eeckhout had offers to return to Belgium, but he and his wife were reluctant. 'The nature in Switzerland is fantastic and people are nice', he says. In 2008 Eeckhout, his wife and three children took their citizenship exam at the council building in their village. He says: 'Afterwards, a big proportion of the 500 villagers were waiting outside with Swiss flags and having an impromptu party'.

The two countries have similarities, for example, the friction between linguistic communities, although in Switzerland it is less pronounced. Belgium is a great place for socializing, while Switzerland is more organized and less spontaneous. Swiss trains are always on time and in the past it felt safer than the neighbouring countries but today it is about the same.

Eeckhout believes that a Fellowship abroad is essential for physicians who want an academic career. 'It opens your perspective', he says. 'But you have to adapt to the local habits, speak another language, and prove yourself'.

Every young cardiologist in training can apply for a grant. 'You have to do it early in your clinical career because the longer you wait the less motivation you will have', he says. 'Once you have children it becomes extremely complicated because you have financial restrictions and during a one or two year Fellowship abroad you have to spend a lot of the time in the hospital to show your motivation and interest'.

Being exposed to another country is great for children, who adapt quickly to the language. His own children—two daughters aged 19

and 16 and a 10-year-old son—began speaking the local French when they started school. 'Today on a daily basis we speak Dutch and they reply to us in French', says Eeckhout.

The educational system is completely different between Switzerland and Belgium and the canton of Vaud, where Eeckhout's children attend school, has received criticism. But he is confident that his children are capable of making the best of their own futures.

Today he continues to direct the interventional cardiology lab in Lausanne and at 54 is training the next generation.

Jennifer Taylor MPhil
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Alzheimer's drugs linked to reduced risk of myocardial infarction

Drugs for treating Alzheimer's in its early stages are linked to a reduced risk of myocardial infarctions and death, according to a large study of over 7000 people with Alzheimer's disease in Sweden

The research, which was published in the *European Heart Journal*[1], looked at cholinesterase inhibitors (ChEIs), such as donepezil, rivastigmine, and galantamine (donepezil, rivastigmine, and galantamine trade names are: Aricept, Exelon, and Reminyl, respectively), which are used for treating mild-to-moderate Alzheimer's. The side-effects of ChEIs include a beneficial effect on the Vagus nerve, and some experimental studies have suggested that ChEIs could also have anti-inflammatory properties.

Prof. Peter Nordström, of Umeå University, Umeå, Sweden, and colleagues followed 7073 people with Alzheimer's disease who were on the Swedish Dementia Registry from May 2007 to December 2010. They found that those who were on ChEIs had a 36% reduced risk of death from any cause, a 38% reduced risk of a myocardial infarction (MI), and a 26% reduced risk of death from cardiovascular causes such as stroke compared with people not taking ChEIs. These results included adjustments for various confounding factors such as age, sex, whether the diagnosis was for Alzheimer's dementia or Alzheimer's mixed dementia, level of care, and medical history including medications for other conditions.

Prof. Nordström said: 'If you translate these reductions in risk into absolute figures, it means that for every 100 000 people with Alzheimer's disease, there would be 180 fewer MIs – 295 as opposed to 475 – and 1125 fewer deaths from all causes – 2000 versus 3125 – every year among those taking ChEIs compared to those not using them'.

Patients taking the highest recommended doses of ChEIs had the lowest risk of heart attack or death.

The researchers also checked whether the reduction in risk applied only to the use of ChEIs or was also seen in other drug treatments for dementia. Memantine (memantine trade name is Ebixa) is used in moderate-to-advanced Alzheimer's disease and works in a way different from the way ChEIs do. The researchers found that it made no difference to the risk of MI or death from any cause.

Prof. Nordström concluded: 'As far as we know, this is the first time that the use of ChEIs has been linked to a reduced risk of myocardial infarction and deaths from cardiovascular disease in general or from any cause. As this is an observational study, we cannot say that ChEI use is *causing* the reduction in risk, only that it is *associated* with a reduction. However, the strengths of the associations make them very interesting from the clinical point of view, although no clinical recommendations should be made on the basis of the results from our study. It would be of great value if a meta-analysis of previous, randomised controlled trials could be performed, as this might produce answers on which clinical recommendations could be based.

As the study was based on a nationwide group of patients it should be possible to extrapolate the findings to other countries'.

Andros Tofield

Reference

1. Nordström P, Religa D, Wimo A, Winblad B, Eriksdotter M. The use of cholinesterase inhibitors and the risk of myocardial infarction and death: a nationwide cohort study in subjects with Alzheimer's disease. *Eur Heart J* 2013;**34**:2585–2591.