

Role of B-type natriuretic peptide (BNP) and NT-proBNP in clinical routine (ht57182)

M Weber and C Hamm

Web only refs

1. Sudoh T, Kangawa K, Minamino N, Matsuo H. A new natriuretic peptide in porcine brain. *Nature*. 1988;332:78-81.
2. Saito Y, Nakao K, Itoh H, Yamada T, Mukoyama M, Arai H, Hosoda K, Shirakami G, Suga S, Minamino N, et al. Brain natriuretic peptide is a novel cardiac hormone. *Biochem Biophys Res Commun*. 1989;158:360-8.
3. Mair J, Hammerer-Lercher A, Puschendorf B. The impact of cardiac natriuretic peptide determination on the diagnosis and management of heart failure. *Clin Chem Lab Med*. 2001;39:571-88.
4. Cowie MR, Jourdain P, Maisel A, Dahlstrom U, Follath F, Isnard R, Luchner A, McDonagh T, Mair J, Nieminen M, Francis G. Clinical applications of B-type natriuretic peptide (BNP) testing. *Eur Heart J*. 2003;24:1710-8.
5. Rodeheffer RJ. Measuring plasma B-type natriuretic peptide in heart failure: good to go in 2004? *J Am Coll Cardiol*. 2004;44:740-9.
6. Loke I, Squire IB, Davies JE, Ng LL. Reference ranges for natriuretic peptides for diagnostic use are dependent on age, gender and heart rate. *Eur J Heart Fail*. 2003;5:599-606.
7. Raymond I, Groenning BA, Hildebrandt PR, Nilsson JC, Baumann M, Trawinski J, Pedersen F. The influence of age, sex and other variables on the plasma level of N-terminal pro brain natriuretic peptide in a large sample of the general population. *Heart*. 2003;89:745-51.
8. Knudsen CW, Riis JS, Finsen AV, Eikvar L, Muller C, Westheim A, Omland T. Diagnostic value of a rapid test for B-type natriuretic peptide in patients presenting with acute dyspnoea: effect of age and gender. *Eur J Heart Fail*. 2004;6:55-62.
9. McCullough PA, Sandberg KR. B-type natriuretic peptide and renal disease. *Heart Fail Rev*. 2003;8:355-8.
10. McCullough PA, Nowak RM, McCord J, Hollander JE, Herrmann HC, Steg PG, Duc P, Westheim A, Omland T, Knudsen CW, Storrow AB, Abraham WT, Lamba S, Wu AH, Perez A, Clopton P, Krishnaswamy P, Kazanegra R, Maisel AS. B-type natriuretic peptide and clinical judgment in emergency diagnosis of heart failure: analysis from Breathing Not Properly (BNP) Multinational Study. *Circulation*. 2002;106:416-22.
11. Januzzi JL, van Kimmenade R, Lainchbury J, Bayes-Genis A, Ordonez-Llanos J, Santalo-Bel M, Pinto YM, Richards M. NT-proBNP testing for diagnosis and short-term prognosis in acute destabilized heart failure: an international pooled analysis of 1256 patients The International Collaborative of NT-proBNP Study. *Eur Heart J*. 2005.
12. Wieczorek SJ, Wu AH, Christenson R, Krishnaswamy P, Gottlieb S, Rosano T, Hager D, Gardetto N, Chiu A, Bailly KR, Maisel A. A rapid B-type natriuretic peptide assay accurately diagnoses left ventricular dysfunction and heart failure: a multicenter evaluation. *Am Heart J*. 2002;144:834-9.
13. Bay M, Kirk V, Parner J, Hassager C, Nielsen H, Krogsgaard K, Trawinski J, Boesgaard S, Aldershvile J. NT-proBNP: a new diagnostic screening tool to differentiate between patients with normal and reduced left ventricular systolic function. *Heart*. 2003;89:150-4.
14. Doust JA, Pietrzak E, Dobson A, Glasziou P. How well does B-type natriuretic peptide predict death and cardiac events in patients with heart failure: systematic review. *Bmj*. 2005;330:625.
15. Berger R, Huelsman M, Strecker K, Bojic A, Moser P, Stanek B, Pacher R. B-type natriuretic peptide predicts sudden death in patients with chronic heart failure. *Circulation*. 2002;105:2392-7.

