

Newsletter

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This issue reports highlights from the heart failure-related sessions at the British Cardiovascular Society (BCS) Annual Conference, held in Manchester on 13–15 June 2011.



Suzanna Hardman (left) and Theresa McDonagh, the current and past BSH Chair

Forthcoming events

14th BSH Annual Autumn Meeting

24–25 November 2011
Queen Elizabeth II
Conference Centre,
Westminster, London

4th BSH Medical Training Meeting

9 February 2012
Wellcome Trust, London

BSH Heart Failure Nurse Study Day

10 February 2012
Wellcome Trust, London

European Heart Failure Awareness Day

4 May 2012

Heart failure – transforming outcomes for acute care

This session was one of several that were designated by the BCS as Revalidation sessions. Over a 3–5-year cycle, this track will cover areas defined by the cardiology curriculum

Heart failure mortality is still unacceptably high, said Theresa McDonagh (London). Reporting the 2009/10 results of the National Heart Failure Audit, she said that 1-year mortality from heart failure in England and Wales is 30%, inpatient mortality 9.6%, and death or readmission for heart failure at 1 year 52%.

Professor McDonagh described the poor outcomes shown in the audit data as a powerful lever for change. The data show that access to specialist cardiology care clearly improves outcomes. There is a 2–3-fold variation in mortality rates across the country, relating to distribution of heart failure services and to cardiology input into heart failure management.

The audit data cover over 21,000 heart failure admissions: 42% of patients were treated on general wards and 46% on cardiology wards. Treatment on a cardiology ward was associated with higher prescribing of disease-modifying heart failure drugs and a higher chance of specialist follow-up, both of which were associated with better outcome.

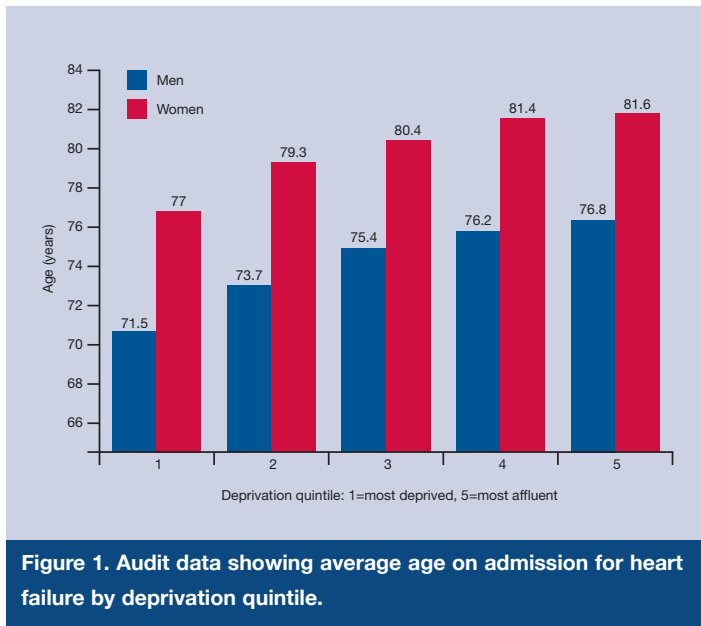
Inpatient mortality was 6.4% for cardiology ward patients and 12.4% for general ward patients. Age over 75 years, lack of prescribing of disease-modifying therapy and no specialist follow-up were independent predictors of worse survival at 1 year. One-year mortality was 17% if the patient had follow-up with a cardiologist/heart failure specialist nurse compared with 32% for no specialist follow-up.

Another finding was lower age of heart failure admissions with increasing social deprivation (Figure 1).

The good news, Professor McDonagh said, is that the audit data are increasingly robust. The audit is now larger than comparator studies in the UK, Europe and the USA. The new data for 2010/11 will cover more than 36,000 patient episodes and over 60% of heart failure admissions.

She also pointed out that recent data from the Scottish audit show that heart failure mortality in Scotland is no better than that in England and Wales.

Henry Dargie (Glasgow) said that the audit data clearly highlight the need to reorganise acute heart failure service delivery. Heart failure services should follow the lead taken by acute myocardial infarction (AMI). “We should try to manage patients admitted to hospital with acute heart failure as well as we do those with heart attacks,” he said.



