Programme and abstract book

British Society for Heart Failure

11th Annual Autumn Meeting

20–21 November 2008

Heart failure in transition

BSH Annual General Meeting (AGM)

Queen Elizabeth II Conference Centre, London
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Otsuka wishes all delegates a successful congress.
Contents

Programme 2–4
Biographies 5–13
Abstracts 14–34
Exhibitors and contributors 35–40
Exhibition plan 41

This conference is accredited by the Royal College of Nursing Accreditation Unit.
It has been awarded 12 study hours and the event reference is 4229.

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Please note that photography, video and audio recording of the sessions and slides of this meeting is strictly prohibited.

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www.bsh.org.uk
Programme – Day One THURSDAY 20 NOVEMBER 2008

Autumn Meeting Programme Directors: Andrew Clark / Peter Cowburn

08:00 Registration – Tea/coffee

09:00–09:25 BSH AGM (BSH members only)

09:30–10:30 Session 1 Health to heart failure I
Chairs: Andrew Clark (Kingston upon Hull) / Peter Cowburn (Southampton)
09:30–09:45 Introduction and setting the scene
Martin Cowie (London) BSH Chairman
09:45–10:00 Acute presentation – key issues Vincent Connolly (Middlesbrough)
10:00–10:15 Acute presentation – role of the cardiologist
Suzanna Hardman (London)
10:15–10:30 Discussion
10:30–11:00 Coffee

11:00–12:30 Session 2 Health to heart failure II
Chairs: John Cleland (Kingston upon Hull) / Martin Cowie (London)
11:00–11:25 What is the “standard” set of investigations for heart failure?
Theresa McDonagh (London)
11:25–11:50 Role of the cardiac catheter (including RHC) Zaheer Yousef (Cardiff)
11:50–12:15 How to prognosticate in practice John Cleland (Kingston upon Hull)
12:15–12:30 Discussion
12:30–14:00 Lunch and Meet the Experts Sessions

14:00–15:30 Session 3 Heart failure to hospital I
Chairs: Henry Dargie (Glasgow) / Suzanna Hardman (London)
14:00–14:20 Reasons for admission Iain Squire (Leicester)
14:20–14:40 Pulmonary oedema – best practice, new directions
Alasdair Gray (Edinburgh)
14:40–15:00 Anasarca – best practice, new directions
Andrew Clark (Kingston upon Hull)
15:00–15:20 Severe heart failure – best practice, new directions
Stuart Rosen (London)
15:20–15:30 Discussion
15:30–16:00 Coffee

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16:00–17:00  Session 4  Heart failure to hospital II  
Chairs:  John Cleland (Kingston upon Hull) / Roy Gardner (Glasgow)  
16:00–16:20  Heart failure arrhythmia – best practice, new directions  
Derek Connelly (Glasgow)  
16:20–16:40  Heart failure anaemia – investigation/management  
Paul Kalra (Portsmouth)  
16:40–17:00  Cardiogenic shock – best practice, new directions  
Simon Thackray (Kingston upon Hull)  
17:00–17:30  Coffee  

17:30–18:30  Session 5  Beta-blockers in the elderly  
Chairs:  Martin Cowie (London) / Andrew Clark (Kingston upon Hull)  
Epidemiology of heart failure in real life Theresa McDonagh (London)  
Treatment effects in the elderly John Cleland (Kingston upon Hull)  
Obstacles to optimum care for the elderly Jackie Taylor (Glasgow)  
Roundtable  
18:30  Complimentary drinks reception  
19:30  BSH buffet dinner (ticket holders only)
Programme – Day Two  FRIDAY 21 NOVEMBER 2008

09:30–10:30  Session 6  Heart failure to health
Chairs:  Iain Squire (Leicester) / Jacky Austin (Abergavenny)
09:30–09:50  Don’t drop the ball  Jenny Welstand (Wrexham)
09:50–10:10  Monitoring – what is it for and who should do it?  Annie MacCallum (Gloucestershire)
10:10–10:30  Exercise rehabilitation – go for it!  Fiona Lough (London)
10:30–11:00  Coffee

11:00–12:30  Session 7  Heart failure to new heart
Chairs:  John Dark (Newcastle-upon-Tyne) / Nizar Yonan (Manchester)
11:00–11:20  Surgery for heart failure  John Pepper (London)
11:20–11:40  Selection for transplant  Jayan Parameshwar (Cambridge)
11:40–12:00  Selection for LVAD  Emma Birks (London)
12:00–12:30  Follow-up of left ventricular assist devices and heart transplants  Nicholas Banner (Harefield)
12:20–12:30  Discussion
12:30–14:00  Lunch and Meet the Expert Sessions

14:00–15:20  Session 8  Clinical case presentations
Chairs:  Henry Dargie (Glasgow) / Suzanna Hardman (London)
14:00–14:20  A case of severe heart failure  Roy Gardner (Glasgow)
14:20–14:40  A case where CRT helped  Klaus Witte (Leeds)
14:40–15:00  A case where echo helped  Lisa Anderson (London)
15:00–15:20  A case of heart failure  Simon Williams (Manchester)
15:20–15:45  Coffee

15:45–16:45  Session 9  Device controversies
(a symposium supported by an educational grant from Biotronik)
Chairs:  Andrew Clark (Kingston upon Hull) / Derek Connelly (Glasgow)
Selection for ICD (enthusiast)  Derek Connelly (Glasgow)
Selection for ICD (sceptic)  Peter Cowburn (Southampton)
Should all ICD patients get CRT?  John Cleland (Kingston upon Hull)
Selection for biventricular pacing  Rakesh Sharma (London)

16:45–17:30  Session 10  Debate Who should manage patients with heart failure?
Chairs:  Martin Cowie (London) / Theresa McDonagh (London)
Andrew Clark  v  Nigel Rowell  v  John Baxter
(Kingston upon Hull)  (Middlesbrough)  (Sunderland)

17:30  Meeting close
Biographies

Dr Lisa Anderson

DrLisa Anderson is Heart Failure Consultant and Honorary Senior Lecturer at St George’s Hospital, London, and Heart Failure Lead for the South West Thames cardiac network. Since her appointment in 2005, Dr Anderson has worked towards developing heart failure diagnostic and nursing services across local Primary Care Trusts. Dr Anderson’s sub-speciality interest is in cardiac magnetic resonance (CMR) imaging and she is one of three non-invasive imaging cardiologists at St George’s Hospital.

Dr Anderson’s research background is the role of CMR in the assessment and management of iron overload cardiomyopathy and, during 3 years of research at the Cardiovascular Magnetic Resonance Unit at the Royal Brompton Hospital, London, she has worked with physicists and Professor Pennell to develop a new CMR sequence for this purpose. On the basis of this earlier work the department received National Institutes of Health (NIH) funding to implement and validate this sequence overseas.

Dr Jacky Austin

Dr Jacky Austin is Consultant Nurse for Heart Failure Services Gwent Healthcare NHS Trust and Honorary Lecturer at the University of Glamorgan, South Wales. She has held this post since 2004.

Jacky has many years of experience within general intensive care, cardiology and cardiac rehabilitation. In the early 1990s, she instigated the multidisciplinary North Gwent Cardiac Rehabilitation programme. The programme was accredited with the Royal Institute of Public Administration Kings Fund Award in 1992 and the Charter Mark in 1998. For her services to cardiac rehabilitation Jacky received an MBE in 2003.

Her PhD compared the effect of “a programme of cardiac rehabilitation versus standard care in elderly patients with heart failure”. It was the start of this period of study that gave Jacky the clinical focus for her current role. Jacky is currently chair of the “All Wales Nurse Specialist Heart Failure Group”. The heart failure cardiac rehabilitation programme, based at Nevill Hall, Abergavenny, was awarded a British Heart Foundation Excellence Award in December 2005. A research study exploring the spiritual needs of patients with advanced heart failure and their carers is currently in progress.

Jacky is on the faculty of the “Save a 1000 Lives” campaign in Wales. Reflecting local and national initiatives, this national healthcare quality and safety campaign, launched in April 2008 and supported by the Institute for Healthcare Improvement, has the task of producing sustainable change. Improving the management of patients with chronic heart failure is a very welcome inclusion within one of the six content areas of the campaign.

Dr Nicholas Banner

Dr Nicholas Banner is Consultant in Cardiology and Transplant Medicine at the Royal Brompton and Harefield NHS Trust, Harefield Hospital, Middlesex, and Honorary Senior Lecturer at Imperial College, London. His clinical work and research interests are centred on the care of patients with advanced heart failure and of those who have undergone heart transplantation. He is a Fellow of the Royal College of Physicians of London and also of the European Society of Cardiology. He is a former member of the Board of Governors of the International Society for Heart and Lung Transplantation and is currently Chair of their Education Committee. He is Chairman of the UK Cardiothoracic Transplant Audit Steering Group and immediate-past President of the Cardiology Section of the Royal Society of Medicine.

Dr John Baxter

Dr John Baxter is a Consultant in Elderly Medicine at Sunderland Royal Hospital. He has a specialist interest in heart failure in older persons. His research interest is tolerability of heart failure treatments in older persons and the impact on functional abilities.
Dr Emma Birks

Biography not received at time of going to press.

Dr Andrew Clark

Dr Andrew Clark was educated at Pembroke College, Cambridge, and trained in medicine at the Westminster Medical School, London. He trained in cardiology at Manchester Royal Infirmary, the National Heart and Lung Institute in London and the Western Infirmary in Glasgow. Whilst at the National Heart and Lung Institute, under the guidance of Philip Poole-Wilson and Andrew Coats, he developed an interest in exercise physiology, particularly in patients with heart failure. More recently, he has become interested in the problems of heart failure as a wasting disease, and the possibility that obesity and high cholesterol may, paradoxically, be beneficial in heart failure.

He became a Senior Lecturer in cardiology in the University of Hull in 1999 and was promoted to Reader in 2004. He is responsible for running the echocardiography service in Hull, and plays an active role in the day-to-day provision of cardiology services to the population of Hull and the East Riding of Yorkshire.

He is a founder member of the British Society for Heart Failure, and a member of the Working Groups for Heart Failure and Cardiac Rehabilitation and Exercise Physiology in the European Society of Cardiology.

