

For The Use Of proBNP To Diagnose Or Rule Out Congestive Heart Failure

- “We conclude that N-terminal proBNP as assayed in the present study, correlates equally to BNP with clinical variables in patients with heart failure...Similar results...have been recently reported for the diagnosis of left ventricular dysfunction, as prognostic markers after myocardial infarction or advanced left ventricular dysfunction during pharmacological therapy.”

Masson S. et al. Comparative Measurement of N-Terminal Pro-Brain Natriuretic Peptide and Brain Natriuretic Peptide in Ambulatory Patients with Heart Failure. *Clin Chem Lab Med* (2002; 40 (8): 761-763)

- “NT-proBNP is a powerful marker for LV dimensions and systolic function in patients with heart failure and discriminates well between healthy subjects and subjects with impaired LV systolic function or increased LV dimensions...this is the first study to show powerful associations between NT-proBNP and LV volumes, myocardial mass and SWS in patients with heart failure...analysis for BNP or NT-proBNP...may have a place as an initial screening tool for patients suspected of heart failure...a fast, low-cost, rule-out screening device...would be of profound importance for the complicated and time-consuming initial diagnosis of this important disease.”

Groenning BA. et al. Detection of left ventricular enlargement and impaired systolic function with plasma N-terminal pro brain natriuretic peptide concentrations. *Am Heart J* (2002; 143:923-929)

- “A single measurement of NT-proBNP on admission will substantially improve the early risk stratification of patients with symptoms suggestive of an acute coronary syndrome and no ST-segment elevation...Patients with a diagnosis of AMI or other cardiac causes had the highest levels of NT-proBNP, whereas those with noncardiac or unknown causes had the lowest levels.”

Jernberg T. et al. N-Terminal Pro Brain Natriuretic Peptide on Admission for Early Risk Stratification of Patients With Chest Pain and No ST-Segment Elevation. *J Am Coll Cardiol* (2002;40:437-445)

- “...the use of natriuretic peptide measurement has been recommended for increasing the diagnostic performance through ruling out the presence of heart failure...in the case of a high natriuretic peptide level the patient is in need of further investigations into the cause...Natriuretic peptides are among the strongest known prognostic indicators in patients with established heart failure, after myocardial infarction, in hospitalized patients, in the elderly, and in populations from general practice...Loop diuretics, aldosterone antagonists and to some degree, also ACE and A-II antagonists are known to lower peptide levels...normal peptide levels do not necessarily mean a healthy heart if the patient is being treated with [the drugs listed above]...repeated measurements might be used as a tool for monitoring drug effects...it would seem logical to employ [natriuretic peptide measurement] as a tool for selection of high risk patients for specific treatment...NT-proBNP seems to have somewhat longer half-life and possibly better in vitro stability than BNP. However...they have been found to perform equally well as markers...peptide measurements will improve diagnostic performance over what is achieved on clinical grounds alone...they, therefore, represent a source of new information supplementing rather than replacing current methods...peptides add important information on top of echocardiographic measurement.”

Hall C. The value of natriuretic peptides for the management of heart failure: current state of play. *European J of Heart Failure* (2001;3:395-397)

- “Drug treatment of established heart failure is increasingly complex yet objective practical guidelines for management of individual patients are lacking...First, our study shows that circulating N-BNP concentrations can be reduced by intensification of drug therapy in heart failure...Second, and more importantly, drug treatment guided by plasma N-BNP concentrations reduced the total number of cardiovascular events compared with clinically guided treatment by the same range of therapies...N-BNP concentrations reflect severity of left-ventricular haemodynamic dysfunction.”

Troughton RW. et al. Treatment of heart failure guided by plasma aminoterminal brain natriuretic peptide (N-BNP) concentrations. *Lancet* (2000 Vol. 355: 1126-1130)

- “The high negative predictive value indicates that NT-proBNP might be particularly useful for the exclusion of impaired LV function, and a normal test result would allow us to virtually rule out significant LV dysfunction...NT-proBNP is a promising marker for the exclusion and detection of impaired LV function...It detects cases with LV dysfunction particularly well in the presence of concomitant LV hypertrophy or renal dysfunction.”

Luchner A. et al. N-Terminal Pro-Brain Natriuretic Peptide After Myocardial Infarction A Marker Of Cardio-Renal Function. *Hypertension* (2002;39:99-104)

- “Diagnosing CHF is not easy, especially in the early stages, where greater than 60% of all CHF patients fall...Often symptoms are so non-specific, it is difficult to differentiate between cardiac and non-cardiac causes...NT-proBNP can be used to identify subjects with left ventricular dysfunction, evaluate the success of treatments, assess vascular remodeling, and aid in the prognosis of individuals with increased risk for mortality.”

Leuther M. Why Do We Need Another Test For Congestive Heart Failure? *Lab Med* (2003;34:185-189)