COMMENTARY

Diagnosis and management of heart failure: implications of the recent European Society of Cardiology Guidelines for the older patient

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Introduction

The European Society of Cardiology has recently published new guidelines on the diagnosis and management of heart failure [1]. This updates previous guidelines and adds several important new recommendations in the light of significant recent advances in knowledge. A number of the sections in the guidelines are readily extended to the older patient with heart failure, but many of the points highlighted warrant specific comment as they have important implications for clinical practice.

More data on the epidemiology of heart failure has become available in the last few years. In Europe, the prevalence of symptomatic heart failure ranges from 0.4%–2% [2, 3]. In older patients the presence of left ventricular systolic dysfunction may be as high as 10% [4] when assessed echocardiographically with structural heart disease widespread [5]. Normal systolic function heart failure is encountered frequently in older patients and this may have implications for treatment [6].

Diagnosis

It is well established that although heart failure is common, it can be difficult to diagnose especially as fatigue and non-specific symptoms are commonplace [7]. However, given the high prevalence of disease in older patients, it should be sought out with a high index of clinical suspicion. When a patient is breathless the diagnosis is usually uncomplicated but there are often a number of potential additional reasons for breathlessness in the older patient [8]. Similarly, oedema is common [9], but often it is not the result of heart failure but as a result of venous insufficiency or hypoalbuminaemia. When considering treatment of heart failure it is therefore vital to consider the background pathophysiology and natural history of the disease. The new guidelines highlight this for the first time by drawing attention to the important distinction between cardiac dysfunction, heart failure and heart failure rendered asymptomatic [1].

Early treatment of patients with heart failure can reduce mortality, morbidity and the need for hospitalisation. Recent data suggests that the majority of patients admitted to hospital with decompensated heart failure are elderly [10]. One of the major clinical priorities is to identify patients with New York Heart Association (NYHA) class I and II heart failure early so that appropriate early treatment can be instigated to prevent progression to more severe heart failure. Accurate assessment is important and access to echocardiography is particularly important given the large number of possible additional diagnoses in this age group. Common additional reasons for breathlessness include valvular heart disease and pulmonary emboli. In this regard, the natriuretic peptides, in particular B-type natriuretic peptide (BNP), have an emerging role. The use of BNP as a screening tool for heart failure has now been included in the guidelines for the first time. An increasing number of studies suggest that BNP is a useful test for ruling out heart failure [11]. BNP levels are elevated in cardiac disease and plasma BNP levels correlate well with left ventricular systolic dysfunction [12]. This is particularly helpful in older patients where the symptoms and signs of heart failure may be particularly vague. BNP assays are now available as a rapid bedside test and levels can be obtained within 20 minutes. A normal BNP level virtually excludes heart failure and BNP has also been shown to be a strong predictor of outcome in older patients [13] as well as in those following myocardial infarction [14]. BNP may also be...
a useful screening test for structural heart disease in older patients [15]. The use of BNP assays may be helpful in rationalising the use of limited echocardiography resources when older people are assessed for suspected heart failure.

**Treatment**

The guidelines highlight the management outline for patients of all ages with heart failure. The aims of treatment include three aspects – the prevention of heart failure together with improvements in morbidity and mortality. The guidelines state that the therapeutic approach to older patients is principally identical to that in younger heart failure patients, but several additional points should be borne in mind. In the older patient treatment of morbidity may be as important as any mortality benefit especially for patients in NYHA category III and IV.

One of the major factors to consider when instigating treatment is the presence of additional medical conditions which can have an influence on treatment regimes [16]. Frequently encountered co-morbidities include COPD, Parkinson’s disease, Urinary Tract Disease and impaired cognition. These conditions have particular relevance with regard to the choice of therapy and relative contraindications. With regard to choice of and dose of diuretic, this may be influenced by prostatic disease in men and urinary tract infections in women. Patients with mild cognitive impairment may require additional assistance with drug dosing and problems with poor compliance are regularly encountered in older patients with heart failure.