Professor John Cleland

Professor John Cleland qualified in medicine in 1977 at the University of Glasgow. After a period of postgraduate training and an introduction to research he was appointed from 1986 to 1994 first as a Senior Registrar and subsequently as Senior Lecturer in Cardiology and Honorary Consultant Cardiologist at St Mary’s Hospital, Paddington and the Hammersmith Hospital, London. In 1994, Professor Cleland was awarded a Senior Research Fellowship by the British Heart Foundation to transfer to the Medical Research Council’s Clinical Research Initiative in Heart Failure. Professor Cleland was appointed to the Foundation Chair of Cardiology at the University of Hull in 1999.

Professor Cleland’s main field of interest is in heart failure, extending from its epidemiology, detection and prevention, through the development and implementation of guidelines for the application of current knowledge, to large randomised trials to study new (and old) treatments for heart failure. Particular current interests include the role of myocardial hibernation contributing to heart failure and its treatment (including beta-blockers and revascularisation), “diastolic” heart failure, vascular dysfunction, the potential deleterious effect of aspirin in heart failure, ventricular resynchronisation, telemetry, implantable haemodynamic monitoring devices, co-morbidities including diabetes, anaemia, atrial fibrillation and renal dysfunction, and new interventions for acute decompensated heart failure. Active programmes for the assessment of heart failure and its optimal management using cardiac impedance, magnetic resonance, computer tomography and advanced electrophysiology are also in place.

Professor Cleland heads The Academic Unit of Cardiology, which includes a Reader, two Senior Lecturers and a team of basic and clinical scientists, technicians and research nurses dedicated to the above research programme.

Dr Derek T Connelly

Dr Derek Connelly qualified in medicine at the University of Glasgow in 1984. After early training in medicine and cardiology in Glasgow, he moved to the Royal Brompton Hospital, London, in 1989, for a research post in cardiac electrophysiology. He then moved to the Cardiothoracic Centre in Liverpool, in 1992, as senior registrar in cardiology. He was appointed senior lecturer and consultant cardiologist there in 1997, and moved back to a consultant cardiologist post in Glasgow in 2004.

His main interests are radiofrequency ablation for cardiac arrhythmias, particularly for atrial fibrillation, and device implantation, particularly biventricular devices (cardiac resynchronisation therapy). From 2005 to 2008 he was president of Heart Rhythm UK, and he has been a trustee of the Arrhythmia Alliance since its foundation in 2004.
Dr Vincent Connolly

Dr Vincent Connolly is a Consultant Acute Physician with sub-speciality interest in diabetes and endocrinology, and Chief of Service for Acute Medicine at The James Cook University Hospital, Middlesbrough. He has pioneered the development of ambulatory emergency care and has supported the development of acute medicine in the UK. He has led the Acute Care Working Group for the NHS Next Stage Review in the North East and is a member of the National Clinical Advisory Team. Previously he has been involved in the writing of the National Institute for Health and Clinical Excellence (NICE) clinical guidance for type 1 diabetes in children and adults. His research interests are diabetes epidemiology and mortality.

Dr Peter Cowburn

Dr Peter Cowburn is a Consultant Cardiologist with a specialist interest in heart failure at Southampton General Hospital. Prior to his consultant appointment, he completed an 18-month heart failure/device fellowship in Toronto, Canada, where he trained in cardiac resynchronisation therapy (CRT). He has a particular interest in patient selection and the haemodynamic effects of CRT. His MD thesis explored the role of endothelin in chronic heart failure. He served as a Councillor for the British Society for Heart Failure in 2005–7 and is currently Deputy Chairman of the Society.

Professor Martin Cowie

Professor Martin Cowie is Professor of Cardiology at the National Heart & Lung Institute, Imperial College and Honorary Consultant Cardiologist at the Royal Brompton Hospital, London. After studying medicine at Aberdeen University, he trained in cardiology at University College and Imperial College, and undertook a Wellcome Research Training Fellowship and Masters in Clinical Epidemiology.

A founding member and currently Chairman of the British Society for Heart Failure, Professor Cowie is also a Board member (and Chair of the Education Committee) of the Heart Failure Association of the European Society of Cardiology (ESC). He was the clinical advisor for the National Institute for Clinical Excellence (NICE) guidelines on the management of chronic heart failure, and advises the Health Care Commission on its heart failure audit work.

Professor Cowie’s studies and reviews have been featured in a variety of peer-reviewed journals, including \textit{The Lancet}, \textit{European Heart Journal}, \textit{British Medical Journal}, \textit{Heart} and the \textit{European Journal of Heart Failure}. He is a member of the editorial board of \textit{Heart}, \textit{The British Journal of Diabetes and Vascular Diseases} and \textit{Cardiovascular Diabetology}. He has contributed chapters to many books.

Professor Henry Dargie

Professor Henry Dargie is Director of the Scottish Advanced Heart Failure Service based at the Golden Jubilee National Hospital Glasgow. This service incorporates the former Scottish Heart Transplant Unit and was developed in recognition of the needs of patients with severe heart failure by implementing the several innovations that have improved the management of advanced heart failure since the introduction of heart transplantation which it incorporates.

He has been principal Investigator on a number of landmark clinical trials in chronic heart failure (CIBIS II), post-MI heart failure (CAPRICORN) and angina (IONA). Current interests include the natural history of ventricular dysfunction and heart failure in the community, cardiac magnetic resonance imaging in the investigation of patients with heart failure and B-type natriuretic peptides in the diagnosis, prognosis and management of heart failure.

Professor Dargie was a member of the Board of the British Society for Heart Failure (BSH) for several years, being Chairman between 2003 and 2005. He is currently a member of the Implementation Board of the Healthcare Commission-funded heart failure audit project being performed in partnership with the BSH, and is leading a similar project in Scotland.

Professor Dargie is also a member of the Commission on Human Medicines of the Medicine and Healthcare products Regulatory Agency (MHRA), Chairman of its External Advisory Group on medicines for cardiovascular and renal disease and diabetes, and Chairman of the Specialist Advisory Group on cardiovascular medicines of the European Medicines Agency (EMEA).
Professor John Dark

John Dark is Professor of Cardiothoracic Surgery at Newcastle University and heads the Heart and Lung Transplant programme at the Freeman Hospital in Newcastle. A Newcastle graduate, he received his training in Glasgow, London and Toronto. His clinical interests in cardiac surgery include mitral valve repair and aspects of non-transplant surgery for heart failure. His laboratory work centres on the pathophysiology of brain-stem death and reperfusion injury. The transplant programme in Newcastle is currently the most active in the UK, and includes paediatric heart transplantation (one of two national centres) and an aggressive approach to the use of ventricular assist devices. Professor Dark has lectured regularly on aspects of transplantation both in the UK and abroad, and has published over 200 scientific papers.

Dr Roy Gardner

Roy Gardner graduated from Dundee University in 1996. He recently gained his CCT in cardiology and currently works in the Scottish Advanced Heart Failure Service based at the Golden Jubilee National Hospital, on the outskirts of Glasgow. He was awarded an MD in 2006 for research into markers of prognosis in advanced heart failure, reflecting his particular interest in the assessment of patients for cardiac transplantation and device therapy. He was elected as Observer to the board of the British Society for Heart Failure in July 2007 to represent trainees.

Dr Alasdair Gray

Alasdair Gray is currently Reader and Clinical Lead in Emergency Medicine at the Royal Infirmary of Edinburgh. His research interests include clinical trials in emergency medicine and non-invasive ventilation in severe acute cardiogenic pulmonary oedema.

Dr Suzanna Hardman

Dr Suzanna Hardman is a Consultant Cardiologist with an Interest in Community Cardiology, at the Whittington Hospital, London, and an Honorary Senior Lecturer at UCL. She works in a busy DGH in an inner-city setting and has worked closely with the community for many years to ensure consistent high-quality care for patients with heart failure, irrespective of where they present. Underpinned by a programme of research, she has explored different models of care and demonstrated markedly reduced mortality and re-admission rates through the implementation of a multidisciplinary inpatient heart failure team. She has been instrumental in developing the London sub-specialty training rotation in heart failure. Dr Hardman first served on the Board of the British Society for Heart Failure as a Councillor, then as Deputy Chairman, and is currently the Society’s Treasurer.

Dr Paul Kalra

Dr Paul Kalra graduated in 1992 from Cambridge University. He undertook cardiology specialist training in Wessex, and spent 2 years at the National Heart Lung Institute and Royal Brompton Hospital, London, to further his clinical and research interest in chronic heart failure.

Dr Kalra started as a Consultant Cardiologist at Portsmouth Hospitals NHS Trust in April 2004. He has a broad interest in all aspects of general adult cardiology, but with a particular sub-specialty interest in the management of patients with heart failure.

He maintains an active research interest and has published >50 peer-reviewed publications. He was co-organiser of the UK’s first national Cardio-Renal Conference in 2006; this has now developed into a very successful annual meeting with over 200 delegates. He has recently edited a cardiology text book “Specialist Training in Cardiology” which was highly commended in the 2006 BMA Medical Book Competition.
Ms Fiona Lough

Fiona Lough is a physiotherapist in cardiovascular health and rehabilitation at University College Hospital in London, with a specialist interest in exercise prescription for cardiovascular disease patients. She has worked in cardiac rehabilitation (CR) for over 18 years and has served on various national CR, exercise and heart failure steering groups and committees, including the British Association for CR (BACR), Physiotherapists in CR (ACPICR), the British Heart Foundation and the British Society for Heart Failure. She is involved in BACR and ACPICR exercise training initiatives for health professionals, and has contributed to textbooks and teaching manuals for CR professionals, physiotherapists and exercise specialists. She has been invited to participate in the 2008 Cochrane Systematic Review on exercise-based rehabilitation for heart failure patients.

Mrs Annie MacCallum

Annie MacCallum is currently Head of Cardiovascular Disease and Heart Failure at Gloucestershire Primary Care Trust. She gained her cardiology experience at the cardiac units of The Royal Infirmary of Edinburgh, Bristol Royal Infirmary and Gloucestershire Royal Hospital. Annie also has 10 years’ experience as a coronary heart disease practice nurse in primary care. The experience gained in the acute hospital management of heart failure and her primary-care experiences helped to inform her understanding of the unmet needs of heart failure patients.