Professor Dargie said that there are lessons to learn from AMI management: the condition has been redefined as acute coronary syndromes (ACS); patients have risk assessment to select appropriate treatment; experience with primary angioplasty shows how a new technique can successfully be introduced into a specialised service; and the high level of prescribing of medicines for secondary prevention after AMI shows how evidence-based medicine can be applied in a specialist environment.

Acute heart failure syndromes similarly can present in many ways, and with many different causes, requiring specialist investigation and management. Clinical trials have shown what can be achieved with appropriate pharmacological and device therapy, but prescribing of evidence-based treatments is currently inadequate.

Professor Dargie suggested that there should be a designated area – a heart failure unit or maybe a “rebadging” of coronary care units as cardiac care units – and a multidisciplinary approach to treatment.

He emphasised that the marked reduction in rehospitalisations when patients are seen in hospital by a cardiologist and followed-up in specialist heart failure services is a strong message in the current economic climate.

Noting that the British Society for Heart Failure (BSH) is developing a project on the evaluation of heart failure units, Professor Dargie said that the position had been nicely summarised in a recent *Lancet* editorial,¹ which argued that creating specialised units “could do for heart failure what coronary care units have done for MI.”

Discussing the 2010 update to the National Institute for Health and Clinical Excellence (NICE) chronic heart failure guideline, Suzanna Hardman (London) said that the guideline highlights the importance of interaction between acute care and community care, with an emphasis on the need for integrated services.

Dr Hardman, a member of the guideline development group, said that NICE identifies clear roles for heart failure specialists. The specialist, who will usually be a consultant cardiologist with advanced training in heart failure, should lead the multidisciplinary team working across healthcare boundaries, be involved at initial timely diagnosis, the care of all inpatients including stabilisation and, in her opinion, optimisation of heart failure treatment pre-discharge, alongside proper discharge planning.

Dr Hardman outlined the NICE diagnostic and treatment pathways. In diagnosis, there is now a clear place for natriuretic peptide testing, and timescales for echocardiography and specialist assessment.

With regard to drug therapy for heart failure due to left ventricular systolic dysfunction (LVSD), all patients should be offered both an angiotensin-converting enzyme (ACE) inhibitor and a beta-blocker. ACE inhibitors have clear mortality benefits over angiotensin receptor blockers, which should be used in preference to ACE inhibitors only if the patient is truly intolerant.

Importantly, NICE emphasises that beta-blockers should be offered to all patients with LVSD, including older patients and patients with peripheral vascular disease, erectile dysfunction, diabetes, interstitial pulmonary disease and chronic obstructive lung disease. “These conditions should not be a reason to withhold this lifesaving treatment,” Dr Hardman said.

She commented that since publication of the NICE update, the results of the EMPHASIS-HF* trial had been published showing a mortality benefit and reduced hospitalisations from the use of eplerenone in patients with mild heart failure. This was an important trial, she said, as mild heart failure carries a significant mortality risk.

The audit messages are stark, but responding to the recently published NICE Quality Standards on chronic heart failure² should facilitate service development and help transform outcomes for acute care.

Managing stress-induced cardiomyopathy

Early access to coronary angiography for patients with acute chest pain has led to increasing awareness of stress-induced cardiomyopathy (also known as Takotsubo cardiomyopathy), according to Alexander Lyon (London).

The condition mimics AMI, but patients have normal coronary arteries and a typical pattern of apical and mid-left ventricular wall motion abnormality.

There are an estimated 3000 cases/year in the UK. The syndrome is usually triggered by an extremely stressful event – emotional or physical. The patient often presents with chest pain, breathlessness, evidence of a hyperadrenergic state, electrocardiogram (ECG) changes, raised troponin levels and, frequently, acute heart failure. Serum catecholamine levels can be up to 30 times those of normal. Acute complications can



Alexander Lyon

include left ventricular outlet tract obstruction, acute mitral regurgitation, apical thrombus and cardiogenic shock.

The syndrome is transient, with most patients fully recovered by 6 months. It occurs particularly in postmenopausal women.

