tension. In this respect there is absolutely no reason to choose one AT_{1}-receptor blocker over others. We believe, however, that it is of utmost importance to show efficacy in terms of prevention of target organ damage and mortality. This must not necessarily parallel the blood pressure lowering efficacy and should therefore be assessed for each AT_{1}-receptor blocker in order to enable us as clinicians to establish the role of the respective agent in the treatment of hypertension.

We are very pleased that such studies are currently in progress for losartan, valsartan, and candesartan.

R. WILLENHEIMER
B. DAHLÖF
E. RYDBERG
L. ERHARDT
University Hospital Malmö, Malmö, Sweden

References


Article No. euhi.1999.1929, available online at http://www.idealibrary.com on 180016

Natriuretic peptides in clinical practice

In his editorial in this journal (Eur Heart J 1999; 20: 712–714) Allan Struthers in a clear and timely manner summarizes the present state of natriuretic peptides in clinical practice. He also comments on the effect of therapy on natriuretic peptides. I would like to respond to his statement that ‘this could also be useful in drug development since drug-induced falls in natriuretic peptide level indicates that the drug will have positive effect on mortality’.

Although single measurements of natriuretic peptides strongly and independently relate to long-term prognosis with regard to both hospitalization, symptomatic heart failure and death, it does not necessarily follow that reducing natriuretic peptide levels by drug treatment will improve prognosis. For example, we know that treatment with ACE inhibitors, AT_{1} receptor blockers or spironolactone in heart failure reduces natriuretic peptide levels and improves prognosis. On the other hand, beta blocker treatment seems to elevate natriuretic peptides while at the same time improving prognosis. Finally, we were surprised to find in the PRO-FILE Study that treatment with the vasodilator flosequinan nicely reduced N-terminal proANP while worsening the prognosis of the patient[1].

There may very well be a place for monitoring heart failure therapy with natriuretic peptides since they reflect the changing haemodynamic status of the patient[2]. This might be of use to diagnose the nature of symptomatic aggravation in patients with chronic heart failure. However, the nature of the relationship between change in natriuretic peptide levels and benefit of drug therapy in chronic heart failure will have to be defined for each drug in question.

C. HALL
Research Institute for Internal Medicine.
University of Oslo.
The National Hospital.
Oslo, Norway

References


Letters to the Editor 337

A reply

I am grateful to Christian Hall for pointing out that my original comment was an over-simplification of a more complex issue. Drug-induced falls in natriuretic peptides do reflect drug-induced falls in mortality with drugs where ventricular remodelling is a key process in the drug producing its benefit. Hence, falls in natriuretic peptides due to ACE inhibitors, AT_{1} blockers and spironolactone do reflect their effects on mortality. With beta-blockers, the situation is more complex because an initial decompensation of the disease is followed by favourable chronic effects on remodelling and other processes. Therefore, the initial increase in natriuretic peptides may then become a decrease when their long term favourable effects take over from their initial effects. Hence, it is the chronic effects of drugs on natriuretic peptide levels which will reflect prognosis rather than their initial effects.

As pointed out, however, the issue is complex and my original statement will not apply across the board to all drugs, irrespective of other prognostic indicators. With flosequinan, any fall in ANP is unfortunately accompanied by increased norepinephrine, and the latter change obviously is predominant in determining prognosis. This serves to emphasize that drug-induced changes in mortality can in general be predicted by both drug induced change in natriuretic peptides and in sympathetic activity. In most chronic situations, these two indicators will go in parallel but there are some unusual situations which are less predictable because these two indicators go in opposite directions.

A. D. STRUTHERS
Department of Clinical Pharmacology and Therapeutics.
Ninewells Hospital.
Dundee, U. K.

© 2000 The European Society of Cardiology