As a Heart Failure Specialist Nurse in Gloucester, Annie developed the proposal for a county-wide Heart Failure Service for Gloucestershire. Launched in January 2004, and with the help of a successful bid to the British Heart Foundation, the Service offers community echo and GP with special interest (GPSI) clinics, and seven Heart Failure Specialist Nurses based in primary care, but in close liaison with the acute hospitals and cardiologists. The service is the regionally recommended model for the south west.

Annie became an Observer to the Board of the British Society for Heart Failure in September 2007.

Dr Theresa McDonagh

Dr Theresa McDonagh is a Consultant Cardiologist with an interest in heart failure at the Royal Brompton Hospital London. Clinically, she has a long track record in heart failure. In addition to having a hands-on input in clinical heart failure, she has an active research profile in the epidemiology of left ventricular dysfunction and in the clinical utility of the natriuretic peptides in both the diagnosis and prognosis of heart failure.

Dr McDonagh has been on the board of the British Society for Heart Failure for the past 6 years in various capacities. She has taken a particular interest in developing clinical standards for heart failure and, through the SAC in Cardiology, has been involved with developing the heart failure curriculum for subspecialty cardiology registrar training. In addition, she has been part of the group moving the British Society for Heart Failure Heart Failure Audit forward.

Dr Jayan Parameshwar

Dr Jayan Parameshwar completed his medical school and general medical training in India and his cardiology training at Hillingdon Hospital and the National Heart and Royal Brompton Hospitals in London. His research area was the epidemiology of heart failure, exercise testing and prognosis of severe heart failure. He is now Consultant Cardiologist at Papworth Hospital, Cambridge, and for the past 17 years has been a cardiologist at the Heart Transplant Unit. He helped set up an advanced heart failure service at the Unit, and for the past 10 years has been involved with establishing an active ventricular assist device programme. He is involved in assessing patients for heart transplantation, in monitoring them while they wait and in all aspects of their care following transplantation.
Professor John Pepper

Biography not received at time of going to press.

Dr Stuart Rosen

Stuart Rosen is a Consultant Cardiologist at Ealing and the Royal Brompton Hospitals, and Reader in Cardiology at Imperial College, London. His research interests include neural regulation of the heart and circulation, heart failure, hypertension and syncope.

Dr Nigel Rowell

I am a full time GP in inner-city Middlesbrough. My interest in heart failure comes from a background in echocardiography. After a hospital job in cardiology, I furthered my interest in echocardiography by becoming a clinical assistant in 1987. In 2003, I became a hospital practitioner specialising in heart failure. I currently run the heart failure one-stop clinic with consultant cardiologist Dr Adrian Davies at James Cook University Hospital in Middlesbrough. I’m particularly interested in the early diagnosis of heart failure in at-risk groups in the community – even my children have heard of B-type natriuretic peptide! I carry out screening of our known coronary heart disease patients through a structured programme.

In 2005, I was invited to join the board of the BSH as an Observer and was delighted to then be elected as a Councillor last year. Being part of the BSH Board has been the most rewarding part of my medical career. In addition to this, I also teach third-year medical students and am Chairman of Middlesbrough Practice Based Commissioning Group. I’m also an active member of the National GPSI Forum in Cardiology and the Primary Care Cardiovascular Society; I am standing soon for election as the Education Secretary for the GPSI forum as I believe this underpins everything we do.

My outside interests include cross-country skiing in Norway and running with my wife and labradors!

Dr Rakesh Sharma

Dr Rakesh Sharma is a Consultant Cardiologist at the Royal Brompton Hospital, London. His specialist interests are heart failure and device therapy (biventricular pacemakers and implantable cardiac defibrillators). Dr Sharma has a PhD from the National Heart and Lung Institute, Imperial College, and has won the Young Investigator Award from the American Heart Association for his work. He is currently the principal investigator for a randomised controlled trial in biventricular pacing in high-risk patients undergoing cardiac surgery.
Dr Iain Squire

Dr Iain Squire qualified from Glasgow University in 1987. He trained first at Glasgow, where he held position as Lecturer, and then at the University of Leicester, where he was initially Lecturer and is now Senior Lecturer in Medicine & Therapeutics. He is also Honorary Consultant Physician at the University Hospitals of Leicester (UHL) NHS Trust.

Dr Squire has clinical responsibility for the coronary care unit at Leicester Royal Infirmary, a busy 21-bed unit, and for the Leicestershire Heart Failure Service. He is an adviser to the National Institute for Health and Clinical Excellence Guidelines Expert Committee on the management in primary care of patients who have suffered a myocardial infarction and to the British Heart Foundation Heart Failure Nurse Service Committee.

Dr Squire was a Councillor to the British Society for Heart Failure from 2001 to 2003, and has been Chair of the UHL Therapeutics Advisory Service since 2003. He is UK coordinator for the joint European Society of Cardiology/European Heart Rhythm Association CRT Registry, a position he has held since 2007.

His research interests include: natriuretic peptides and other cardiac neuropeptides; the epidemiology of heart failure; prognostic markers in heart failure and acute coronary syndromes; and acute coronary syndromes. Dr Squire has authored over 70 papers in peer-reviewed journals.

Dr Jackie Taylor

After studying medicine at Glasgow University, Jackie Taylor trained in general medicine and geriatric medicine, developing her interest in heart failure at this formative time of her career. She became Lecturer in Geriatric Medicine in Glasgow, was appointed to a Consultant post in Falkirk and District Royal Infirmary and currently holds a Consultant post at Glasgow Royal Infirmary.

A founding member and Observer to the Board of the British Society of Heart Failure, Dr Taylor also chairs the Heart Failure Sub-Group of the Cardiac Managed Clinical Network for Greater Glasgow and Clyde, and is responsible for developing and delivering the Heart Failure Strategy.

From a clinical perspective, Dr Taylor’s main interest is the development of comprehensive multiprofessional services for heart failure patients and, in particular, in improving the organisation of care. She has developed a heart failure clinic and day hospital programme tailored to the needs of older patients. Dr Taylor is a Council Member of the British Geriatrics Society (Scotland) and Honorary Secretary of the Royal College of Physicians and Surgeons of Glasgow.

Dr Simon Thackray

I am currently one of six interventional cardiologists at the Castle Hill Hospital, East Yorkshire, which has an active clinical and research department offering a full range of acute and elective coronary, and non-coronary interventional procedures to a tertiary population of 1.2 million. I am also the Clinical Lead for the Department of Cardiology, and have research interests in intra-coronary imaging, acute coronary syndromes and ventricular function. My doctoral thesis was in left ventricular function and heart rate.
Miss Jenny Welstand

Jenny Welstand has a broad experience in both surgical and medical cardiac care. She joined North Wales NHS Trust in 2002 to establish a heart failure service. Her interests are in service development and working across the interface between primary and secondary care. Jenny is currently working towards a Doctorate. Her special area of interest is models of care delivery and the patient’s experience of living with heart failure. This is important as gaining insight into what it means for patients to have heart failure and what matters to them should influence service development.

Dr Simon G Williams

Dr Simon Williams is currently Consultant Cardiologist at Wythenshawe Hospital and Honorary Senior Lecturer at the University of Manchester, Manchester. He graduated from the University of Sheffield in 1995 and was awarded an MD with commendation in 2004 by the University of Leeds. He received his cardiology training in Leeds and Liverpool. His clinical subspecialty is heart failure, cardiac transplantation and device therapy, and his areas of expertise include clinical lead for heart failure, cardiac rehabilitation and metabolic exercise testing.

Dr Williams has published over 60 peer-reviewed publications and over 100 abstracts. His research group is currently studying the relationship between serum markers and the immune system in chronic heart failure and following transplantation.

Dr Klaus Witte

Dr Klaus Witte graduated from King’s College Hospital in London and trained in cardiology at the University Hospital of Wales, Cardiff, the University of Hull and at Leeds General Infirmary. His MD, focusing on exercise intolerance in heart failure patients, was undertaken at the University of Hull, where he also completed the first randomized, controlled trial of micronutrient supplementation in heart failure patients. The remainder of his training took place at the Yorkshire Heart Centre, Leeds, and while a fellow in device therapy for heart failure at the University of Toronto and the Mount Sinai and Toronto General Hospitals in Canada. He is currently a Senior Lecturer in Cardiology at the University of Leeds where he coordinates the heart failure device programme. His research interests include exercise intolerance in heart failure, the adverse effects of right ventricular pacing in patients with left ventricular dysfunction and the potential of micronutrient supplementation in patients with chronic heart failure.
Mr Nizar Yonan

Mr Nizar Yonan is the Director of Transplant Programme, Consultant Cardiothoracic Surgeon at the Transplant Centre, Wythenshawe Hospital, and an Honorary Senior Lecturer within the Division of Translational Medicine at the University of Manchester. He is also the Director of the Transplant Research Laboratory, which is a centre of excellence for translational research, leading to an average of 20 international presentations per year and over 200 peer-reviewed publications in the past 10 years.

Mr Yonan undertook his MD degree within this facility and also at the Department of Immunology (which he is closely linked with) at Manchester University. During his time at the transplant centre and research lab., Mr Yonan has personally contributed to over 115 peer-reviewed experimental and review articles. He reviews regularly for several journals, and he is a member of the editorial board of the Journal of Cardiac Surgery. Mr Yonan is also a member of the reviewing panel for the Society of Cardiothoracic surgery for Great Britain and Ireland, an examiner for the Royal College of Surgeons of Edinburgh, a member of the cardiac and pulmonary councils for the International Society for Heart and Lung Transplantation and an invited advisor for the Department of Health and UK Transplant.

Since the start of his medical career, Mr Yonan has always been attracted and contributed to clinical and basic sciences research, which he sees as a major vocational aspect of his clinical daily work. Research with major international impact includes the development of the bi-caval technique for heart transplantation; his team were the first to design and use retrograde pulmonplegia in clinical transplantation; and the use of pulmonary vein gas in the assessment of individual donor lung. A more recent work includes the development and advancement of the concept of tailoring immunosuppressive treatment that he enhanced by using IS drug monitoring, namely C2, MPA and tacrolimus.