Dr Lyon outlined the β_2 -adrenoceptor pathophysiological hypothesis of stress cardiomyopathy that he and his colleagues have proposed. This relates to evidence that at high doses adrenaline becomes negatively inotropic via the β_2 -receptor. There is a gradient in β_2 -receptor density in the ventricle, with relatively more receptors in the apex than in the base, which could explain the characteristic pattern of ventricular dysfunction.

He said that there is little evidence with regard to clinical management. Local protocols for ACS should be followed, with stress cardiomyopathy considered if the angiogram is normal. Mild cases may require no treatment or a short-course of an ACE inhibitor and beta-blocker. Classic positive inotropes should be avoided, but work with animal models suggests that levosimendan, a calcium sensitiser, might be useful for patients with acute heart failure or cardiogenic shock.

Stress cardiomyopathy probably occurs in up to 2% of patients presenting with suspected ACS. Dr Lyon suggested that a regional or national registry would be useful.

Remote monitoring – paradigm shift or just another fad?

Joint session with Heart Rhythm UK and the British Association for Nursing in Cardiovascular Care

This session had a controversial title, but all speakers were enthusiastic about using remote monitoring as part of chronic

disease management. They agreed that there is still much to learn about the best approach, but that demographic ageing and an increase in chronic diseases, without an increase in the number of healthcare professionals, are driving the need to use the new technologies to provide better healthcare.

Discussing cardiac rhythm management, John Morgan (Southampton) explained that diagnostics information from implantable cardioverter defibrillators (ICDs) and cardiac resynchronisation therapy with defibrillators (CRT-Ds) can now be monitored remotely. Home programmes for remote management have been developed that generate clinician alerts if changes occur in pre-programmed clinical parameters or device functioning.

The recent CONNECT trial³ showed the value of having alerts for atrial fibrillation (AF) in remote monitoring of ICD/CRT-D therapy.

Remote pacemaker follow-up has not really taken off in the UK, Professor Morgan said. It is technically straightforward but expensive. It could be useful for CRT but he was not convinced of the value of remote monitoring of bradycardia-indicated pacemakers. As a compromise between remote monitoring and routine clinic follow-up, at Southampton they are currently trialling the use of a high-tech booth in the hospital to which patients can come at any time to have their pacemaker monitored.

In the future, remote monitoring might usefully be combined with a remote programming strategy. This could improve efficiency and quality of device therapy, for example, by helping to avoid inappropriate ICD shocks.

There is also likely to be increased use of remote monitoring from implanted devices (and external devices) that function only as diagnostics. Professor Morgan said that there are interesting data showing that remote monitoring can predict early recurrence of AF. However, there would be challenges in developing reimbursement systems for this.

His conclusion was that remote care has potential benefits to patients (e.g. reduced clinic visits and increased confidence in device therapy), clinicians (better access to patient data to help with chronic disease management) and commissioners (optimised use of resources).

Moving on to the remote monitoring of heart failure, Martin Cowie (London) said that it is now technically feasible to remotely monitor many different variables. The challenge is how to integrate telemonitoring into heart failure services to help health professionals make better decisions and, possibly, to reduce healthcare expenditure.

Remote monitoring ranges from structured telephone support to patient-initiated monitoring using stand-alone equipment and, more recently, monitoring of data from implanted devices. ICDs and CRT devices can monitor many physiological variables. As John Morgan had said, devices might in future

*A list of study acronyms can be found on page 8.



John Morgan (left) and John Cleland

be implanted solely for remote monitoring – sensors are available for monitoring transthoracic impedance, right ventricular, pulmonary artery or left atrial pressures, heart rate variability and mean daily physical activity.

Professor Cowie said that key questions still to be answered include which variables to monitor and how to present the patient data. On the latter point, it was important to automate the process as much as possible to prevent the healthcare professional being swamped with data and to help with the identification of patients who require attention. More data are also needed on clinical and cost effectiveness.

He emphasised that telemonitoring does not replace the traditional model of care but modernises it. It can also help patients become more meaningfully involved in self care. It will not be needed by all heart failure patients: most programmes to date have focused on higher-risk patients – particularly those recently hospitalised or those with severe symptoms.

