



NEWSLETTER

- In this issue we report on the Third Autumn Meeting held by the BSH, which took place in London on 24 November 2000. The meeting reviewed models of comprehensive care and provided an update on the management of HF.
- Elections of the BCS Board will take place in Spring 2001 and the results will be announced at the BCS Annual Meeting, Manchester, May 2001.
- The BSH will be having two sessions at the BCS Meeting, May 2001, addressing the management of coronary heart disease, and ICDs and pacing.
- There will be an extraordinary AGM at the BCS, May 2001.
- The Fourth BSH Autumn Meeting will review newer treatments in HF and report on clinical trials.

Organised care of heart failure – examples of best practice

Ireland

Dr Ken McDonald (Dublin) commented that in Ireland there is 'no ownership' of HF care; neither cardiologists nor general physicians are involved with HF care. Where there is 'no ownership', there is no government strategy; although limited focus was given in an article published in Dublin in 1999¹. As a result, HF care was reactive and there was no focus on the 'stable' patient. In addition, the Irish population and in particular patients and families are not educated about HF.

In an effort to reduce readmission rates, the team in Dublin placed an increased focus on the in-patient component of HF management and involved the cardiologist. This involves ensuring:

- use of maximal [author query; should this be optimal] doses of standard medical therapy on discharge
- clinical stability at discharge with predefined clinical criteria – the '2-day rule' (no change of weight of more than 1 kg, off all i.v. therapy, no change in oral therapy – all for 2 days prior to discharge).

NYHA Class IV patients were assigned to routine care or multidisciplinary care (MDC). Following discharge there were no readmissions in either group within the first 30 days, emphasising the importance of the in-hospital component of care. By 3 months following discharge, death or readmission had occurred in 28% of the patients in the routine care group compared with only 8% of patients in the MDC group.

In conclusion, Dr McDonald informed the audience that the MDC programme is now standard procedure for HF care in Dublin. The aim is to apply MDC regionally throughout Ireland, and develop and audit community-based care. There are also plans to involve GPs, who clearly need to be the main 'pillars' of care in the future, in the strategy.

Scotland

Mrs Lynda Blue (Glasgow) reviewed the HF Liaison Nurse Service, a city-wide service, funded by the Greater Glasgow Health Board, implemented in July 2000 (Table 1). The aims of the service included facilitating as much as possible self-management.

Table 1. Key Components of the HF Liaison Nurse Service.

- Regular assessment
- Regular review of medication
- Close monitoring of blood chemistry
- Review of support available
- Education – on pharmacological and non-pharmacological treatments
- Act as intermediary between patient and other health care professionals
- Provide easier access to the nurse for patients and their families/carers.

Specialist nurses are employed by the Primary Care Trust and are based with five adult hospitals. The service runs Monday to Friday, from 9 am until 5 pm. Patients can be redirected to the service by GPs at any time.

Mrs Blue summarised future developments which include developing links with palliative care services, exercise programmes tailored to meet the needs of HF patients, and a referral pathway. In conclusion, a HF Liaison Nurse Service can provide support and bring expertise to the management of HF.

Sweden

Dr Charles Cline (Malmö) outlined a study involving elderly patients (65 – 84 years), NYHA Class II–IV, who had been hospitalised for HF. Patients were randomly assigned to a management programme or standard care. The management programme included education of patients and families, diuretic

self-management, encouragement of long-term compliance and follow up at an easy access, nurse-directed out-patient clinic.

At 90 days the management programme resulted in both a significant reduction in the number of days hospitalised and improvement in quality of life. At 1-year follow-up, there was no difference in mortality or quality of life. The number of patients readmitted to hospital was slightly fewer in the management programme group and the time to first readmission was significantly increased in this group. There was a total saving of healthcare costs per patient per year of \$1,100.

