

28th World Congress of Internal Medicine – Taipei

Symposium: 'Heart Failure: Current Opinions and Future Perspective'

Novel Prognostic Indicators Changes the Management of Heart Failure

Guest Speaker: Dr David Adlam (Oxford UK)

Abstract:

Chronic heart failure is a common condition with high mortality and morbidity and is a significant burden on health care resources (2% of UK health care costs). Diagnostic accuracy in heart failure is critical to enable patients to maximally benefit from available treatments known to improve symptoms and mortality. Most new cases of heart failure present in primary care but accurate diagnosis in this setting is difficult. The clinical features associated with left ventricular failure have poor sensitivity and specificity leading to high false positive and false negative clinical diagnoses. Echocardiography requires a high degree of technical expertise and availability to primary care physicians is often limited. Even where open access to echocardiographic services is available, referral for heart failure as an indication is much lower than the population prevalence of the disease. Patients may also have asymptomatic left ventricular systolic dysfunction (LVSD). Improved early diagnosis has the potential to reduce disease progression, improve symptom control and reduce hospital admissions in these patients.

B-type natriuretic peptide (BNP) is correlated with left ventricular systolic function and is an independent predictor of mortality. In primary care the practical application of BNP has been limited by the lack of a clear diagnostic cut-off. This is largely due to variations in the range of BNP with age, sex and other factors in the population. An alternative to using a single cut-off is to use the absolute value of BNP combined in a risk score. This has the added attraction of using the prognostic value of BNP throughout its measurable range. It also allows other prognostic factors to be included which further strengthen the predictive power of the overall score. The Nottingham (UK) BNP risk score can separate by prognosis patients from a population with a high prevalence of left ventricular systolic dysfunction (Figure 1).

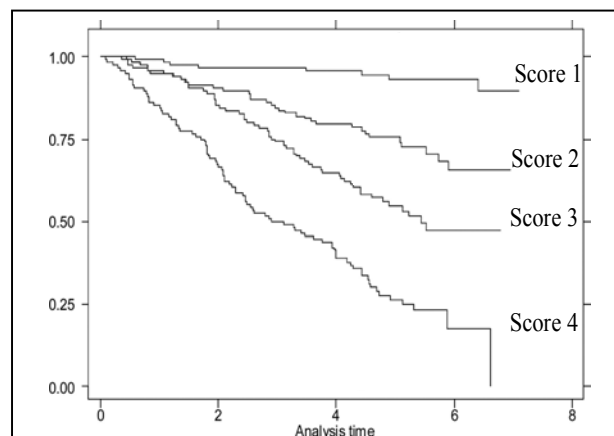


Figure 1: Kaplan-Meier survival estimates by groupings of simplified score: $0.5 \times \text{BNP} + 5 \times \text{age} + 50 \times (\text{CVA} + \text{diabetes} + \text{ECG} + \text{sex})$, Harrell's $c=0.752$. Score 1, 2, 3 and 4 represent patients from the lowest to highest quartile GP scores respectively.