Professor Cowie said there is political interest in remote monitoring and little doubt that it will become an increasingly important part of heart failure services. The UK is probably leading the field in e-health in Europe, but he challenged the audience “to move forward even faster.”

John Cleland (Hull) discussed the evidence for remote monitoring in heart failure, outlining the positive results from a 2010 Cochrane meta-analysis.⁴ For structured telephone support there was a 12% reduction in all-cause mortality ($P=0.08$) and a 23% reduction in all-cause hospitalisation ($P<0.0001$) compared with usual care. Trials of home telemonitoring (with stand-alone systems) found a 34% reduction in mortality ($P<0.0001$), a 9% reduction in all-cause hospitalisation ($P=0.02$) and a larger effect on heart failure hospitalisations.

However, since publication of the Cochrane analysis, three new trials with neutral outcomes had been reported: the Tele-HF and TEHAF trials of telephone support, and the TIM-HF telemonitoring trial.

Tele-HF, a large study, was essentially a “voice interactive” study, and there was poor compliance by patients with the intervention. The TEHAF trial included well-treated patients (60% had stable New York Heart Association [NYHA] class II heart failure), and both intervention and usual-care groups received specialist support. In TIM-HF, which showed a non-significant trend to reduction in cardiovascular death or heart failure hospitalisation (the composite primary endpoint) again the “usual-care” group were well treated.

Remote monitoring had taken a bit of a hammering from these new trials. But Professor Cleland’s view is that the new data highlight the importance of patient selection: the point of telemonitoring is to deliver good-quality care to patients who have not got access to this. It is unrealistic to expect added benefit in patients with well-treated stable disease.

He said that more than 300 patients have been enrolled in the Hull telemonitoring service, with data indicating a 47% reduction in accident and emergency department attendance and a 67% reduction in hospital admissions. They are now changing the emphasis of their programme from a crisis detection strategy to a health maintenance strategy, the idea being to help patients better manage their heart failure themselves.

Picking up on patient selection, Jillian Riley (London) said that key challenges with heart failure telemonitoring over the next 5 years will include the identification of patient groups most likely to benefit and the specific components of telemonitoring that are most useful.

She noted that in most clinical trials to date, the mean age of patients was well below that of the general heart failure population. Older patients seem to be perceived as not capable of using telemonitoring. But there is no evidence for this. In the HOME-HF trial, with which she was involved, there was no difference between patients aged under and over 75 years in terms of benefit from telemonitoring.

Dr Riley said that some ideas on patient selection were emerging from subgroup analyses of recent trials: for example, TIM-HF suggested that telemonitoring was better than usual care in patients with history of heart failure decompensation and patients with no depression, whereas in TEHAF the remote monitoring intervention had better results in patients with newly diagnosed heart failure.

It is important that health professionals do not over-react (or under-react) to the patient data. They will need to make an educated decision. That requires knowledge of the patient, and Dr Riley thought that a locally delivered service would therefore be preferable to the use of distant call centres.

Dr Riley pointed out that the number of nurses in the UK is going to fall over the next 5 years, so it is essential to think carefully about how to use nursing staff effectively in delivering complex heart failure care. Healthcare professionals need education and support to expand their skill set for remote monitoring, and the North West London Health Innovation and Education Cluster is developing a training course.

Lifestyle issues in heart failure

Joint session with the Heart Care Partnership (UK) and the British Association for Cardiovascular Prevention & Rehabilitation

Another session of the conference covered lifestyle issues in heart failure, with speakers giving practical advice about flying, pregnancy, exercise and elective surgery.

Flying

William Toff (Leicester) said that evidence on the safety of commercial aeroplane flight for patients with heart failure is reassuring, but limited.

Simulator studies have shown that the mild hypoxia of the aircraft cabin is generally well tolerated by patients with heart failure. A recent EU-funded study (www.ice-project.eu) simulated an 8-hour flight in 74 patients with NYHA class II heart failure. There were no adverse clinical outcomes.

“Real-world” experience came from a recent questionnaire survey of patients with stable heart failure. Of 250 patients who had flown, one-third reported health-related problems going through security, during the flight or, more commonly, at the final destination. One in five patients reported difficulty getting insurance.