Mr Yonan is a member of the UKT advisory committee and national VAD forum, and helped develop national guidelines in heart and lung transplantation and temporary ventricular assist devices. He is the transplant and university representative at the north-west deanery training committee for CT surgery. He also plays a very active role in undergraduate and postgraduate teaching. He is a trustee for the New Start charity.

Dr Zaheer Yousef

Dr Zaheer Yousef qualified in medicine from Guys Hospital, London, and was appointed Consultant Cardiologist at the University Hospital of Wales in 2005, where he is the Lead Clinician for heart failure and cardiac resynchronisation therapy. He is also an honorary senior lecture at Cardiff University where he leads an active research programme. Dr Yousef is currently secretary of the Welsh Heart Failure Forum and advisor to the South East Wales Cardiac Network.
Introduction and setting the scene

Martin R Cowie
Chair of the BSH, Professor of Cardiology, Imperial College London & Honorary Consultant Cardiologist, Royal Brompton Hospital, London

The lifetime risk of developing heart failure is around 30%, with many more people surviving acute cardiac events or living with diabetes and hypertension, only to develop heart failure subsequently. The average age at first presentation remains in the mid-70s, and co-morbidity is common. The number of elderly in our population increases year-on-year, as do expectations of healthcare – ensuring an ongoing challenge to the delivery of good preventive and care services. The good news is that patients with heart failure in the UK now have a considerably better outlook than even 5 years ago.

The Government has put in place many measures to help drive up standards for people with, or at risk of, cardiovascular disease, most clearly demonstrated by the National Service Framework for Coronary Heart Disease and the Quality and Outcomes Framework for primary care. Heart failure is no longer peripheral to these initiatives, with work from the National Institute for Health and Clinical Excellence (NICE) on guidelines and their implementation adding to efforts from professional associations, cardiac networks and various NHS bodies. The Healthcare Commission has recently examined heart failure services (in both primary and secondary care) in England, Wales and Northern Ireland, and highlighted aspects of care that require improvement, as well as areas that have moved forward hugely in recent years. Variation in quality of care across the country is marked.

This meeting of the British Society for Heart Failure will examine many of the critical points in the heart failure healthcare “pathway”, from health through to the development and progression of heart failure: the need for proper diagnosis and good treatment – now comprising lifestyle measures; drug therapy and devices for many – good long-term monitoring; and rehabilitation to maximise the chances of a person living with heart failure returning to a more “normal” life. New technologies should be able to help deliver better care closer to patient’s homes, and identify the times when hospitalisation is needed. Supportive measures, good communication and palliation of symptoms should underpin care at all stages. Much has been done, but even more remains to be tackled.
Acute presentation – key issues

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Heart failure accounts for at least 5% of medical hospital admissions in the UK and 16% of patients will be readmitted within 6 months of their initial diagnosis. The mortality rate for those presenting with cardiogenic shock is >90%. The correct diagnosis of heart failure in the Acute Assessment Unit is vital for ensuring patients receive the correct treatment and investigations. At presentation, the diagnosis of heart failure can be both simple and puzzling. Typically in the acute phase, patients with heart failure usually present with symptoms of breathlessness or fluid retention. Breathlessness is one of the most common presentations to Acute Assessment Units. The evaluation of breathlessness requires the use of key clinical skills and routine tests to establish a diagnosis allowing heart failure to be differentiated from other causes of breathlessness. Fluid retention can be the presenting feature of many diagnoses, and heart failure can be erroneously diagnosed by the unwary.

The diagnosis of heart failure should prompt further investigation as to the underlying cause. Many elderly patients have other co-morbidities, which can further complicate diagnosis and treatment, particularly chronic kidney disease. Initial diagnostic evaluation includes an ECG, CXR and echocardiogram, supported by arterial gases, BNP and oxygen saturation monitoring. The goal of management of acute heart failure is to improve symptoms and haemodynamic stabilisation. Underlying causes of acute heart failure (e.g. infection and renal failure) should be sought and treated appropriately. The treatment of acute heart failure will be discussed, including the use of oxygen, morphine, diuretics, vasodilators, inotropes and non-invasive ventilation. Prompt, effective and closely monitored therapy can result in a rapid resolution of symptoms and a marked clinical improvement; however, the high mortality rate for these patients necessitates ongoing evaluation and management after the acute phase.

Acute presentation – role of the cardiologist

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Abstract not available at time of going to press.
What is the “standard” set of investigations for heart failure?

Theresa McDonagh
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Standard investigations for heart failure really cover three different aspects of the diagnostic process:

1. Those aimed at confirming or refuting a diagnosis in “suspected heart failure”.
2. The further investigation designed to ascertain the aetiology of heart failure once the diagnosis is confirmed.
3. Some standard investigations are also used to risk stratify patients and to monitor the effects or side effects of treatment.

This talk will focus on the first two areas in detail.

The key investigations which will be discussed for suspected heart failure patients are the role of BNP, echo and ECG.

Once cardiac dysfunction and then heart failure are confirmed, routine non-invasive tests to determine the aetiology and co-morbidities will then be described.

Role of the cardiac catheter (including RHC)

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Heart failure is not a diagnosis. It is a complex multisystem disorder that deserves aetiological characterisation in every case. Since coronary artery disease is the most common cause of heart failure in the Western world, and because the presence of ischaemic heart disease can predict future management strategies, knowledge of coronary artery anatomy in patients with heart failure is important. Coronary angiography provides detailed anatomical information on occlusive coronary artery disease, together with any functional significance when incorporated with additional techniques including pressure wire studies and intravascular ultrasound. Furthermore, left heart catheter studies can provide supplementary data on intraventricular pressure gradients, coronary venous anatomy, and left ventricular systolic function and wall motion abnormalities. Right heart catheterisation provides additional information including intracardiac pressures, pulmonary and systemic vascular resistance, estimated left atrial pressure, cardiac output and intracardiac shunt evaluation. These data are useful for the characterisation of pericardial diseases, the evaluation of intracardiac shunts and the assessment of pulmonary arterial hypertension. These concepts will be discussed in the context of case-based scenarios.
How to prognosticate in practice

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With few exceptions, the long-term prognosis of heart failure is poor. In clinical trials, the annual mortality remains about 10% and in clinical practice about twice this rate.

The most important question when assessing prognosis is: “why should I assess prognosis?” Some patients want to know how long they have to live so that they can organise their lives. Health professionals usually want to know more precisely what the patient is at risk of dying from and when so that the timing of appropriate interventions can be optimised. Most prognostic models have focused on long-term prognosis, which is relevant for patients being considered for, or who have received, an ICD. On the other hand, few models exist that focus on short-term prognosis and yet this may be most important for general clinical practice.

Prognosis is determined by the severity of cardiac dysfunction, by the rate of sudden death and by co-morbidity. Prediction of overall mortality is therefore complex and might be improved by assessing cause-specific death.

Key items when assessing prognosis come from:

- **the medical history** – symptom severity, recent episodes of decompensation, aetiology of disease, history of co-morbidities (such as diabetes, atrial fibrillation and lung disease) and intensity of diuretic therapy
- **the physical examination** – the key items are heart rate and blood pressure and, to a lesser extent, oedema and jugular venous pressure
- **tests** – cardiac function is best assessed using BNP/NT-proBNP. Echocardiographic measurements of disease severity are less robust but are useful in assessing the nature of disease. QRS width on the 12-lead ECG predicts outcome but is inferior to the above. Blood tests of organ function, including kidney liver, bone marrow and the heart, can all predict outcome. Exercise testing may be of additional value to the above but this is unproven.

There is little evidence that tests can usefully distinguish the cause of death. Most prognostic factors in heart failure are strongly related to the severity of cardiac dysfunction but these predict both sudden and worsening heart failure death.

Few clinical variables add to the value of BNP/NT-proBNP for assessing the prognosis of patients with or without preserved left ventricular systolic function.

**Further reading**
Reasons for admission

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As we are so often reminded, heart failure constitutes an increasingly prevalent healthcare issue and one of the most common reasons for unplanned admission to hospital. Most of us have a good idea of what we mean when we say “chronic heart failure” (CHF), and have an image of the patient being managed out of hospital with symptoms ranging from very mild to extremely debilitating.

Heart failure is, of course, a condition resulting from a variety of cardiovascular pathologies. Thus, it is not surprising that the diagnosis may be made in differing situations: the coronary care unit, medical admission wards, surgical (vascular) units, oncology wards and outpatient departments. This is one of the factors contributing to delays in the diagnosis of heart failure. Similarly, once the patient has an established diagnosis of CHF, their pathway may be varied. At one extreme, they may remain well and out of hospital for some time. Alternatively, the individual patient may experience hospitalisation, and this may be in the context of a variety of situations and precipitants.

Considering a population of patients with a first-ever hospital episode with heart failure, the single most common cause of a subsequent admission is decompensated heart failure. However, this constitutes only 20–25% of these episodes. A significant proportion of second admissions are labelled as acute coronary syndromes (10–15%), with cerebrovascular disease and atrial fibrillation contributing a similar number. Additional important contributions come from admissions associated with respiratory and renal pathologies. For admissions subsequent to the first and second episodes, the situation is just as, if not more, complex.

The pathway for an individual patient with CHF is difficult to predict, and the variety of situations in which this may occur adds complexity to the provision of efficient management of these patients. Further, while decompensated CHF may be the most common reason for repeat admission to hospital, this in itself constitutes a variety of situations, from acute pulmonary oedema to anasarca to decompensation associated with arrhythmia. Thus, the individual patient with heart failure may require widely differing management, depending on the mode of presentation. Co-morbid conditions, such as coronary heart disease, respiratory disease or renal impairment will complicate patient management and will impact on the need for specialist involvement. Similarly, the presence of left ventricular dysfunction or CHF may also influence the management of co-morbid conditions where one or more of these is the primary reason for admission.
Pulmonary oedema – best practice, new directions

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Pulmonary oedema is a common emergency presentation to hospital as a consequence of de novo or acute decompensated heart failure syndromes. The emergency management of this condition has remained largely unchanged in the past two to three decades, and early mortality remains high. A significant proportion of patients presenting with pulmonary oedema have persevered left ventricular function. The evidence base for the most commonly administered therapies, such as loop diuretics, nitrates and opiates, is lacking and some may be potentially harmful. Non-invasive ventilation is increasingly used, although recent evidence suggests that benefit is likely to be modest for most patients. There is increasing awareness that preventing secondary insult to the heart and kidneys is important to prevent subsequent morbidity and mortality. Lastly, it may be possible to risk stratify patients with acute pulmonary oedema early after presentation and potentially tailor subsequent management depending on clinical risk.