In conclusion, Dr Cline commented that the organisation of the management of HF in Malmö has resulted in a reduction of hospitalisations for HF. A HF unit has been set up in the hospital comprising in-patient wards, day care facility, regular physician out-patient care, home visits by nurses, and a nurse out-patient clinic. In addition, HF teams are being developed in different primary care areas and there is a shared-care programme.

Australia

Dr Simon Stewart (Glasgow) outlined the nurse-led, multidisciplinary home-based intervention programme in Adelaide, which is similar to that in Glasgow described by Mrs Blue

Following hospitalisation, patients were randomised to usual care or to the multidisciplinary home-based intervention programme. At 1–2 weeks postdischarge, patients received a home visit by a cardiac care nurse. More comprehensive follow-up was delegated to GPs and primary care services. Home visits were repeated if required and telephone contact, both nurse and patient initiated, was used.

The results showed that there was a significant reduction in the number of unplanned readmissions. Consequently, hospital-based costs for home-based intervention group tended to be lower than those for the usual care group. The frequency distribution of unplanned readmissions was significantly different for the two groups with fewer intervention patients requiring ≥ 3 readmissions.

In conclusion, Dr Stewart confirmed that home-based care is a key component of HF management. It is important to carry out a city-wide service similar to that in Glasgow and there are plans to do this in Sydney.

England

Dr Chris Ward (Manchester) reviewed a hospital clinic-based model for the management of HF. The specialist HF clinic is ideally placed to address and co-ordinate improvements in the current inadequate care of HF patients. The role of the clinic includes:

- confirmation of diagnosis, aetiology, precipitants of HF
- initiation/optimisation of approved therapies using local protocols
- assessment of suitability for surgery
- provision of additional medical/social support
- encouragement of innovation (e.g. palliative care)
- medical education

- telephone helpline/same day appointment system
- liaison with hospital wards and primary care services
- establishment of shared care strategies.

The clinic is managed by three research/specialist registrars, two specialist nurses, and two secretaries. Currently there are 650 patients, 75 patients visit the clinic each week, and there are around 2–6 new cases each week. Patients are taken direct from local GPs, cardiac clinics, Wythenshawe Hospital medical clinics, and from district general hospitals.

Implementing a HF strategy at the Health Authority/Health Board level – how to do it

Dr Caroline Morrison (Glasgow) reminded the audience that Greater Glasgow has a population of just under a million, has 220 GP practices, and 660 GPs. The first step in the process of implementing a strategy is the development of a strategy, which should underpin the local implementation of any national guideline, e.g. NSF/SIGN. It is important to include members from all the stakeholder groups, e.g. doctors, nurses, commissioners etc. Guidelines need to be prepared to cover not only medication but also how the service will be set up.

Implementing a complete strategy at once is not feasible. In Glasgow it was decided that the first step would focus on access for GPs to echocardiography, and a programme of care for those patients most likely to have hospital admission, i.e. those with previous admission. Dr Morrison stressed the importance of carrying out a pilot study. This will not only indicate those aspects of the service that need to be refined, but also once the benefits of the strategy can be demonstrated this can help greatly with obtaining funding.

Dr Morrison concluded by mentioning that it is important to have trust between the groups involved in the service. Once the strategy was developed, the second step was to implement the strategy and provide the service described earlier by Mrs Blue.

Surgery for HF – hope at last for the many rather than the few?

Mr Stephen Westaby (Oxford) stated that cardiac transplantation is the ‘gold standard’ for the treatment of advanced HF (AHF). However, in the UK there are less than 300 donor hearts available per year and the number is reducing. There is therefore a need for alternative treatments.

As a result of emerging blood pump research, continuous flow LVADs that are small, silent, reliable and user-friendly have developed, e.g. JARVIK 2000. This device is undergoing clinical trials for use as a bridge to transplantation, at the Texas Heart Institute, Houston, and as a permanent circulatory support for patients ineligible for heart transplantation, at the Oxford Heart Centre.