Sara Thorne and William Toff

Dr Toff outlined the BCS recommendations on fitness to fly,⁵ which state that for patients with stable heart failure there should be no restriction on flying, although patients with NYHA class III and IV heart failure should consider airport assistance and request the availability of in-flight oxygen. Patients with class IV heart failure need careful assessment and individualised advice.

Implanted devices pose little problem. There is a remote risk of electromagnetic interference in the aeroplane and the airport security gates pose little risk of clinically significant problems. Patients should declare the implant to security staff and walk briskly through the gate.

Most heart failure patients would be classed as “moderate risk” for venous thromboembolism. As well as standard advice on keeping mobile and maintaining hydration, graduated compression stockings are useful. Patients should be reminded to carry enough medicine in their hand luggage, and to carry a device “passport” and a summary of medical and ECG history.

Pregnancy

Sara Thorne (Birmingham) said that pregnancy in women with heart failure is associated with a high risk of acute deterioration requiring interruption of the pregnancy, and also a risk of irreversible long-term deterioration of left ventricular function during pregnancy.

Most women with significantly impaired ventricular function are advised against pregnancy, even if they are asymptomatic and have had no deterioration over many years. This would apply, for example, to a woman who had chemotherapy-induced heart damage as a child: pregnancy would often be uneventful but there are case reports of women with no ongoing disease who deteriorated in pregnancy.

Pre-conception counselling offers an opportunity to minimise maternal and foetal risk. This includes timing of the pregnancy (lower risk at younger maternal age), treatment of co-morbidities (which have additive effect on risk) and drug choices. Many drugs are teratogenic and are contraindicated in pregnancy, including ACE inhibitors, anti-arrhythmics and anticoagulants, and it is a question of balancing the risk to the mother of stopping therapy and the risk to the foetus of continuing. Most doctors would suggest continuation, but women often wish to stop therapy.

Pregnancy-induced cardiomyopathy (where symptoms occur in the last month of pregnancy or the first 5 months post-partum) is rare but is associated with maternal mortality in up to 20% of women. Dr Thorne said it is difficult to advise a woman who has survived peripartum cardiomyopathy and now wishes to have another child. There is a risk of symptomatic heart failure in a subsequent pregnancy, even if left ventricular function is now normal.

She emphasised the importance of good contraception for women with heart failure so that any pregnancy is planned, and that pregnancies should be managed in centres with specialist teams.

Exercise

Andrew Clark (Hull) made the point that exercise should be strongly recommended for patients with stable heart failure. There is now good evidence that exercise training can improve exercise capacity by around 20%. "For patients with stable disease there is no reason to forbid training and every reason to encourage it," he said.

The definitive study was HF-ACTION, which involved 2331 patients with NYHA class II–IV heart failure and left ventricular ejection fraction $\leq 35\%$ who were randomised to an intensive training regimen or to usual care. There was no effect on all-cause mortality or all-cause hospitalisation but, importantly, the study showed that exercise is safe. Also, exercise training was associated with a marked improvement in patients' quality of life.

Professor Clark suggested that patients should aim for 20 minutes of exercise, three times a week. He recommended walking (or jogging), cycling or swimming. He tended to discourage resistance training because of possible left ventricular hypertrophy.

Electrical muscle stimulation to the major leg muscles was one approach to exercise training for patients who were unable to undertake conventional exercise because of co-morbidities or limited mobility. Professor Clark described work at Hull in which electrical muscle stimulation – via "magic shorts" – improved physical fitness and functional capacity. Other work had shown that electrical muscle stimulation was associated with the same improvement in neurohormones and quality of life as standard exercise training. This might therefore prove to be an option for some patients.

Elective surgery

If a patient with heart failure can walk up a flight of stairs, they are probably at low risk for elective surgery. "This is a non-specific but reasonable guide," said Sean Bennett (Hull).

Optimisation of a patient's heart failure is important before elective surgery. If treatment is not optimised, elective surgery should be delayed. Risk can then be further reduced by modifying the surgery where possible (e.g. choosing laparoscopic surgery) and avoiding blood loss. Anaesthetic technique can also be modified.

There are few data on the risk of major non-cardiac surgery in patients with heart failure but one study reported 7% mortality after major surgery, with the risk increasing with additional risk factors. If a patient has renal or hepatic failure as result of their heart failure the risk of surgery is much increased.