The presentation will aim to review the postulated mechanisms, rationale for the use of and evidence base for common therapies. An approach to the assessment and management of patients presenting to hospital as an emergency with acute pulmonary oedema will be discussed.

Anasarca – best practice, new directions

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One of the major reasons for patients with heart failure to present is fluid retention. Fluid retention tends to present as ankle oedema, but many patients can accumulate very large volumes of excess fluid and can be admitted to hospital with more than 20 litres of excess fluid on board. The fluid collects under the influence of gravity and a patient usually fills from the ankles. With large volumes of fluid excess, a patient may have oedema affecting the abdominal and chest walls, and the arms.

Traditionally, management of anasarca (extreme generalized oedema) is by bed rest and the manipulation of diuretics. Various tricks are available to help and, in particular, to help relieve the patient who develops “diuretic resistance”. Ultimately, fluid can be removed by ultrafiltration, and this treatment may become standard in future.

A new class of agent is being developed that may help treat fluid retention, in the shape of arginine vasopressin (AVP) antagonists, or “vaptans”. AVP antagonists cause aquaresis (that is, water loss without concurrent sodium loss). They may be particularly helpful in the patient who develops hyponatraemia.
Severe heart failure –
best practice, new directions

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Heart failure arrhythmia –
best practice, new directions

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The management of cardiac arrhythmias in patients with heart failure continues to present formidable challenges. Beta-blockers have revolutionised the management of heart failure over the past decade, but the doses often needed to treat arrhythmias can be difficult to achieve in a timely fashion in the patient with severe left ventricular (LV) systolic dysfunction. Class I anti-arrhythmic drugs are relatively contraindicated because of their negative inotropism, and for many arrhythmias amiodarone remains the mainstay of pharmacological therapy.

The evidence for a pivotal role for the implantable defibrillator in patients with heart failure is now incontrovertible, even in patients who have not yet had life-threatening ventricular arrhythmias.1 In many patients with severe LV systolic dysfunction and intraventricular conduction disturbances, defibrillators incorporating the facility for biventricular pacing (cardiac resynchronisation therapy defibrillators) have been proven to improve both symptoms and longevity.2

Atrial arrhythmias can lead to both severe symptoms and acute haemodynamic decompensation in brittle heart failure patients. Pharmacological therapy alone may prove inadequate, and the role of catheter ablation therapy should be considered sooner rather than later in these patients. Junctional re-entrant tachycardias can be cured with a high success rate, and focal atrial tachycardias are equally amenable to ablation. Atrial flutter is curable in over 90% of cases, even in patients with advanced structural heart disease.

The most challenging new frontier for interaction between heart failure clinicians and electrophysiologists is in the management of atrial fibrillation (AF). Ablation techniques for AF have advanced in recent years, and success rates of 70–80% can be achieved for paroxysmal AF in the most experienced centres, even in patients with heart failure.3 Success rates for chronic AF are not as good, repeat procedures are often needed and complication rates are higher in these patients. However, in selected patients with heart failure and chronic AF, catheter ablation can be a life-transforming procedure. Ongoing research should allow us to determine whether the success rates in expert centres can be replicated more widely, and whether the potential functional gain is justified by the expense and procedural risks.

References
Heart failure anaemia – investigation/management

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Whilst it has long been recognised that low haemoglobin is common in patients with chronic heart failure (CHF), it is only over the past 7–8 years that interest in its impact, aetiology and potential correction has really developed. The prevalence of anaemia will be influenced by the definition used and the demographics of the cohort studied. When considering World Health Organization (WHO) criteria for the definition of anaemia (males <13.0 g/dL, females <12.0 g/dL), then across a range of populations the prevalence ranges from around 10 to 50%. In fact, the majority of studies have shown a prevalence of around 30%.

When present, low haemoglobin is inversely related to symptom severity when judged by New York Heart Association functional class. Further studies have shown that low haemoglobin is an independent predictor of impaired exercise capacity. A large number of studies have shown that low haemoglobin is an independent predictor of adverse prognosis. A recent meta-analysis included 34 suitable studies with a total of 153,180 patients (>50,000 events). The unadjusted mortality risk was 1.96 (95% CI 1.74–2.21, p<0.001) in patients with CHF and anaemia compared with those without anaemia. The mortality risk was similar in patients with impaired or preserved systolic function. Anaemia remained an independent predictor of mortality when adjusted for potential confounders, with a hazard ratio of 1.46 (95% CI 1.26–1.69, p<0.001).

A key question is whether low haemoglobin is merely a marker of advanced heart failure or whether it might play a part in disease progression. To help answer this it is important to understand the cause and see the response to correction of anaemia.

The aetiology of anaemia is not fully understood. There are increasing data to suggest that absolute and functional iron deficiency play an important role, influenced at least in part by inflammatory immune activation. Relative deficiency of erythropoietin, often in the context of significant renal impairment, plays a role in many cases.

Several small studies with intravenous iron and/or erythropoietin-stimulating agents (ESA) have shown early promise. Various endpoints, such as symptom level, hospitalisation, diuretic dose and exercise capacity, have been seem to improve with active treatment. Definitive safety and efficacy data are, however, awaited from large-scale, randomised, placebo-controlled studies such as RED-HF (Reduction of Events With Darbepoetin Alfa in Heart Failure Trial) (ESA) and FAIR-HF (Ferinject Assessment in Patients with Iron Deficiency and Chronic Heart Failure) (intravenous iron alone).

References

www.bsh.org.uk
Cardiogenic shock – best practice, new directions

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Cardiogenic shock is the most common cause of death in patients admitted to a coronary care unit,\(^1\) complicating up to 7% of ST elevation myocardial infarctions (STEMI).\(^2\) Prognosis has changed little in the past 20 years, despite major advances in the interventional and heart failure arenas,\(^1,2\) with mortality approaching 80%, worse than for a battlefield thoraco-abdominal gunshot wound.\(^1-3\) Randomised data to guide treatments in this group of patients are sparse, and available in only small patient populations,\(^4\) although there are numerous case reports. Recruitment issues are a major hurdle to the well-organised studies that are required to usher in new treatment strategies.

The underlying pathology and temporal relation to the myocardial insult are the main determinants of outcome. Outside the setting of acute myocardial infarction, patient cohorts are so disparate as to make generalisations impossible. Severe heart failure and cardiogenic shock are predictors of very poor outcome in patients even without significant myocardial necrosis and enzyme elevation, although prognosis is better than that with STEMI.\(^5\) Conversely, cardiogenic shock associated with fulminant myocarditis is associated with a better long-term outlook,\(^6\) doubtless related to spontaneous recovery of myocardial function, younger age and fewer co-morbidities seen in this patient group.

The most common underlying pathology is occlusive coronary thrombus leading to STEMI. The majority of patients with cardiogenic shock present within the first 48 h, and these patients have a significantly better prognosis than those presenting later (45% vs 80%, \(p<0.05\)). The reasons for this are likely to be multifactorial, with necrotic mitral dysfunction and transmural infarction more prevalent after 48 h, and myocardial stunning more prevalent initially.

Better care of these patients must, therefore, focus not only on improved interventions, but also improved recognition of those patients that are declining clinically. The majority of cardiogenic shock develops after presentation; risk rises with age, anterior infarction, thrombolytic therapy and diabetes.\(^5,7\) Intensive monitoring, and the clinical and echocardiographic assessment of such patients are mandated, and patients identified in the ‘pre-shock’ phase should be treated aggressively.

Percutaneous intervention (PCI) has made a significant impact on the outcome of patients with STEMI. Recent data show that an increase in primary angioplasty is starting to reduce the incidence of cardiogenic shock,\(^7\) along with 6-year follow-up data from the SHOCK trial that show continuing improvements in survival with a PCI strategy or early intervention vs. conservative therapy. Most centres in the UK, including this author’s, certainly take the pragmatic view that prognosis is so awful and PCI so easily available that there must be a good reason not to offer this to patients.

Beyond PCI, few data exist to demonstrate the clear benefit of additional pharmacological or invasive treatments. Meta-analyses of adrenergic inotropic support show inferior outcomes to placebo, yet inotrope use remains widespread in the UK.\(^8\) Levosimendan is another promising alternative, but without a good evidence base in this setting. Percutaneous circulatory support also looks attractive, and may well help to maintain adequate systemic and coronary circulation whilst myocardial stunning resolves.

In summary, cardiogenic shock is common, and still confers an extraordinarily poor prognosis when associated with myocardial infarction. However, increased uptake of acute PCI strategies are finally beginning to reduce its incidence. The future is likely to show increased use of specific non-inotropic adrenergic agents, and novel methods of percutaneous circulatory support.

References

Epidemiology of heart failure in real life

Theresa McDonagh
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Heart failure is a disease of the elderly, with the mean age of presentation of new-onset heart failure in the UK being 76 years. The prevalence of heart failure in the elderly is rising, not because of a change in incidence in the elderly per se but rather due to the changing demography of the population and more people surviving cardiovascular disease earlier in life.

There are some differences in the epidemiology of heart failure in the elderly compared with younger individuals. In particular, the proportion of those having heart failure with preserved systolic function is increased and co-morbidity rates are much higher.

Despite the fact that treatment guidelines are the same for elderly subjects, data from epidemiological surveys and registries indicate lower uptake rates compared with younger individuals and much lower rates than seen in pharmacological treatment trials. Hence, there does appear to be a bias in the treatment needs of elderly patients. Worryingly, despite reductions in population-based data for mortality rates overall in heart failure, mortality in the elderly remains static.

Treatment effects in the elderly

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Randomised controlled trials provide compelling evidence that beta-blockers reduce mortality in patients with impaired left ventricular systolic function aged <80 years.

CIBIS II showed that patients aged >70 years showed somewhat greater benefit on morbidity and mortality compared with younger patients, although older patients were more likely to withdraw from bisoprolol.