The JARVIK 2000 fits inside the left ventricle. There is therefore no need for an inflow cannula and consequently no risk of thrombo-emboli. Initial clinical experience is very promising, but showed that for long-term use there is a problem with drive line infection. To address this the Oxford team have followed

the example of the cochlea implant to aid hearing [*author; please enlarge statement*]. However, the surgery involved is very complicated.

In conclusion, Mr Westaby commented that with the development of user-friendly devices there could be, in 10 years time, a significant number of patients with AHF who will be treated with a mechanical assist device as well as drugs.

Update on treatment

New developments in HF – multi-site pacing

Dr Perry Elliot (London) commented that despite success with pharmacotherapy, there is a very high incidence of mortality for patients with severe HF. In HF patients the following three pacing mechanisms can be targeted:

- conventional dual chamber pacing
- AV optimised DDD pacing
- biventricular pacing or ‘electrical resynchronisation’.

A number of small studies have addressed biventricular pacing and the results have shown a reduction in pulmonary capillary wedge pressure, an improvement in cardiac index and improvement in stroke volume^{2,3}.

Larger studies include the PATH-CHF study which demonstrated clinical benefits on aortic pulse pressure and contractility⁴. Very similar results were shown in the MUSTIC study⁵, and there was an improvement in functional class and quality of life in the biventricular pacing group.

Ongoing trials are addressing the effect of biventricular pacing on survival, e.g. CARE-HF. In addition, trials are currently looking at devices that can act as both a biventricular pacing system and defibrillator.

In conclusion, biventricular pacing should be considered in symptomatic patients receiving optimal therapy, who have long PR intervals (> 200 ms), in patients with mitral regurgitation to restore asynchrony [*author query; should this be synchrony*], and in patients who have LBBB with QR prolongation (> 150 ms). It is clear that multi-site pacing is beneficial and should already be considered as part of the range of therapies to treat AHF.

What is the place of beta-blockers in the treatment of severe HF after BEST and COPERNICUS?

Dr Martin Denvir (Edinburgh) reminded the audience that the BEST trial assessed the efficacy of bucindolol in Class II–IV HF patients. In the bucindolol-treated group, there was a non-significant trend towards reduction in the primary endpoint of all-cause mortality and a significant reduction in the secondary endpoint of cardiovascular deaths. Importantly there was no benefit for patients with NYHA Class IV HF who had an EF less than 20%⁶.

In the COPERNICUS trial, patients were randomised to carvedilol or placebo⁷. The primary endpoint of all-cause mortality reached significance with a 35% reduction in mortality in the Carvedilol group. Regarding secondary endpoints there

was a significant reduction in the combined endpoint of mortality and hospitalisations, a significant reduction in mortality and hospitalisations for any cause and a significant reduction in mortality in the carvedilol group and hospitalisations due to HF. The patients in the study were a high-risk group and patients with decompensated HF also benefited from carvedilol.

In conclusion, Dr Denvir commented that there is as yet no real explanation for the BEST results. However, COPERNICUS showed that there is much to be gained from administering beta-blockers to patients with severe HF.

Is there evidence that ICDs reduce mortality in CHF?

Dr Derek Connelly (Liverpool) referred to the UK guidelines for the use of ICDs, which were published by NICE in September 2000 (www.nice.org.uk). The results of three widely publicised clinical trials were analysed by NICE. One of these trials, AVID, showed a highly significant survival rate at 3 years of 75% in the ICD group compared with 64% in the amiodarone group⁸. A meta-analysis of the three large studies, AVID, CASH and CIDS showed⁹: [*author query; please check reference*]

- no difference in NYHA Class
- prior MI – better survival with ICD
- non-ischaemic cardiomyopathy – ICD was no better than amiodarone.

A further study, the MUSTT study, showed a significant reduction in all-cause mortality of 60%¹⁰.

In conclusion, Dr Connelly outlined ongoing studies:

- SCD-HeFT – ICDs in NYHA Class II–III HF patients
- MADIT-2 – ICDs for post-MI
- DYNAMIT - patients 6 – 40 days post-MI with LVEF < 35%.