Useful pre-operative assessments include echocardiography, B-type natriuretic peptide (BNP) measurement and, in some cases, a cardiopulmonary exercise test. As well as ejection fraction, echocardiography identifies several other factors, such as valve disease and pleural effusion, which are associated with anaesthetic risk. Dr Bennett emphasised that surgery should, where possible, be avoided in patients with right heart failure as they are at higher risk.

Pre-operative BNP has been reported to predict postoperative complications and 1-year mortality after cardiac surgery, with levels >385 pg/ml being associated with increased risk.

Success in heart failure – future therapies

Clinical Translational Science session

Ultrafiltration – the mechanical removal of fluid from the vasculature – is a new option for treating patients with decompensated heart failure. Initial experience is positive but further trial data are needed, said Peter Cowburn (Southampton).

Patients with decompensated heart failure typically have volume overload. Diuretics are the treatment of choice, but patients are commonly diuretic resistant. Ultrafiltration allows precise control of the rate and volume of fluid removal.

Dr Cowburn said that there is one good randomised trial for ultrafiltration. This is the 2007 UNLOAD trial in patients hospitalised with volume overload in which ultrafiltration was found to be safe and more effective than intravenous (IV) diuretics in terms of weight loss at 48 hours (a primary endpoint), fewer rehospitalisations within 90 days and reduced hypokalaemia.

Outlining experience in Southampton, Dr Cowburn said that ultrafiltration has been used since September 2010 in patients refractory to diuretics or with gross volume overload. To date, 12 patients had completed treatment and been discharged; four had subsequently died. His patients were much sicker than the patients in UNLOAD. They were older, had worse renal impairment and there was a marked difference in ultrafiltration time: a mean of 85 hours compared with 12 hours in UNLOAD. Weight loss was 14 kg (8 kg with ultrafiltration, which was then followed by IV diuretics) whereas UNLOAD reported a weight loss of 5 kg.

Mean inpatient stay for the Southampton patients was long, at 30 days, but they had chosen to treat the sickest patients and there probably had been a reduction in length of stay.

Dr Cowburn concluded that ultrafiltration seems highly effective but before routine use a further trial is needed to confirm the clinical benefits seen in UNLOAD in a sicker population (a group somewhere between the UNLOAD patients and those treated to date in Southampton) and to demonstrate cost effectiveness, with reduced length of stay and heart failure readmissions.

Left ventricular assist devices

Use of ventricular assist devices as a “bridge to transplantation” in patients with advanced heart failure is likely to increase as cardiac transplants continue to decline, said Simon Williams (Manchester).

Around 280 devices have been implanted in the UK. The majority are left ventricular assist devices (LVADs), but right ventricular assist devices and biventricular assist devices are also available. Technology has evolved rapidly and the devices have got smaller. First-generation devices had pulsatile flow, whereas the newer devices have continuous flow.

Bridge to transplantation can include short-term use of a LVAD to buy time for a patient on the “urgent” transplant list (median wait 4–6 weeks) who may not otherwise survive long enough to receive a transplant, or longer-term ambulatory devices for patients who might have to wait longer than usual on the waiting list (e.g. because of antibody problems or size mismatch). LVADs are also used in patients with current transplant contraindications which may recover with use of the pump.

US registry data show a clear survival advantage for LVADs used as a bridge to transplantation compared with medical therapy and there are encouraging trial results, including recent European data,⁶ with the continuous flow devices.



Patient with a second generation ambulatory LVAD (Heartmate II), showing the transformer. Batteries are carried separately

Dr Williams also discussed the use of LVADs as a “bridge to recovery.” This relates to the finding that use of an LVAD to unload the ventricle, together with pharmacological therapy, can sometimes lead to ventricular recovery sufficient to allow the device to be removed. Registry data and trials show that 1–13% of patients recover enough for LVAD explantation, although clinicians at Harefield have reported much higher explantation rates in small studies of patients with non-ischaemic cardiomyopathy. The Harefield protocol, which involves aggressive heart failure treatment plus use of the beta-agonist clenbuterol, is now being tested in a multicentre US trial.

