

Can a blood test predict a heart attack? (N-terminal pro-Brian Natriuretic Peptide)

Exciting new research (conducted by Kirsten Bibbins-Domingo at the University of California) suggests that the simple diagnostic tool of an easy inexpensive blood test may help doctors determine the risk of cardiac events in patients with heart disease.¹ The research revealed that the higher the level of the peptide known as NT-proBNP (N-terminal pro-Brain natriuretic peptide) in a patient's plasma, the greater the chance that the patient has of dying or having a cardiovascular event such as a heart attack or heart failure.¹

What is BNP and proBNP?

B-type natriuretic peptide (BNP) is secreted by the left ventricle when the heart is unable to pump blood efficiently. BNP dilates blood vessels and promotes sodium and water loss, reducing fluid load on the heart and improving cardiac performance. Synthetic BNP, marketed as Natrecor® (nesiritide), is a treatment for heart failure. Thus, measuring BNP does not necessarily allow the physician to differentiate between elevated BNP levels due to drug treatment and elevated BNP due to ventricular dysfunction.²

By contrast, proBNP measures N-terminal pro-Brain natriuretic peptide, which is released when BNP is cleaved from its precursor, proBNP.² Elevated plasma NT-proBNP indicates the presence of heart failure and provides information about its severity: the higher the blood level of NT-proBNP, the more serious the condition. NT pro-BNP levels have been demonstrated to be a diagnostic aid in identifying left ventricular dysfunction, allowing physicians to differentiate between heart failure and lung disorders with similar symptoms.²

The benefits of proBNP testing over BNP:

- Increased sample stability
- Improved accuracy and precision
- Not affected by Natrecor®
- Larger analytical range.

*Please note due to differences in molecular clearance and half-life, a direct correlation cannot be established between the two tests.*³

Prevalence of heart failure is expected to continue to rise, due to the aging population and increase in acute coronary syndrome survival. Heart failure is often difficult and expensive to diagnose, since its symptoms are nonspecific and are sometimes confused with those of other conditions such as chronic obstructive pulmonary disease. The NT-proBNP test is an excellent diagnostic tool to evaluate heart failure patients, because it's easy and inexpensive. NT-proBNP also gauges the risk of future heart complications in people with cardiovascular disease. HHLA is pleased to offer proBNP testing.

¹ My Lab Online Monthly, Cardiac Corner, March 2007, us.support@mylabonline.com

² Dade Behring acquires non-exclusive rights to a key cardiac marker, NT-proBNP from Roche Diagnostics, Basel, 6 Feb 2003, <http://www.roche.com>

³ "Pro-BNP: Risk Stratification and Early detection", Roche Diagnostics, www.proBNP.com