新たな血液検査は救急治療室での心不全を見極める（LBCT, Abstract＃3324）

BACH多国籍トライアル：MR-proADMはBNPまたはNTproBNPよりも良い予後指標である

BACH Multinational Trial: MR-proADM better prognostic tool than BNP or NTproBNP

新たな血液検査は、現在救急治療室で使用されている検査よりも、最も重度の心不全患者を見極めたり90日死亡率を予測するのに優れている、と2008年American Heart Association学会で発表された。うっ血性心不全の評価におけるバイオマーカー（Biomarkers in the Assessment of Congestive Heart Failure: the BACH）多国籍トライアルの結果がLate-Breaking Clinical Trialとして発表された。BACHの研究者らは世界中の15の研究医療機関に呼吸困難で救急受診した患者1,641人（うち568人は急性心不全）を追跡調査した。90日後の時点でMR-proADM検査の予後予測能は73.1%において正確であり、Bナトリウム利尿ペプチド（BNP）検査（60.8%、p<0.001）およびBNPに関連した生物学的フラグメントであるNTproBNP検査（63.6%、p<0.001）よりも優れていた。これらの結果は登録された患者1,641人全て（130人が死亡）および急性心不全で入院した患者477人（全てp<0.001）において同じ結果であった。MR-proADMを四分位で解析したところ、最も高値の患者群（MR-proADM計測値>2.07pmol/L）は最も低値の患者群と比較し、90日以内に死亡する確率が3倍高かった(p<0.001)。

Full Text

A new blood test identifies the sickest heart failure patients better than tests now used in emergency departments, researchers reported at the American Heart Association's Scientific Sessions 2008. Results of the Mid-Regional pro-Adrenomedullin (proADM) versus BNP and NTproBNP as Prognosticator in Heart Failure Patients: the BACH Multinational trial were presented as a late-breaking clinical trial.

"The ability to predict the sickest patients is of paramount importance to emergency physicians and critical care cardiologists," said Stefan D. Anker, M.D., Ph.D., co-principal investigator of the study and professor of cardiology and cachexia research at Campus Virchow-Klinkum of the Charite Medical School, Berlin, Germany.

"These patients deserve the most aggressive interventions and warrant close surveillance. Biomarkers that can help the physician identify these patients can improve the patients' quality of life and help direct resources and hospital therapies where they are needed the most," he said.

In the trial, researchers followed 1,641 patients from 15 investigational centers around the globe, including eight from the United States, who experienced difficulty breathing upon arrival at the emergency department.

BACH is the first randomized comparison of two tests considered the gold standard for evaluating possible heart failure patients in the emergency setting versus the new test, approved for use in the European Union as of Oct. 1.

The researchers found that the MR-proADM test was prognostically accurate 73.1 percent of the time, making it superior to both the B-Natriuretic peptide (BNP) test (60.6 percent) and the NTproBNP test (63 percent), which measures a biological fragment associated with BNP.

MR-proADM indirectly measures a hormone called adrenomedullin, which affects blood vessel dilation and is implicated in many cardiac and infectious diseases. Because the hormone, ADM, is very unstable, it was necessary to develop an indirect test for it, Anker said.

Previous retrospective studies by the same research group suggested that the MR-proADM test is useful in assessing disease severity and predicting prognosis in patients with heart failure. The BACH study validated these results and found the MR-proADM to be superior to anything previously available at correctly identifying the sickest heart failure patients, Anker said.

"Better prognostic markers help patients in multiple ways," he said. "First, they identify those patients who should 'move to the front of the line' with respect to immediate therapeutic interventions. In the emergency setting, untreated acute heart failure worsens rapidly and can lead to respiratory compromise, intubation with mechanical ventilation and even death. Second, these markers can help determine which patient might need longer courses of in-patient therapy to stabilize. Finally, the astute clinician will follow patients with poor prognostic markers more closely after discharge to prevent relapse and readmission. All in all, a superior risk stratification is a safer risk stratification and leads to better patient management."

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