Use of LVADs as destination therapy (i.e. in patients not suitable for transplantation) is still under discussion with commissioners.

New drug therapies

The future is bright for the pharmacotherapy of heart failure, said Martin Cowie (London). As well as huge evidence for the benefit of existing drugs, there are several promising new therapies on the horizon.

Of particular interest are new-generation cardiac inotropes, currently in phase II trials. Professor Cowie said that with better understanding of myocyte calcium handling and its dysregulation in heart failure, new targets have been identified to try to improve cardiac contractility without the problems associated with older inotropes.

Istaroxime is one of the new drugs. It is an intravenous agent with a dual action: it inhibits cell-surface sodium–potassium-ATPase (as does digoxin) and, importantly, also stimulates the sarcoplasmic reticulum calcium ATPase (Serca-2). In animal models, the drug has both inotropic and lusitropic (relaxation) effects – improving both systolic and diastolic function – without increasing myocardial oxygen consumption.

Also under development are ryanodine receptor stabilisers. The ryanodine receptor is critical to calcium efflux and myocyte contraction. In heart failure the receptor is leaky, which causes problems for both systole and diastole, and may trigger arrhythmia. S44121 is a ryanodine receptor stabiliser being evaluated in a phase II trial. The trial is assessing anti-arrhythmic effects, but Professor Cowie said that the drug could potentially also be useful for chronic therapy to improve contractility.

Cardiac myosin activators (e.g. omecamtiv mecarbil) are another interesting group of inotropes. These drugs prolong cardiac contraction without using more ATP and therefore increase the efficiency of contraction. Animal studies indicate that omecamtiv might be associated with less arrhythmic risk than current inotropes.

Relaxin is a powerful new vasodilator. It is a natural hormone produced by the corpus luteum and the prostate. The RELAX-AHF trial with this drug is underway.

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BSH EGM

At an Extraordinary General Meeting of the BSH on 13 June 2011, the results of the Board election were announced.

The new BSH Board for June 2011–May 2013 comprises: Suzanna Hardman (Chair), Theresa McDonagh (Past-Chair), Iain Squire (Deputy Chair), Andrew Clark (Chair-Elect), Paul Kalra (Treasurer), and John Baxter, Jim Moore and Simon Williams (Councillors). Observers will be elected by the new Board in due course [now confirmed as Alison Duncan, Roy Gardner, Dominic Kelly, Annie MacCallum, Jayne Masters and Nigel Rowell].

Professor McDonagh formally thanked the outgoing Board Members and Observers: Annie MacCallum, Jane Butler, Derek Connolly, Bernie Downey and Ahmet Fuat. She gave particular thanks to Martin Cowie who was standing down from the Board. Professor Cowie was a founding member of BSH, and had been on the Board since 2003 and Chair from 2007 to 2009. He had also been instrumental in securing the society's financial position.

Incoming Chair Suzanna Hardman drew attention to European Heart Failure Awareness Day on 4 May 2012, and to the 4th BSH Medical Training Meeting and the Heart Failure Nurse Training Day, to be held on 9 February 2012 and 10 February 2012, respectively.

Study acronyms

CONNECT	Clinical Evaluation of Remote Notification to Reduce Time to Clinical Decision
EMPHASIS-HF	Eplerenone in Mild Patients Hospitalization and Survival Study in Heart Failure
HOME-HF	Evaluation of Patients with Heart Failure using Home Telemonitoring
HF-ACTION	Heart Failure: A Controlled Trial Investigating Outcomes of Exercise Training
RELAX-AHF	Efficacy and Safety of Relaxin for the Treatment of Acute Heart Failure
TEHAF	Telemonitoring in Patients with Heart Failure
TELE-HF	Telemonitoring to Improve Heart Failure Outcome
TIM-HF	Telemedical Interventional Monitoring in Heart Failure
UNLOAD	Ultrafiltration versus Intravenous Diuretics for Patients Hospitalized for Acute Decompensated Congestive Heart Failure

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BSH Secretariat

'Nought' The Farthings, Marcham, Oxfordshire OX13 6QD

Telephone: 01865 391836

Email: info@bsh.org.uk

Website: www.bsh.org.uk