Comment

Assessment of heart failure – not always easy

Patients with dyspnoea often present a challenge to clinicians, even when causes other than heart failure have been excluded. The diagnosis of heart failure (1) has traditionally been made in the light of history of present illness, clinical findings of oedema, pulmonary congestion, distended neck veins and possibly heart murmur. These are supplemented by chest X-ray and ECG. In recent years, blood testing with analysis of probrain natriuretic peptide has become a valuable supplement. Thus we come a long way with relatively simple methods towards obtaining a definite heart failure diagnosis and to being able to distinguish between causes such as valvular heart disease, coronary disease and primary myocardial failure, for example cardiomyopathies or myocarditis. These three groups encompass the main causes of heart failure and should always be checked and considered in the diagnostic process. Targeted treatment with surgical intervention, catheter-based techniques, biventricular pacing and/or medical treatment can then be applied.

However, the case report above shows that it is not always that simple, and that being satisfied with the diagnosis of simply «heart failure» or even «myocardial failure» may deprive the patient of both a prognostic evaluation and perhaps the possibility of treatment. This applies to all age groups, but particularly to elderly patients.

The patient in question had thickening of both the mitral and the aortic valve and reduced left ventricular function. Echocardiography revealed functional valvular heart disease. The seriousness of valvular heart disease is difficult to determine when there is a low cardiac output, and solid experience of the method is required to exclude valvular heart disease as the cause of heart failure in these cases. When valvular heart disease alone cannot explain heart failure, as in this case, the next question is whether one can be satisfied with establishing that there is unspecified myocardial failure. In this case, echocardiography helped to exclude earlier myocardial infarction and at the same time aroused suspicion of a specific, primary myocardial disease.

Further assessment of heart failure may consist of performing biopsies, MRI with a gadolinium contrast medium or various isotope techniques. Taking biopsies from the myocardium is a process that should only be performed in specialist departments at regional hospitals. The technique entails a definite risk of complications and must be treated as an acute procedure. The usefulness of the results obtained may be limited if the indication is not evaluated and interpreted in the specialist department (2). In some cases, however, a biopsy may be crucial (2), for example with giant cell myocarditis. In most cases, MRI does not provide a better function evaluation than echocardiography (1), nor is cardiac MRI diagnostics available at most small and medium-sized hospitals in Norway. The greatest strength of the examination lies in the use of gadolinium contrast medium to detect the disease in the myocardium, for example in order to distinguish between ischaemic damage, myocarditis and cardiomyopathies. Further assessment with isotope technology is more unusual, but in the present case the finding of restrictive cardiomyopathy by means of echocardiography indicated that the isotope technique could be useful.

Evaluation of heart failure requires a knowledge of the relative strengths and weaknesses (contraindications or complications) of the various diagnostic techniques that are available and that the lowest risk level should be chosen for the evaluation as a matter of routine.

Jan Erik Nordrehaug
jan.nordrehaug@helse-bergen.no
Department of Heart Disease
Haukeland University Hospital

Jan Erik Nordrehaug (born 1947) Specialist in heart disease, clinical physiology and internal medicine and senior consultant. Professor of Cardiology, Institute of Medicine, University of Bergen.
The author has completed the ICMJE form and reports no conflicts of interest.

References
1. ESC guidelines for the diagnosis and treatment of acute and chronic heart failure 2012 ESC Committee for Practice Guidelines. Eur J Heart Fail 2012; 14: 803–69.
2. Nordrehaug JE. Akutt myokarditt og død – er vi alltid i etterkant? Tidsskr Nor Lægeforen 2006; 126: 2114.

Received 24 October 2012 and approved 30 October 2012. Medical editor Merete Kile Holtermann.