MERIT compared the effects of metoprolol CR/XL (not available in the UK) in patients in the upper tercile of age (mean 74 years) with those in the lower two terciles (mean age 59 years) and found similar relative benefits on morbidity and mortality.

COMET showed that carvedilol reduced mortality by 16% (relative) compared with metoprolol tartrate (available in the UK) in patients above or below 65 years of age. As older patients were at greater risk, the absolute benefits of carvedilol were greater in older patients. Of 1637 patients aged <65 years, there were 24 (1.5%) fewer deaths in those assigned to carvedilol. Amongst 1392 aged >65 years there were 64 (4.6%) fewer deaths in patients assigned to carvedilol.

SENIORS studied only patients aged >70 years (median 75 years). For the primary endpoint of death or hospitalisation for a cardiovascular problem the benefits of nebivolol tended to be greater in patients aged 70–75 years. Data on mortality have not yet been reported.

In summary, there is good evidence that beta-blockers reduce mortality in older patients with heart failure and left ventricular systolic dysfunction at least up to 80 years of age. In older patients and those with preserved left ventricular systolic function there is room for doubt.
Obstacles to optimum care for the elderly

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A complex combination of factors, both intrinsic and extrinsic to the patient, is responsible for differences in the management of older patients. Physiologically, older patients differ from younger patients due to age-related changes in cardiovascular, renal and hepatic function. The diagnosis of chronic heart failure is challenging because of the non-specific presentation of the disease and access to investigation. The presence of multiple co-morbidities, and cognitive and functional impairment can influence all stages of the heart failure patient journey. These problems are then compounded by the fact that, in older patients, heart failure with normal ejection fraction is as common as that due to left ventricular systolic dysfunction.

Until recently, the evidence base for managing heart failure in older patients has been limited. We all have anxieties about the applicability of evidence from trials that have predominantly studied younger, less complex patients. The consequences of the above problems are that there is a risk of sub-optimal management of older patients with heart failure: such patients fail to receive the improvements in quality of life and function that effective treatment strategies can bring. With the changing demography of populations, the heart failure burden in advance stage is growing and needs to be managed effectively.

What can be done to improve the situation?
First of all we need to ensure that the evidence we have in older patients is applied in clinical practice. Studies that recruit older patients, such as SENIORS (Study of the Effects of Nebivolol Intervention on Outcomes and Rehospitalisation in Seniors with Heart Failure), and PEP-CHF (Perindopril in Elderly People with Chronic Heart Failure), give us the confidence to do this. We need to work collaboratively to ensure that older, more “real-life” patients are included in future trials. Perhaps most important of all, we need to develop robust systems that allow the delivery of a comprehensive package of care.
Among chronic diseases, heart failure is the most common single cause of hospitalisation in industrialised countries, with recurrent readmission being frequent.\(^1\) High costs are mostly attributed to readmission and prolonged length of stay, which correlates with patients receiving sub-optimal care.\(^2\) Common problems include insufficient pharmacological management, failure to follow guidelines and poor discharge planning with inadequate follow-up. The high readmission rate could also be related to patients’ inability to initiate and maintain self-care that would avoid unnecessary deterioration in their condition or to seek prompt attention when they have deteriorating symptoms.\(^3\) However, for patients to undertake the type of self-care activities that healthcare professionals deem appropriate, they have to overcome many obstacles to manage their heart failure. This includes gaining information about their diagnosis and treatment plans, learning how to recognise deterioration in their condition and the implications of these factors in a manner that they can understand, and have the desire and confidence with which to act.\(^4\) Obviously, many have do this whilst coping with extreme shortness of breath, lethargy and possible cognitive impairment.\(^5\) Furthermore, patients who are able to recognise deteriorating symptoms need the opportunity to see a healthcare professional promptly; however, they are frequently unable to access this care.\(^6\) National UK strategies recognise that individuals with long-term illnesses need a different approach to care to improve clinical outcomes and quality of life, whilst reducing costs to the health service. The expectation is that patients’ experiences in receiving healthcare can be improved by changing the type of support they receive.

This presentation will explore:

- structures and processes within primary and secondary care, and across the interface between them, which will improve revolving-door admissions in patients who have heart failure
- issues and problems that individuals face once they are diagnosed with heart failure, and how care should be better structured to improve the support they require
- practical guidance around care that supports improved self-care and self-management
- specific aspects of care for patients with heart failure that is best delivered by specialist heart failure nurses.

This presentation will concentrate on providing guidance to healthcare professionals, but will also be relevant for those involved in the planning and commissioning of care.

References

Monitoring – what is it for and who should do it?

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One of the key recommendations contained in the National Institute for Health and Clinical Excellence (NICE) guideline (2003) for chronic heart failure (CHF) states that all patients with this condition require monitoring. The document goes on to list what this monitoring should include. Multidisciplinary teams across primary and secondary care providing support to patients with CHF depend on the adequate commissioning of services to manage heart failure and tailor monitoring according to resources. Following the launch of the National Service Framework for Coronary Heart Disease, published in 2000, a number of evidence-based clinical guidelines for the management of CHF have been published. Despite this, heart failure management has been slow to progress, and there is evidence to suggest that not all CHF management programmes are effective.

For the patient with heart failure, monitoring must be tailored to their individual needs, with priority given to the delivery of the most important information first. In the Deventar-Alkmaar study, a combined intensive physician-and-nurse-directed clinic in The Netherlands that provided verbal and written comprehensive education, optimisation of treatment, recommendations for exercise and rest, and advice on symptom management and self care demonstrated substantial reductions in hospitalisations for worsening heart failure and/or all cause mortality, with improved functional status and whilst decreasing healthcare costs. These outcomes represent desired aims in the monitoring of CHF. Adding on the need to recognise changing symptoms that require further specialist intervention, and to improve quality of life and palliative care, delivering all the components of comprehensive monitoring for CHF is a significant challenge.

Who should do it?

Only 20% of heart failure patients are referred for specialist follow-up. Whilst disease management programmes offer great benefit, not all patients can attend clinics, and home visiting is time consuming in travelling and in personnel. Government policy has emphasised self care as a key principle in delivering modern patient-centred healthcare. Introduction of The Expert Patient programme endeavours to enable patients with long-term conditions to become experts in self care through self-management programmes. The need to provide monitoring for elderly housebound patients, and in recognition of the needs of patients still in employment, recent interest in the use of remote patient monitoring may provide alternative options for monitoring. In addition, the “Heart Failure Matters” website www.heartfailurematters.org, developed by the Heart Failure Association of the European Society of Cardiology, is a professionally driven internet site providing useful information to patients and carers that may assist self-care.

These themes will be explored in greater depth in the presentation.

References

Exercise rehabilitation – go for it!

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Improved cardiological management means that greater numbers of patients are surviving with heart failure and need access to rehabilitation services. Evidence to date, in selected patient groups, shows that exercise training results in significant improvements in exercise capacity and health-related quality of life.1–3 Exercise rehabilitation is recommended for all patients with stable, chronic heart failure.4 However, further research is required to develop the evidence, rehabilitation models and exercise guidelines for more typical heart failure patient populations (e.g. older patients with multiple co-morbidities and patients with complex cardiac conditions). Another challenge is to address the limited availability and provision of heart failure rehabilitation. National surveys of cardiac rehabilitation services5,6 have found that less than 25–35% of Trusts offer exercise rehabilitation, and in some instances as few as 6% of recently discharged patients were referred for rehabilitation.7 Shortcomings in service provision were linked to inadequate finances, limited resources, and poor communication and collaboration between rehabilitation staff and heart failure teams. Health professionals also wanted additional training in the assessment, prescription and delivery of exercise programmes for complex cardiac patients. Some positive changes are emerging; for example, further multicentre trials are being undertaken to clarify the evidence for exercise training; there is improved collaboration and multidisciplinary working among heart failure and rehabilitation teams; there is a national strategy and campaign to increase rehabilitation services; there is an improving provision for heart failure patients; and heart failure exercise training courses are developing for health professionals.

References
Surgical interventions such as revascularisation of hibernating myocardium, mitral valve repair and remodelling of the left ventricle (Dor procedure) are not common operations in heart failure. The only surgical treatment generally accepted as providing survival benefit together with an improved quality of life is heart transplantation. Many patients with severe heart failure are not considered for transplantation because of the limited availability of donor organs, elevated pulmonary vascular resistance or concomitant disease. Despite the treatments available, however, severe heart failure still carries a poor prognosis. In the REMATCH trial, only 8% of patients in the medically treated group were alive at 2 years.

Left ventricular assist devices (LVADs) were developed to maintain the circulation in patients awaiting transplantation (“bridge to transplant”). Uncommonly, the use of a LVAD is associated with substantial recovery of ventricular function and the device can be removed (“bridge to recovery”). Such devices are now being used as a lifetime treatment where transplantation is not an option (life-time or “destination” therapy).

Bridge to transplant or recovery
An LVAD bridge to heart transplantation is associated with a 5-year survival of 73%, which compares favourably with haemodialysis for renal failure (60% at 2 years) and the use of the MARS charcoal filter in liver failure as a bridge to transplantation (66% at 5 years). The use of a LVAD can, on occasion, result in so great an improvement in the function of the native heart that the device can be removed and transplantation is no longer necessary. Recovery of haemodynamic and nutritional status, with reversal of the metabolic and cellular abnormalities of heart failure, improves survival after heart transplantation. Overall, mechanical unloading by use of a LVAD leads to reversal of the adverse remodelling process, normalisation of passive pressure–volume relationships and improved contractile response to increased heart rate and beta-agonists.

Destination therapy
The REMATCH study evaluated the HeartMate LVAD in patients with severe heart failure despite maximal medical treatment. The investigating transplant centres recruited 129 patients who were deemed unsuitable for transplantation. All-cause mortality (the primary endpoint) was 48% lower in the LVAD group (p=0.09 at 2 years; p=0.001 at 1 year). Median survival was 408 days in the LVAD group and only 150 days in the medically treated group. Quality of life was limited by a 28% incidence of device infection at 3 months, a 42% incidence of bleeding at 6 months and a 35% probability of device failure at 2 years. Following REMATCH, 67 centres in the USA have started lifetime treatment programmes. Clinical outcomes are now better than in REMATCH. The Health Care Advisory Board (USA) now predicts that LVADs will provide conventional treatment for advanced heart failure by 2010. A recent Department of Health-commissioned study in the UK suggest that there is evidence that the odds of LVAD survival is increasing with time (p<0.04).