A recent study showed that non-compliance was common in elderly heart failure patients and only 55% could correctly name what medication had been prescribed and only 50% could state the precise dose [17]. Overall 27% of patients were found to be non-compliant with their medication. It is well worth considering prescribing aids for patients and additional support strategies to ensure adequate uptake of specific therapies.

Many treatments of proven benefit are available but limiting polypharmacy and drug interactions is an important issue in the typical older patient with heart failure. It is well established that ACE inhibitors are the treatment of choice for systolic heart failure [18] once optimum fluid balance has been obtained. Difficulties with ACE inhibitors can arise when over-use of diuretics can significantly reduce pre-load with resultant orthostatic hypotension and post-prandial hypotension. However, overall tolerability is fairly good and dosages should be up-titrated to obtain the maximum benefit. When adjusting the doses, the principle of ‘start low-go slow’ is worth adhering to. Older patients often have heart failure with normal systolic function. Renovascular disease is also common in patients over 70, and in one study one third of patients had evidence of renovascular disease [19]. However, the large majority of trials have excluded patients with normal systolic function heart failure, and as such, the evidence base for treatment is relatively limited. However, most clinicians would tend to treat patients with normal systolic function heart failure similarly to those with systolic dysfunction. The prognosis is, however, better for those patients who do not have left ventricular systolic dysfunction as a cause for their heart failure.

Additional treatment with β blockers and spironolactone [20] also improve outcome in patients with heart failure. However, it should be stated that most of the studies involving β blockers excluded many of the typical types of older patients seen in practice in the UK. In a sub analysis of CIBIS-II, β blockers were tolerated in older patients [21] but tolerability data in the over 80s is limited. In the older patient, ACE inhibition is first line treatment, with β blockers the next option if there are no contraindications. Recent data would suggest that β blockers reduce mortality by an additional third when added to ACE inhibitors [22]. Nurse-led support [23] can help facilitate the up-titratiion of therapy with β blockers.

Other treatment options exist and a number of recent trials have evaluated the angiotensin antagonists [24, 25], which may be useful in addition to ACE inhibitors or β blockers or used when they are contraindicated. In the most recent Val-HEFT study, valsartan improved morbidity when added to ACE inhibition and β blockade [26], although concerns remain about the harmful effects of triple neuroendocrine blockade. In the on-going CHARM study [27], patients with systolic heart failure are being randomised to the AT1 receptor antagonist candesartan, in addition to ACE inhibition or instead of ACE inhibition, if poorly tolerated. In a third arm of the study, patients with normal systolic function heart failure are being randomised to candesartan or control. This latter study will be of particular relevance to older patients given the high prevalence of normal systolic function heart failure in the over 70s.

The overall role of digoxin is diminishing as newer and safer drugs are being used. It is probably best reserved for patients with severe heart failure, intolerant of, or in addition to other treatments, as it has been shown to reduce hospital admissions for patients with decompensated heart failure. However, it has no impact on mortality [28].

Many of the treatments are of benefit in terms of mortality and morbidity and often patients will be on many medications. As a result, unforeseen problems may arise with compliance and drug interactions. Most patients will need follow up and tailoring of dosages where possible and patients on β blockers will require specialist surveillance. Patients are best managed in a multidisciplinary environment and nurse specialists have a role in this regard. Six-minute walking distance may be a useful method of assessing response to treatment [29].

Most of this commentary has focused on drug treatment for heart failure but non-pharmacological treatment is also important. Weight reduction and dietary modification are beneficial and exercise is increasingly recognised to be of benefit for patients with mild/moderate heart
failure [30]. In the next few years more comparative data may become available for the various treatment options and the role of specific therapies for patients with normal systolic function heart failure may become clearer. Resources need to be made available for the optimum implementation of treatment regimes [31].

**Conflict of interest**

The authors have in the past received an educational grant from Servier Laboratories, UK.

**References**


Received 22 October 2002; accepted in revised form 6 May 2003