

High BNP Predicts Risk in General Population

BY MITCHEL L. ZOLER

FROM THE ANNUAL CONGRESS OF THE EUROPEAN SOCIETY OF CARDIOLOGY

STOCKHOLM – High plasma levels of B-type natriuretic peptide linked with a significantly increased risk for heart failure, myocardial infarction, and death during 9 years of follow-up in a group of nearly 2,000 adults from the general U.S. population.

Plasma levels of B-type natriuretic peptide (BNP) “had predictive utility for death, heart failure, and MI, even when adjusted for risk factors and structural abnormalities” of the heart in the general population, Dr. Paul M. McKie said at the congress.

VITALS

Major Finding: People in the highest tertile for plasma level of brain natriuretic peptide had a twofold increased risk for death, heart failure, and myocardial infarction during an average 9 years of follow-up.

Data Source: A randomly selected sample of 1,991 people from Olmsted County, Minn., without heart failure or elevated plasma creatinine at baseline.

Disclosures: Dr. McKie said that he had no disclosures.

“We’re actively working on trying to narrow down the at-risk population” who are possible candidates for routine BNP screening, said Dr. McKie, a cardiologist at the Mayo Clinic in Rochester, Minn. “We’re planning a proof-of-concept intervention trial to see if we can intervene with aggressive risk factor reduction and improve outcomes in people with high BNP levels.” People who may get the most benefit from BNP screening and intervention are those with some level of underlying cardiac risk but no current heart failure, he added.

Results from another analysis recently reported by Dr. McKie and his associates at Mayo showed that relatively high BNP levels could not predict the long-term risk of death or cardiovascular events in people from the general adult population without symptomatic heart failure, elevated plasma creatinine, clinical cardiovascular risk factors (such as

hypertension, diabetes, peripheral vascular disease, or MI), or cardiac abnormalities identified by echocardiography (such as left atrial enlargement, wall-motion abnormalities, and valvular dysfunction) (J. Am. Coll. Cardiol. 2010;55:2140-7).

That finding, coupled with the new report, suggests that high BNP is prognostic in the people without heart

failure or elevated creatinine but with one or more risk factors or a cardiac

People who may get the most benefit from BNP screening and intervention are those with some level of underlying cardiac risk but no current heart failure.

structural abnormality, which was found in a majority of the general population

studied. Among 2,042 unselected people aged 45 years or older residing in Olmsted County, Minn., and participating in the Rochester Epidemiology Project, 1,288 (63%) had one or more clinical risk factors or an echocardiographic abnormality.

The new analysis began with the 2,042 Olmsted County residents and excluded 45 who had symptomatic heart

INDICATIONS AND USAGE

Effient is indicated to reduce the rate of thrombotic cardiovascular (CV) events (including stent thrombosis) in patients with acute coronary syndrome (ACS) who are to be managed with percutaneous coronary intervention (PCI) as follows: [1] patients with unstable angina (UA) or non-ST-elevation myocardial infarction (NSTEMI); [2] patients with ST-elevation myocardial infarction (STEMI) when managed with primary or delayed PCI.



There's more for you at ecardiologynews.com:

Daily medical news, videos, and our blog and podcast . . . plus full-text archives with Medline-enhanced search capability



failure, and 6 with a plasma creatinine of more than 2.0 mg/dL.

The researchers measured plasma levels of BNP (specifically amino-terminal pro-BNP) with an immunoassay. These healthy, normal subjects from the community without symptomatic heart failure or elevated creatinine had BNP levels well below the levels found in patients with heart failure, Dr. McKie indicated.

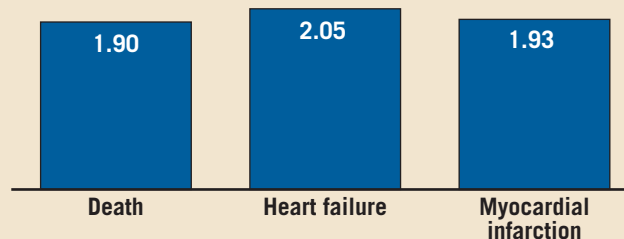
The analysis examined the risk for death, incident heart failure, or incident MI during an average 9 years of follow-up. People in the highest BNP tertile consistently had double the rates of all three outcomes during follow-up

than did people in the lowest tertile after adjustment for age, sex, body mass index, clinical risk factors, or echocardiographic abnormalities, differences that were statistically significant (see box).

