10. Heeschen C, Hamm CW, Mitrovic V, Lantelme NH, White HD, for the Platelet Receptor Inhibition in Ischemic Syndrome Management (PRISM) Investigators. N-terminal pro-B-type natriuretic peptide levels for dynamic risk stratification of patients with acute coronary syndromes. *Circulation* 2004;**110**:3260–3212.
11. Kempf T, Bjorklund E, Olofsson S, Lindahl B, Allhoff T, Peter T, Tongers J, Wollert KC, Wallentin L. Growth-differentiation factor-15 improves risk stratification in ST-segment elevation myocardial infarction. *Eur Heart J* 2007;**28**:2858–2865.
12. Wollert KC, Kempf T, Peter T, Olofsson S, James S, Johnston N, Lindahl B, Horn-Wichmann R, Brabant G, Simoons ML, Armstrong PW, Califf RM, Drexler H, Wallentin L. Prognostic value of growth-differentiation factor-15 in patients with non-ST-elevation acute coronary syndrome. *Circulation* 2007;**115**:962–971.
13. Wollert KC, Kempf T, Lagerqvist B, Lindahl B, Olofsson S, Allhoff T, Peter T, Siegbahn A, Venge P, Drexler H, Wallentin L. Growth differentiation factor-15 for risk stratification and selection of an invasive treatment strategy in non-ST-elevation acute coronary syndrome. *Circulation* 2007:**116**:1540–1548.
14. Khan SQ, Ng K, Dhillon O, Kelly D, Quinn P, Squire IB, Davies JE, Ng LL. Growth differentiation factor-15 as a prognostic marker in patients with acute myocardial infarction. *Eur Heart J* 2009;**30**:1057–1065. First published on 23 January 2009. doi:10.1093/eurheartj/ehn600.
15. Marrow DA, de Lemos JA. Benchmarks for the assessment of novel cardiovascular biomarkers. *Circulation* 2007;**115**:949–952.

CARDIOVASCULAR FLASHLIGHT

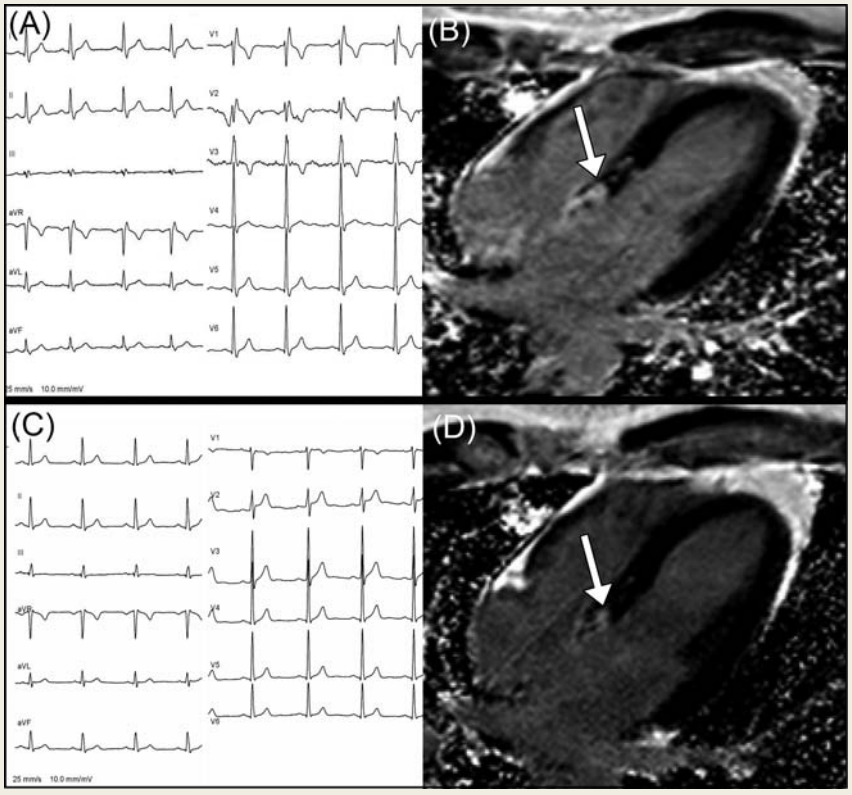
doi:10.1093/eurheartj/ehp018
Online publish-ahead-of-print 19 February 2009

Transient right bundle branch block in a young patient

Niclas Freund[1], Jens Bremerich[2], Peter T. Buser[1], and Michael J. Zellweger[1]*

[1]Department of Cardiology, University Hospital Basel, Basel, Switzerland and [2]Department of Radiology, University Hospital Basel, Petersgraben 4, CH-4031 Basel, Switzerland

* Corresponding author. Tel: +41 61 265 2525, Fax: +41 61 265 4598, Email: mzellweger@uhbs.ch



A 32-year-old man with a history of hypertension and no prior coronary heart disease was referred to our hospital with suspected acute coronary syndrome. He suffered from chest pain during his work. Except an upper respiratory tract infection, his personal history was unremarkable. The initial electrocardiogram (ECG) demonstrated ST-elevation in lead V2. The first Troponin T was negative but increased to 0.45 μg/L (normal <0.01 μg/L) during the next 6 h. The second ECG (*Panel A*) showed complete right bundle branch block (RBBB). Therefore, coronary angiography was performed, which excluded coronary artery disease and documented preserved left ventricular ejection function (LVEF). For further evaluation, the patient underwent cardiac magnetic resonance (CMR) imaging the next day, which revealed a mid-myocardial delayed enhancement in the basal septal, anteroseptal, and inferolateral walls (*Panel B*). In addition, there was a septal wall motion abnormality and a slightly reduced LVEF (45%). Thus, these findings were consistent with (peri-)myocarditis. Therapy with a non-steroidal antiphlogistic drug and ACE-inhibitor was started. Seven days after admission, the RBBB had resolved (*Panel C*) and concomitant follow-up CMR documented significant decrease of delayed enhancement in the septum (*Panel D*) and normalized LVEF. This case demonstrates the good correlation of dynamic ECG changes and transient myocardial involvement as here with myocarditis lesions in the region of the electrical conduction system in the septum.

Panel A. Initial ECG showing complete right bundle branch block.

Panel B. Cardiac magnetic resonance imaging demonstrating mid-myocardial delayed enhancement in the septal wall consistent with a pattern seen in myocarditis patients.

Panel C. ECG 7 days after admission with resolved right bundle branch block.

Panel D. Follow-up cardiac magnetic resonance with decreased delayed enhancement of the septal wall.