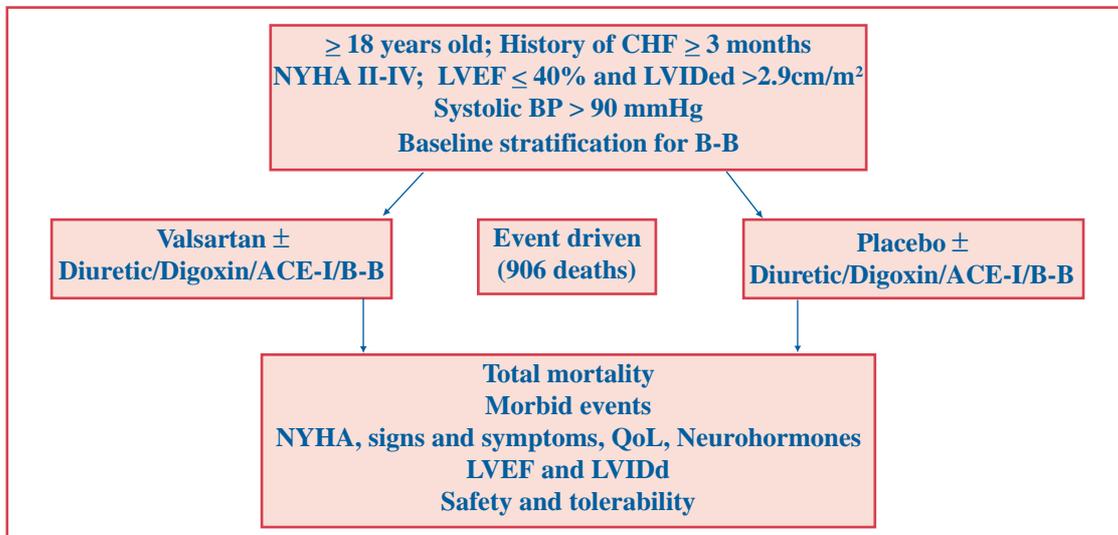
In addition there are two major studies addressing the combination of ICDs and biventricular pacing – MIRACLE and COMPANION.

What is the place of angiotensin II receptor blockers in the treatment of HF after ELITE-II and ValHeFT?

Professor John McMurray (Glasgow) summarised the ELITE II study, a head to head comparison of an angiotensin II receptor blocker (ARB), losartan, versus an ACE inhibitor, captopril, in older patients with HF. The results showed that there was no difference between the drugs in the primary endpoint of all-cause mortality¹¹.

ValHeFT addressed whether both ARBs and ACE inhibitors together are better than monotherapy (Figure 1). Importantly, 93% of patients were on an ACE inhibitor and patients were stratified at base-line for beta-blocker therapy (36%).

The results showed that for the primary endpoint of all-cause mortality, there was no significant difference between the valsartan and the placebo groups¹². However, both the co-primary endpoint of all-cause morbidity/mortality and the secondary endpoint of HF hospitalisations were significantly in favour of Valsartan.

Figure 1. ValHeFT – Trial Design.

Professor McMurray concluded that the results of ValHeFT indicate that it was a very positive trial. However, a number of subanalyses have been carried out which are controversial, e.g. for patients not on an ACE inhibitor (7%), the result for all-cause mortality/morbidity was in favour of valsartan, and for patients on a beta-blocker (36%), the result for all-cause mortality/morbidity was in favour of placebo. The role of ARBs in HF is therefore still unclear.

References

1. Dr McDonald please provide a reference.
2. Dr Elliot please provide reference.
3. Dr Elliot please provide reference.
4. Dr Elliot please provide reference.
5. Dr Elliot please provide reference.
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12. Professor McMurray please provide a reference/abstract (ValHeFT).

Becoming a member or friend of the BSH

Membership is open to anyone involved in the diagnosis, management or science of heart failure. Members receive a regular newsletter as well as the opportunity to become involved in an exciting programme of meetings and events.

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