LVAD development
In 1994, the devices and technology branch of the National Heart Lung and Blood Institute invited submissions for the development of innovative circulatory support systems as a long-term treatment for heart failure. The preferred characteristics for these devices were:
1. small size and weight allowing the pump to be fully implantable
2. reduced blood contact surface area to decrease activation of the immune and coagulation systems
3. a simple blood propulsion mechanism without prosthetic valves or the need for heparin
4. a reliable operating system easily learned by the patient and safe in the community.

As a result of this initiative, new minaturised centrifugal and axial flow devices are now available for clinical evaluation. These newer rotary pumps differ from the old larger pusher-plate pumps, by offering assistance to the ventricle rather than wholesale replacement. These devices are preload and afterload sensitive. The overriding principle of managing these pumps is to reach the desired flow with the lowest possible rotational speed, thus minimising blood trauma and platelet activation. Careful afterload reduction is essential, together with close monitoring of antplatelet therapy.

It is not yet clear whether the degree of ventricular unloading provided by these rotary pumps is sufficient to allow for recovery of left ventricular and biventricular failure. The small observational studies available on these second-generation rotary pumps suggest that the causes of mortality and morbidity are similar to those seen with large pusher pumps, but the frequency of complications is lower.

When considering the use of an implantable LVAD, we need to counsel our patients regarding their best options and allow them to come to an informed decision according to their personal preferences.

References
Selection for transplant

Jayan Parameshwar
Transplant Unit, Papworth Hospital, Cambridge

Heart transplantation is the treatment of choice for selected patients with end-stage heart failure. The number of available donor organs is, however, a small fraction of the number of potential patients. Careful selection of patients is therefore crucial to use scarce donor organs to best effect. Patients with New York Heart Association functional class IIIb and IV heart failure are best discussed with the local heart failure/transplant centre to optimise medical management and to consider high-risk non-transplant surgery where appropriate. Patients with chronic heart failure should be referred before they develop significant renal and hepatic dysfunction and irreversible pulmonary hypertension.

The assessment process involves the following: optimising medical therapy; assessing the likely prognosis of patients without transplantation; and ruling out non-cardiac factors that are likely to impact on outcome after the transplant. Heart transplantation is generally considered in the following circumstances:

- Ongoing symptoms of heart failure at rest or minimal exertion despite optimal medical therapy. Functional capacity (measured by peak oxygen uptake on exercise) <14 ml/kg/min (or 50% predicted).
  - For patients receiving beta-blockers, a value of 12 ml/kg/min has been recommended.
- History of recurrent admissions to hospital with worsening heart failure.
- Refractory ischaemia not amenable to revascularisation associated with severe impairment of left ventricular function.
- Recurrent symptomatic ventricular arrhythmia associated with severe impairment of ventricular function.

Contraindications include the following:

- active infection (including chronic viral infections such as HIV, hepatitis B)
- symptomatic peripheral or cerebrovascular disease
- diabetes mellitus with end-organ damage
- co-existent or recent neoplasm
- severe lung disease (forced expiratory volume in 1 second [FEV₁] and forced vital capacity [FVC] <50% predicted)
- renal dysfunction with creatinine clearance <40 ml/min
- recent pulmonary thromboembolism
- pulmonary hypertension: pulmonary artery systolic pressure >60 mmHg, transpulmonary gradient >15 mmHg and/or pulmonary vascular resistance >5 Wood units
- psychosocial factors including a history of non-compliance with medication, inadequate support, and drug or alcohol abuse
- obesity: body mass index >30 kg/m² or weight >140% of ideal body weight
- age: usually >65 years.

Selection for LVAD

Emma Birks
National Heart and Lung Institute, Imperial College, London

Abstract not available at time of going to press.
Follow-up of left ventricular assist devices and heart transplants

Nicholas R Banner
Departments of Cardiology & Transplantation, Royal Brompton & Harefield NHS Trust, Harefield Hospital, Middlesex

Heart transplantation is used as a long-term therapy for patients with advanced heart failure whereas, in the UK, left ventricular assist device (LVAD) support is commonly used as a temporary treatment prior to heart transplantation (bridge to transplant). However, some patients with non-ischaemic dilated cardiomyopathy experience a degree of myocardial recovery during LVAD support that is sufficient to allow the device to be explanted without transplantation.

Outpatient management during LVAD support depends on the type of device implanted. Most patients require anticoagulation with warfarin and aspirin. Second-generation axial impeller devices are relatively small in size and provide virtually silent operation. Patients must be able to charge the device batteries regularly and manage the controller, responding appropriately to alarms indicating device malfunction. Bathing is prohibited and special precautions are required when showering. Important complications include device-related infection, haemorrhagic and thromboembolic events (including stroke) and device malfunction. The incidence of such complications is time-dependent and device-specific. Patients may require antihypertensive medication. Those with non-ischaemic dilated cardiomyopathy may benefit from anti-heart failure medications to promote a recovery in ventricular function. If this occurs, the device can sometimes be explanted without the need for transplantation, so avoiding the risks associated with continued circulatory support.

Long-term use of an LVAD can improve survival in patients with advanced heart failure (destination therapy), but this is expensive and is associated with a progressive risk of complications. Destination therapy is not funded in the UK by the NHS.

Although heart transplantation has never been subjected to a randomised clinical trial, it is clearly a highly effective long-term treatment for patients with advanced heart failure, resulting in both improved survival and quality of life. Transplant recipients require life-long pharmacological immunosuppression to prevent allograft rejection. Surveillance for rejection and adverse effects from immunosuppression are important components of follow-up. Death from acute cellular rejection is uncommon with current immunosuppressive regimens, but antibody-mediated rejection remains a significant problem that can lead to chronic allograft dysfunction. Important late complications of transplantation include chronic kidney disease, an increased incidence of malignancy, cardiac allograft vasculopathy (“chronic rejection”) and infection. Many patients require treatment for hypertension and dyslipidaemia. Therapeutic decisions should take account of potential drug interactions, particularly those involving the cytochrome P450 system.

International registry data indicate that survival after heart transplantation is 68% at 5 years, 51% at 10 years and 20% at 20 years after transplantation. In the most recent cohort, survival is 86% at 1 year.

Further reading

www.bsh.org.uk
A case of severe heart failure

Roy Gardner
Department of Cardiology, Glasgow Royal Infirmary, Glasgow

Heart failure can be associated with a poor prognosis. Modern treatment strategies from multidisciplinary teams with a specialist interest in heart failure can now offer patients more options, and ultimately a better chance of survival.

This case highlights the multidisciplinary approach that allowed a patient with end-stage heart failure a second chance.

A case where CRT helped

Klaus Witte
University of Leeds and Leeds General Infirmary, Leeds

Cardiac resynchronisation therapy (CRT) has become a standard of care for chronic heart failure (CHF) patients with conduction disturbance (left bundle branch block [LBBB]) in the presence of left ventricular systolic dysfunction (LVSD). Not only can CRT improve symptoms and quality of life but it also offers patients a reduction in mortality due to reductions in both dysrhythmic and heart failure death. Indications for CRT in the UK include New York Heart Association functional class III or worse symptoms, left ventricular (LV) ejection fraction <35% and LBBB (QRS >150 ms). However, data are now published demonstrating benefits in those patients with less severe symptoms and a narrower QRS duration (>120 ms) and it is likely that the indications will expand in the near future.

The “thorn in the side” of CRT has been an obsession with “response rate”. As with all therapies for chronic degenerative conditions, patients’ responses vary. Some patients have a dramatic improvement in symptoms, whereas others seem to gain no symptomatic benefit at all. In an attempt to select those patients most likely to “respond”, multiple echocardiographic techniques have been proposed but have since been found to be at best equally effective as the presence of LBBB on a surface electrocardiogram. Furthermore, failure to “improve” might not be equivalent to failure to “respond”. Some patients with severe CHF and no apparent improvement in symptoms will have a stabilisation of their condition, or if they continue to gradually deteriorate from the day of implant they might do so rather more slowly than they would have done without the pacemaker. Such data are of course impossible to collect from observational non-randomised studies. The application of echocardiographic selection criteria based on such data, where improvements in symptoms or LV function are chosen as markers of success, has probably become a barrier to CRT in some areas.

Outstanding issues in device therapy include whether patients with LVSD and LBBB but few symptoms should receive CRT before they become worse and also which CHF patients should receive defibrillator therapy. This is particularly difficult in patients with dilated cardiomyopathy in whom defibrillator therapy has never shown a mortality benefit.

During the case presentation we will review the indications for device therapy, we will see the great potential that CRT offers patients with heart failure and discuss why the choice of device should be made only on the basis of randomised, controlled trial data.
A case where echo helped

Lisa Anderson
St Georges Hospital, London

Abstract not available at time of going to press.

A case of heart failure

Simon Williams
North West Heart Centre & Transplant Unit, Wythenshawe Hospital, Manchester

A case of acute viral myocarditis in a 23-year-old girl will be presented and the diagnosis, investigations and treatment options will be discussed (especially the indication for endomyocardial biopsy and immunosuppressant treatment).
Selection for ICD (enthusiast)

Derek T Connelly
Glasgow Royal Infirmary, Glasgow

Any enthusiastic follower of medical evidence and enthusiastic implemener of national and international clinical guidelines will recognise the need for implantable cardioverter defibrillator (ICD) implantation in many patients with poor left ventricular (LV) systolic function, particularly those who have had a prior myocardial infarction (MI). In 2006, the National Institute for Health and Clinical Excellence (NICE)\(^1\) approved ICD implantation in patients with LV ejection fraction (LVEF) <30% and QRS width >120 msec post-MI, in accordance with the results of a subgroup analysis of the MADIT-2 study.\(^2\) NICE had previously recommended ICD implantation in patients with poor LV function and non-sustained ventricular tachycardia (VT) who had sustained VT inducible at electrophysiological study.

