



ASK DR. BOB . . .

with Dr. Bob Frank

PRO BNP

It is not unusual for an underwriter to ask whether or not I'm concerned about an applicant's complaint of being short of breath or having peripheral edema. These are common complaints noted in the APS, especially in the elderly population. My main concern is whether or not they could be having incipient congestive heart failure (CHF).

CHF is an ever-increasing problem in the U.S. It is increasing in frequency as the population ages, and is currently the number one reason for hospitalization in persons over the age of 65. Once CHF develops, the mortality may approach 50% at five years. Although once overt CHF develops it is easy to diagnosis, many cases are mild and even asymptomatic. In these borderline cases, the symptoms of CHF are non-specific and diagnosis may be difficult. This presents a problem to the underwriter when he is looking at an elderly person who is at increased risk of CHF. The population at increased risk for CHF is very large, and includes all individuals with hypertension, coronary artery disease, and diabetes.

For these reasons, it would be extremely valuable to have a simple blood test to assist in the diagnosis of CHF. Such a test is available with the B type natriuretic peptide (BNP). The natriuretic peptides are small proteins produced in the heart and vascular system and act as counter regulatory hormones involved in salt and water homeostasis and cardiovascular remodeling. There are several types, but the BNP type produced in the cardiac ventricles is the most important. These

hormones are secreted in response to stress and strain on the heart, either from pressure or volume overload or even ischemia.

Studies over the last 10 years have shown that individuals in congestive heart failure have elevated levels of BNP. This test is now being routinely performed in the emergency room when the ER physician suspects CHF, and physicians are even ordering this in their offices in people who are at high risk and there is suspicion of CHF.

Recently, numerous studies have looked at the predictive value of BNP in asymptomatic persons who are at high risk. It has been found that individuals with the highest values have significantly increased risk in the future for various cardiovascular events, including not only CHF but also myocardial infarction, atrial fibrillation, stroke, and death.

The conclusion from these studies is that a single determination of BNP provides prognostic information in unselected populations, and that BNP levels may be increased before the onset of clinically apparent cardiovascular disease. A 2004 editorial in the *New England Journal of Medicine* felt BNP does reflect subclinical hemodynamic stress and listed it as a promising biochemical marker of future cardiovascular disease.

This blood test is offered by laboratories, both clinical and within the insurance industry. Union Central now has the ability to order this test on our blood chemistry profile. In cases such as the one cited at the beginning of this article, a BNP level would provide a significant amount of valuable information regarding whether or not this person could be in incipient CHF. The Underwriting Department will be trying to understand how to best utilize the BNP in a cost effective manner, but I feel strongly that as time elapses, the answers will be clearer and its use may increase. I would be happy to answer any questions you have regarding BNP.