16. Pfister R, Scholz M, Wielckens K, Erdmann E, Schneider CA. Use of NT-proBNP in routine testing and comparison to BNP. *Eur J Heart Fail.* 2004;6:289-93.
17. Latini R, Masson S, Anand I, Judd D, Maggioni AP, Chiang YT, Bevilacqua M, Salio M, Cardano P, Dunselman PH, Holwerda NJ, Tognoni G, Cohn JN. Effects of valsartan on circulating brain natriuretic peptide and norepinephrine in symptomatic chronic heart failure: the Valsartan Heart Failure Trial (Val-HeFT). *Circulation.* 2002;106:2454-8.
18. Frantz RP, Olson LJ, Grill D, Moualla SK, Nelson SM, Nobrega TP, Hanna RD, Backes RJ, Mookadam F, Heublein D, Bailey KR, Burnett JC. Carvedilol therapy is associated with a sustained decline in brain natriuretic peptide levels in patients with congestive heart failure. *Am Heart J.* 2005;149:541-7.
19. Kazanegra R, Cheng V, Garcia A, Krishnaswamy P, Gardetto N, Clopton P, Maisel A. A rapid test for B-type natriuretic peptide correlates with falling wedge pressures in patients treated for decompensated heart failure: a pilot study. *J Card Fail.* 2001;7:21-9.
20. Logeart D, Thabut G, Jourdain P, Chavelas C, Beyne P, Beauvais F, Bouvier E, Solal AC. Pre-discharge B-type natriuretic peptide assay for identifying patients at high risk of re-admission after decompensated heart failure. *J Am Coll Cardiol.* 2004;43:635-41.
21. Goetze JP, Gore A, Moller CH, Steinbruchel DA, Rehfeld JF, Nielsen LB. Acute myocardial hypoxia increases BNP gene expression. *Faseb J.* 2004;18:1928-30.
22. Tateishi J, Masutani M, Ohyanagi M, Iwasaki T. Transient increase in plasma brain (B-type) natriuretic peptide after percutaneous transluminal coronary angioplasty. *Clin Cardiol.* 2000;23:776-80.
23. de Lemos JA, Morrow DA, Bentley JH, Omland T, Sabatine MS, McCabe CH, Hall C, Cannon CP, Braunwald E. The prognostic value of B-type natriuretic peptide in patients with acute coronary syndromes. *N Engl J Med.* 2001;345:1014-21.
24. Morrow DA, de Lemos JA, Sabatine MS, Murphy SA, Demopoulos LA, DiBattiste PM, McCabe CH, Gibson CM, Cannon CP, Braunwald E. Evaluation of B-type natriuretic peptide for risk assessment in unstable angina/non-ST-elevation myocardial infarction: B-type natriuretic peptide and prognosis in TACTICS-TIMI 18. *J Am Coll Cardiol.* 2003;41:1264-72.
25. James SK, Lindahl B, Siegbahn A, Stridsberg M, Venge P, Armstrong P, Barnathan ES, Califf R, Topol EJ, Simoons ML, Wallentin L. N-terminal pro-brain natriuretic peptide and other risk markers for the separate prediction of mortality and subsequent myocardial infarction in patients with unstable coronary artery disease: a Global Utilization of Strategies To Open occluded arteries (GUSTO)-IV substudy. *Circulation.* 2003;108:275-81.
26. Lindahl B, Lindback J, Jernberg T, Johnston N, Stridsberg M, Venge P, Wallentin L. Serial analyses of N-terminal pro-B-type natriuretic peptide in patients with non-ST-segment elevation acute coronary syndromes: a Fragmin and fast Revascularisation during In Stability in Coronary artery disease (FRISC)-II substudy. *J Am Coll Cardiol.* 2005;45:533-41.
27. Sabatine MS, Morrow DA, de Lemos JA, Omland T, Desai MY, Tanasijevic M, Hall C, McCabe CH, Braunwald E. Acute changes in circulating natriuretic peptide levels in relation to myocardial ischemia. *J Am Coll Cardiol.* 2004;44:1988-95.
28. Omland T, Richards AM, Wergeland R, Vik-Mo H. B-type natriuretic peptide and long-term survival in patients with stable coronary artery disease. *Am J Cardiol.* 2005;95:24-8.
29. Schnabel R, Rupprecht HJ, Lackner KJ, Lubos E, Bickel C, Meyer J, Munzel T, Cambien F, Tiret L, Blankenberg S. Analysis of N-terminal-pro-brain natriuretic peptide and C-reactive protein for risk stratification in stable and unstable coronary artery disease: results from the AtheroGene study. *Eur Heart J.* 2005;26:241-9.