NICE did not make any recommendations about patients with poor LV systolic function secondary to idiopathic dilated cardiomyopathy, but the evidence from the SCD-HeFT study\(^3\) suggests that these patients have as high a risk of sudden cardiac death as those with LV dysfunction of ischaemic aetiology, and derive just as much survival benefit from a defibrillator. Fifty per cent of the patients in SCD-HeFT had LV dysfunction secondary to coronary artery disease, and 50% had idiopathic dilated cardiomyopathy. Subgroup analyses from that study suggested that patients in New York Heart Association functional class 2 were more likely to benefit than those with class 3 symptoms; furthermore, the benefit from ICD therapy appeared to be greatest in patients with LVEF <30%, with no discernible benefit in those patients with LVEF 30–35%.

Other variables such as age, co-morbidities and perhaps psychological factors need to be taken into consideration. Furthermore, there is evidence that patients with extremely poor LV function (LVEF <10%) are likely to die of pump failure rather than ventricular arrhythmias,\(^4\) and these patients might not benefit from prophylactic ICDs. Other tests such as T-wave alternans are being investigated as possible predictors of risk of sudden death, but so far the results have been inconclusive. The evidence suggests, therefore, that ICD therapy should be considered in all patients with LVEF between 10% and 30%, irrespective of the aetiology, and particularly in those with another risk factor such as a wide QRS complex or non-sustained VT on ambulatory ECG monitoring.

References

Selection for ICD (sceptic)

Peter Cowburn
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Abstract not available at time of going to press.
FRIDAY 21 NOVEMBER – DAY TWO – SESSION 9

Should all ICD patients get CRT?

John Cleland
Department of Cardiology, Castle Hill Hospital, Kingston upon Hull

Most patients referred for implantation of an ICD have left ventricular systolic dysfunction (LVSD) and therefore should be considered for CRT. Analyses of randomised trials suggest that 75% of the benefit of CRT-D comes from the CRT component. Analyses of ICD trials show an increased propensity for hospitalisation and death due to worsening heart failure. Indeed, in patients with moderate to severe heart failure there is little evidence that ICDs improve prognosis at all.

Currently, CRT is indicated in patients with current or recent moderate or severe heart failure, left ventricular ejection fraction <35% and QRS duration ≥120 msec. Recent analyses of the CARE-HF and REVERSE studies suggest that patients with mild symptoms get as much benefit as those with more severe symptoms, and that the ejection fraction threshold might be raised to 40%. Other studies show that QRS duration gets progressively wider over time and that patients with new-onset bundle branch block have a worse prognosis than those with chronic bundle branch block. Most patients with heart failure will either die or have at least one episode of decompensation within 3 years. Consequently, many patients indicated for an ICD will develop an indication for CRT within a few years of implantation.

There is no evidence that QRS duration, symptoms or dyssynchrony on imaging predict the long-term benefits of CRT. Many patients with reduced ejection fraction who do not otherwise fulfil the criteria for CRT at the time of ICD implant will develop indications during follow-up. Explanting an ICD to upgrade to CRT-D is expensive and carries risks. For all these reasons, many patients with reduced ejection fraction who do not otherwise fulfil the criteria for CRT at the time of ICD implant will develop indications during follow-up. Explanting an ICD to upgrade to CRT-D is expensive and carries risks. For all these reasons, many patients with reduced ejection fraction who do not otherwise fulfil the criteria for CRT at the time of ICD implant will develop indications during follow-up. Explanting an ICD to upgrade to CRT-D is expensive and carries risks. For all these reasons, many patients with reduced ejection fraction who do not otherwise fulfil the criteria for CRT at the time of ICD implant will develop indications during follow-up. Explanting an ICD to upgrade to CRT-D is expensive and carries risks. For all these reasons, many patients with reduced ejection fraction who do not otherwise fulfil the criteria for CRT at the time of ICD implant will develop indications during follow-up.

Further reading

Selection for biventricular pacing

Rakesh Sharma
The Royal Brompton Hospital, London

Cardiac resynchronisation therapy (CRT, or biventricular pacing) is a proven therapeutic strategy for a subgroup of patients with advanced heart failure. Numerous clinical trials have demonstrated that CRT can lead to an improvement in both the symptoms and prognosis of some heart failure patients with left bundle branch block. Despite this, several areas of uncertainty exist. For example, the role of CRT in patients with a narrow QRS complex, those with mild heart failure symptoms and in the setting of preserved systolic function remains unclear.

Appropriate patient selection for CRT is the key to achieving optimal results. The purpose of this lecture will be to examine the current evidence base and to debate the controversies which are abundant in this field at the present time.

Further reading
Cleland J, Freemantle N, Ghio S et al. Predicting the long-term effects of cardiac resynchronization therapy on mortality from baseline variables and the early response a report from the CARE-HF (Cardiac Resynchronization in Heart Failure) Trial. J Am Coll Cardiol 2008;52:438–45.
Exhibitors and contributors

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Our vision is of a world in which people do not die prematurely of heart disease. We will achieve this through our pioneering research, our vital prevention activity and by ensuring quality care and support for people living with heart disease. We need you to share our vision because, together, we really can beat heart disease.

Our Strategy
But if we are to succeed in beating heart disease, it’s vital that everyone is aware of our objectives – and how we are working to achieve them.

Our Activities
As the nation’s heart charity, the British Heart Foundation focuses on three vital things:

- **Investing in pioneering research**
  We fund around 1,200 research projects investigating every aspect of heart disease – from causes and safer drugs to improving surgical techniques.

- **Supporting and caring for heart patients**
  We fund BHF Nurses who visit heart patients with all types of heart conditions in their homes. We provide defibrillators and echocardiograph machines for hospitals, emergency services and first-aiders.

- **Providing vital information to help people reduce their own risk of dying prematurely from a heart or circulatory related illness**
  We produce publications, videos and other materials for health professionals and the public including children. We inform people about how to improve the health of their heart through public information campaigns, advertising and the media.

Some vital facts and figures
- There are over 400 BHF Heart Nurses caring for patients across the UK.
- Over 1,620 Heartstart UK schemes teach people what to do in an emergency. More than 1.6 million people have been trained by Heartstart UK in schools and the community.
- The BHF invests over £137 a minute on research to keep the nation’s hearts healthy.

BRITISH SOCIETY FOR HEART FAILURE
The BSH is a multidisciplinary society and membership is open all healthcare professionals involved with the diagnosis, management or science of heart failure.

The aims of the British Society for Heart Failure (BSH) are:
To increase knowledge and promote research about the diagnosis, causes, management and consequences of heart failure amongst health-care professionals with the intention of delaying or preventing the onset of heart failure and improving care for patients with heart failure.

To provide expert advice to health-care professionals, patient or government organisations, including the National Health Service when appropriate and as requested.

At present the BSH has 650 members and 8 ‘Friends’. The BSH Board consists of the following members: Professor Martin Cowie (BSH Chair), Professor John Cleland (Past-Chair), Dr Peter Cowburn (Deputy Chair), Dr Theresa McDoanagh (Chair Elect), Dr Suzanna Hardman (Treasurer), Dr Jacky Austin, Dr Andrew Clark and Dr Nigel Rowlle with the Observers to the Board Dr Roy Gardner, Ms Fiona Lough, Mrs Annie MacCallum and Dr Jackie Taylor.

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INFORMATION CENTRE FOR HEALTH AND SOCIAL CARE
National Heart Failure Audit
The Second Annual report was published on October 21st 2008. Over 80% of Trusts are registered, with 53% of Trust submitting data. Whilst the number of cases submitted represents less than 10% of all cases, early findings reflect expected patterns. For example, access to specialist heart failure services and staff has improved, although variation in access to key clinical treatments continues. Patients who receive the majority of care on general medical wards are less likely to be prescribed ACE inhibitors and beta blockers. Patients admitted to cardiology are more likely to be prescribed aldosterone receptor antagonists.

Case ascertainment is anticipated to improve following the introduction of heart failure-related performance indicators and the use of clinical audit data for recertification and accreditation purposes.

The report can be accessed via The NHS Information Centre website: http://www.ic.nhs.uk/heartdiseaseaudits

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NHS IMPROVEMENT
NHS Improvement is working in partnership with organisations such as cardiac networks, primary care trusts, secondary and tertiary care providers, and social care across England to work using a variety of approaches in order to improve heart failure care. The work covers aspects such as improving screening and access to heart failure services right through to end of life care. The local teams have been set up to deliver the aims of their individual projects and have peer support meetings and site visits on-going. The underpinning mechanism to demonstrate improvement is through the bespoke NHS Improvement system. This can log progress, collect and analyse data and disseminate useful resources.

NHS Improvement is a newly formed national improvement programme working with clinical networks and NHS organisations to transform, deliver and sustain improvements across the entire pathway of care in cancer, cardiac, diagnostics and stroke services.

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REGENERATE (Adult Stem Cells Trials)

A handful of pilot trials have reported the use of autologous stem/progenitor cells in heart failure patients. REGENERATE-IHD is the largest randomised, placebo-controlled trial in the UK investigating the use of granulocyte-colony stimulating factor (G-CSF) and autologous bone marrow-derived stem/progenitor cells (BMSC) to improve cardiac function and symptoms in heart failure patients and to establish the optimal method of delivery of these cells.

Patients with symptomatic heart failure secondary to coronary artery disease on optimal medical and device therapy with no further treatment options are eligible for our study. There are three arms of the trial: (1) peripheral mobilisation with G-CSF/placebo injections; (2) intracoronary delivery of BMSC/placebo following G-CSF mobilisation; or (3) intramyocardial delivery of BMSC/placebo following G-CSF mobilisation. Our 1-year primary endpoint is assessment of change in cardiac function. Other endpoints assessed include major adverse cardiac events and quality of life.

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Benjamin Britten Lounge
Waiting for the future of patient management to wash up on shore? If so, your wait is over.

Lumax 540 with BIOTRONIK’s Advanced Patient Management – APM® – provides the cornerstones for comprehensive patient protection and care. It starts with a premium quality product designed to save and enhance lives. And since the Lumax 540 has an extended life of its own, it is capable of prolonging that quality of life in patients. Plus, its superior follow-up efficiency offers optimal patient management while unique daily monitoring allows for the most advanced level of patient protection. So why wait for tomorrow’s standard of care when you can have it in the Lumax 540 today?

Lumax 540 series with BIOTRONIK APM®
Tomorrow’s standard of care