The analysis also showed that the link between high BNP levels and adverse outcomes remained significant after adjustment for plasma levels of atrial natriuretic peptide. "BNP is a more robust prognostic marker than atrial natriuretic peptide in the general population without heart failure," Dr. McKie said. ■

Disclosures: Dr. McKie said that he had no relevant financial interests.

Hazard Ratios for Top Tertile of Plasma BNP, Compared With Lowest Tertile



Notes: Based on 9-year follow-up data from 1,991 people. All hazard ratios were statistically significant.
Source: Dr. McKie

ELSEVIER GLOBAL MEDICAL NEWS

Effient® plus aspirin (ASA) provided

STRONGER PROTECTION

vs Plavix® (clopidogrel bisulfate) plus ASA against thrombotic cardiovascular (CV) events (including stent thrombosis)

- In the overall UA/NSTEMI population, event rates* for Effient plus ASA and Plavix plus ASA were 9.3% and 11.2%, respectively (1.9% ARR†; $P=0.002$). In the overall STEMI population, event rates for Effient plus ASA and Plavix plus ASA were 9.8% and 12.2%, respectively (2.4% ARR; $P=0.019$)^{1,2}
- In the overall study, the benefit in each population was primarily driven by a significant reduction in nonfatal myocardial infarctions (MIs), with no significant differences in CV death or nonfatal stroke¹
 - Approximately 40% of MIs occurred periprocedurally and were detected solely by changes in CK-MB
- 52% RRR‡ in stent thrombosis in the all-ACS population with Effient plus ASA vs Plavix plus ASA (1.1% vs 2.2%; 1.1% ARR; $P<0.0001$)³
- In TRITON-TIMI 38, the loading dose of Plavix was delayed relative to the placebo-controlled trials that supported its approval for ACS

For more information, please visit EffientHCP.com or Effientconferences.com.

SELECTED SAFETY, INCLUDING SIGNIFICANT BLEEDING RISK

Effient can cause significant, sometimes fatal, bleeding. In TRITON-TIMI 38, overall rates of non-CABG TIMI major or minor bleeding were significantly higher with Effient plus ASA (4.5%) compared with Plavix plus ASA (3.4%). In patients who underwent CABG ($n=437$), the rates of CABG-related TIMI major or minor bleeding were 14.1% with Effient plus ASA and 4.5% with Plavix plus ASA.

IMPORTANT SAFETY INFORMATION

WARNING: BLEEDING RISK

Effient® (prasugrel) can cause significant, sometimes fatal, bleeding. Do not use Effient in patients with active pathological bleeding or a history of transient ischemic attack or stroke. In patients ≥ 75 years of age, Effient is generally not recommended, because of the increased risk of fatal and intracranial bleeding and uncertain benefit, except in high-risk situations (patients with diabetes or a history of prior MI) where its effect appears to be greater and its use may be considered. Do not start Effient in patients likely to undergo urgent coronary artery bypass graft surgery (CABG). When possible, discontinue Effient at least 7 days prior to any surgery. Additional risk factors for bleeding include: body weight < 60 kg, propensity to bleed, concomitant use of medications that increase the risk of bleeding (eg, warfarin, heparin, fibrinolytic therapy, chronic use of nonsteroidal anti-inflammatory drugs [NSAIDs]). Suspect bleeding in any patient who is hypotensive and has recently undergone coronary angiography, percutaneous coronary intervention (PCI), CABG, or other surgical procedures in the setting of Effient. If possible, manage bleeding without discontinuing Effient. Discontinuing Effient, particularly in the first few weeks after acute coronary syndrome, increases the risk of subsequent cardiovascular events.

- Effient is contraindicated in patients with active pathological bleeding, such as from a peptic ulcer or intracranial hemorrhage (ICH), or a history of transient ischemic attack (TIA) or stroke
- Patients who experience a stroke or TIA while on Effient generally should have therapy discontinued. Effient should also be discontinued for active bleeding and elective surgery
- Premature discontinuation of Effient increases risk of stent thrombosis, myocardial infarction (MI), and death
- Thrombotic thrombocytopenic purpura (TTP), a rare but serious condition that can be fatal, has been reported with the use of other thienopyridines, sometimes after a brief exposure (< 2 weeks), and requires urgent treatment, including plasmapheresis

Please see Brief Summary of Prescribing Information on adjacent pages.

*As measured by reduction in the primary composite endpoint of CV death, nonfatal MI, or nonfatal stroke.

†Absolute risk reduction.

‡Relative risk reduction.

 **Effient**
(prasugrel) tablets