30. Weber M, Arnold R, Rau M, Brandt R, Berkovitsch A, Mitrovic V, Hamm C. Relation of N-terminal pro-B-type natriuretic peptide to severity of valvular aortic stenosis. *Am J Cardiol.* 2004;94:740-5.
31. Lim P, Monin JL, Monchi M, Garot J, Pasquet A, Hittinger L, Vanoverschelde JL, Carayon A, Gueret P. Predictors of outcome in patients with severe aortic stenosis and normal left ventricular function: role of B-type natriuretic peptide. *Eur Heart J.* 2004;25:2048-53.
32. Eimer MJ, Ekery DL, Rigolin VH, Bonow RO, Carnethon MR, Cotts WG. Elevated B-type natriuretic peptide in asymptomatic men with chronic aortic regurgitation and preserved left ventricular systolic function. *Am J Cardiol.* 2004;94:676-8.
33. Gerber IL, Stewart RA, French JK, Legget ME, Greaves SC, West TM, Kerr AJ, Richards AM, White HD. Associations between plasma natriuretic peptide levels, symptoms, and left ventricular function in patients with chronic aortic regurgitation. *Am J Cardiol.* 2003;92:755-8.
34. Sutton TM, Stewart RA, Gerber IL, West TM, Richards AM, Yandle TG, Kerr AJ. Plasma natriuretic peptide levels increase with symptoms and severity of mitral regurgitation. *J Am Coll Cardiol.* 2003;41:2280-7.
35. Wozakowska-Kaplon B. Effect of sinus rhythm restoration on plasma brain natriuretic peptide in patients with atrial fibrillation. *Am J Cardiol.* 2004;93:1555-8.
36. Beck-da-Silva L, de Bold A, Fraser M, Williams K, Haddad H. Brain natriuretic peptide predicts successful cardioversion in patients with atrial fibrillation and maintenance of sinus rhythm. *Can J Cardiol.* 2004;20:1245-8.
37. Vinch CS, Rashkin J, Logsetty G, Tighe DA, Hill JC, Meyer TE, Rosenthal LS, Aurigemma GP. Brain natriuretic peptide levels fall rapidly after cardioversion of atrial fibrillation to sinus rhythm. *Cardiology.* 2004;102:188-93.
38. Braun MU, Rauwolf T, Zerm T, Schulze M, Schnabel A, Strasser RH. Long term biventricular resynchronisation therapy in advanced heart failure: effect on neurohormones. *Heart.* 2005;91:601-5.
39. Erol-Yilmaz A, Verberne HJ, Schrama TA, Hrudova J, De Winter RJ, Van Eck-Smit BL, De Bruin R, Bax JJ, Schalij MJ, Wilde AA, Tukkie R. Cardiac resynchronization induces favorable neurohumoral changes. *Pacing Clin Electrophysiol.* 2005;28:304-10.
40. Nieminen MS, Bohm M, Cowie MR, Drexler H, Filippatos GS, Jondeau G, Hasin Y, Lopez-Sendon J, Mebazaa A, Metra M, Rhodes A, Swedberg K, Priori SG, Garcia MA, Blanc JJ, Budaj A, Dean V, Deckers J, Burgos EF, Lekakis J, Lindahl B, Mazzotta G, Morais J, Oto A, Smiseth OA, Dickstein K, Albuquerque A, Conthe P, Crespo-Leiro M, Ferrari R, Follath F, Gavazzi A, Janssens U, Komajda M, Moreno R, Singer M, Singh S, Tendera M, Thygesen K. Executive summary of the guidelines on the diagnosis and treatment of acute heart failure: the Task Force on Acute Heart Failure of the European Society of Cardiology. *Eur Heart J.* 2005;26:384-416.
41. Bertrand ME, Simoons ML, Fox KA, Wallentin LC, Hamm CW, McFadden E, De Feyter PJ, Specchia G, Ruzyllo W. Management of acute coronary syndromes in patients presenting without persistent ST-segment elevation. *Eur Heart J.* 2002;23:1809-40.