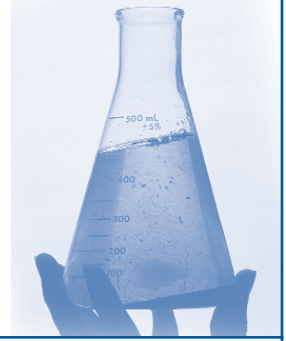


LAB NOTES



BRAIN-TYPE NATRIURETIC PEPTIDE (BNP)

BNP (first discovered in brain tissue) is a newly identified peptide hormone which, along with vasopressin, renin-angiotensin, aldosterone, and other natriuretic peptides (ANP and CNP), comprise the fundamental physiologic hormonal mechanisms through which the human cardiovascular/renal salt/water/volume relationships are controlled. The natriuretic peptides work to counteract the effects of vasopressin, renin-angiotension, and aldosterone. Clinically, elevated levels of these hormones are found in the blood under the following conditions: congestive heart failure, myocardial infarction, volume and salt overload, cardiomyopathy, and mitral/aortic stenoses.

BNP levels have been shown to be strongly predictive of survival in the clinical circumstance of congestive heart failure(CHF) after myocardial infarction. Current BNA test specificity is greater than 98% meaning that 2% or less of patients with CHF would test as "false" positive (high negative predictive value). In patients with an acute coronary syndrome, a single early elevated blood level BNP is associated with a higher risk of death, recurrent heart attack, development of heart failure, or progression of heart failure. The BNP levels change very early in congestive heart failure and ventricular dysfunction, providing an inexpensive, non-invasive screen to determine if more invasive, expensive modalities are needed. BNP has also been shown to have utility in distinguishing between the dyspnea of congestive heart failure and chronic obstructive pulmonary disease (COPD).

Recently, a medication called nesiritide (Natrecor), a form of BNP produced by recombinant DNA technology, has been approved by the FDA and is available for therapeutic use. This medication is approved for use in the treatment of acutely decompensated heart failure. Nesiritide has been shown to decrease elevated pulmonary capillary wedge pressure, one of the key elements of CHF.

This new area of laboratory testing, pharmaceutical and clinical research, holds great promise in enabling physicians to quickly and accurately identify and predict treatable cardiovascular abnormalities. BNP testing is available through HHLA and requires two purple top (EDTA) tubes. Results are available within 24 hours.



The Lab-in-a-Box®

- 1) "Cardiovascular Natriuretic Peptides" by Kenneth C. Cummings, M.D., May 2002, pg.1-3 www.prlnet.com/BNP.btm
- 2) "B-type Natriuretic Peptide" The Doctor's doctor, copyright 2003- last modified 9-16-2002, pg. 1-23, www.thedoctorsdoctor.com