HealthManagement
Promoting Management and Leadership

Volume 2 - Issue 1, Spring 2008 - Cover Story: ESC Guidelines and Their Implementations

Heart Failure Guidelines: Problems of Heart Failure Therapy in Europe

Prof. Piotr Ponikowski, Head of Cardiology
Member of the Editorial Board
Cardiology
******@***4wsk.pl

Cardiac Department - Wojskowy
Szpital Kliniczny z Poliklinika

As heart failure (HF) emerges as one of the key problems of modern cardiology, numerous articles are being published that report novel and intriguing results. The next step is to select findings with irrefutable clinical impact, based on large, randomised, clinical trials and to further implement them into clinical practice. Therefore, in order to help physicians treating HF patients, it is crucial to develop guidelines that are evidence-based and provide compelling information on how to select the optimal strategy for HF management.

Cardiology societies in Europe and the US have already addressed such a need by issuing regular updates of the Guidelines for Heart Failure Diagnosis and Treatment. The most recent update of the European Society of Cardiology (ESC) guidelines was published in 2005, and the task force is now finalising the new, comprehensive version, which will be presented at this year's ESC meeting in Munich. In this article, only selected aspects of pharmacological therapy will be briefly discussed.

Guidelines on Pharmacological Treatments

Recent ESC guidelines clearly state that four classes of drugs that target neuroendocrine activation, i.e. angiotensin-converting enzyme inhibitors (ACEi), angiotensin-receptor blockers (ARBs), beta-blockers and aldosterone antagonists reduce mortality and morbidity in HF.

ACEI

In general, patients should receive a combination of ACEI and beta-blockers, whose doses need to be up-titrated to either those levels recommended by the guidelines, or to the maximal level tolerated. This approach results in a reduction in mortality and morbidity and improvement in clinical status. Intolerance is rare, provided that patients are carefully followed and comprises for ACEI – cough, symptomatic hypotension, and renal dys function, and for beta-blockers – hypotension, bradycardia and worsening of HF.

ARBS

ARBs are recommended in symptomatic patients intolerant to ACEI, and can be considered in combination with ACEI and beta-blockers in patients who remain symptomatic to reduce cardiovascular mortality, hospital admissions and improve symptoms. Use of such triple combinations may cause hypotension and renal dysfunction and requires careful monitoring of blood chemistry.

Aldosterone Antagonists

The guidelines recommend aldosterone antagonists in patients remaining in advanced HF (NYHA III-IV) in addition to ACEI, beta-blocker and diuretics, but whether they exert favourable effects in mild HF needs to be established.

Renal dysfunction, hyperkalaemia and antiandrogenic effects for spironolactone (mainly gynaecomastia) are the main causes of intolerance. Monitoring of renal function and electrolytes is recommended once they are introduced into therapy.

Diuretics

Diuretics are essential when fluid overload is present. However, there are no controlled, randomised trials investigat ing whether diuretics affect patient outcome. Results of recently published studies raised concerns that high doses of diuretics may be related to impaired outcome. Digoxin is also commonly used in HF patients with concomitant atrial fibrillation and may reduce HF hospitalisations and improve symptoms.

Statins

The guidelines did not make any recommendation as to whether statins should be used in HF – when they were published, no data from randomised clinical trials existed. Only recently, the results of the Controlled Rosuvastatin Multinational Trial in Heart Failure (CORONA) has demonstrated that rosuvastatin does not reduce the primary composite outcome of death from cardiovascular causes, nonfatal myocardial

infarction, or nonfatal stroke or the number of deaths from any cause in older patients with systolic HF, although it reduces the number of cardiovascular hospitalisations.

There was no concern regarding the safety of rosuvastatin in HF. Translating these slightly surprising results into clinical practice, it seems acceptable to continue with statin prescription for patients with ischaemic HF and left ventricular systolic dysfunction, until future studies shed more light.

Other Treatment Options

Other pharmacological treatments are recommended in specific situations, i.e., in those with HF and angina nitrates and amlodipine, which can safely relieve angina symptoms; for atrial fibrillation, amiodarone is the drug of choice and other antiarrhythmics should be avoided; as these patients are at the highest risk of thromboembolism, they should be considered for anticoagulation. Cardioverterdefibrillators and cardiac resynchronisation pacemakers are also recommended in selected HF patients.

Practising physicians ask whether adherence to the guidelines translates into better outcomes in real life. In the MAHLER sur vey (Medical Management of Chronic Heart Failure in Europe and its Related Costs) the impact of implementation of ESC treatment guidelines on disease outcome was evaluated. This survey, which comprised a population of 1410 HF patients, showed that proper adherence to guidelines is a strong predictor of less HFrelated and all cardiovascular hospitalisations in practice. A similar study from Germany concluded that adherence to ESC guidelines was a strong predictor of better survival and the benefit was irrespective of sex, age and left ventricle function.

Gap Between HF Guidelines and Clinical Practice

Despite the benefit of adherence to guidelines and European endorsement of them, all reported registries show clinical practice continues to lag behind recommendations. The Euro-Heart Failure Survey II was performed between October 2004 and August 2005 in 133 European centres to characterise patients hospitalised with acute HF.

On admission, of those already diagnosed with HF, 63% were receiving ACEi, 38% aldosterone antagonist, but only 46% betablockers and 10% ARB. On discharge, 72% were treated with ACEi, 10% with ARB, 59% with beta-blockers and 54% with aldosterone antagonist. Patients were followed for up to one year and the rate of use of lifesaving therapies in HF was fairly constant (at the end of year: 70%, 15%, 70%, 40% for AECi, ARB, beta-blockers and aldosterone-antagonist, respectively: data not published).

However, the study was performed in experienced hospital centres, and therefore may overestimate the real use of lifesaving therapies in non-specialist environments, in which most HF patients are treated. Particularly, it may be the case for combined therapy – though it is estimated, that less than half of HF patients are treated with an optimal combination of ACEi and beta-blockers. Also, as the current use of ACEi and ARB is already fairly high in Europe, the rate of beta-blocker use is still unacceptably low.

Arguments Against Guidelines Persist

Many physicians are still reluctant to start beta-blockers in HF patients. Even specialists are using too-low dosages of life-saving medications, as in everyday clinical practice for an elderly, vulnerable patient with many co-morbidities, uptitration of beta-blockers or ACEi may even be dangerous.

Other arguments against the application of high doses and combination of life-saving therapies may be that the guidelines never address all the individual aspects such as relative contra-indication, poor tolerance, coexisting co-morbidities, other medications used by a patient, etc., that may impact therapy. However, many studies refute this, as applying a thorough clinical check-up over long-term follow-up together with a rule “start low, go slow” usually minimises side-effects and risks of intolerance and successfully up-titrate a drug dosage.

Conclusion

The guidelines have been established to help physicians to treat HF patients in the best, evidence-based way, although there is no doubt that in everyday clinical practice all the rules and recommendations cannot be rigidly applied to every patient. The challenging task of the ESC and the Heart Failure Association is to identify all the potential hurdles and to bring more knowledge, expertise and experience to practicing physicians to further decrease the gap between evidence and practice.

Published on : Mon, 21 Apr 2008