LETTERS TO THE EDITOR

doi:10.1093/eurheartj/ehm439
Online publish-ahead-of-print 5 October 2007

Guidelines for the diagnosis and treatment of non-ST segment elevation acute coronary syndromes

An issue, which is not addressed by the guidelines, is whether, in the absence of Sgarbossa’s criteria, the association of acute coronary syndrome (ACS) type chest pain and left bundle branch block (LBBB) falls within the province of non-ST segment elevation ACS (nSTE-ACS) or whether it falls within the province of acute myocardial infarction. Strictly speaking, it is only when Sgarbossa’s criteria are met that the association of ACS-type chest pain and LBBB should be categorized as ST segment elevation myocardial infarction (STEMI). Conversely, given the fact that, in the absence of Sgarbossa’s criteria there is no concordant ST segment deviation, the association of ACS-type chest pain and LBBB should, strictly speaking, be categorized as nSTE-ACS. However, in view of the poor sensitivity of Sgarbossa’s criteria for the diagnosis of myocardial infarction the current recommendation is that LBBB, irrespective of compliance with Sgarbossa’s criteria, should be sufficient justification for thrombolysis provided it is ‘new or presumably new’. What is not known is whether LBBB which is non-compliant with Sgarbossa’s criteria (i.e. non-ST segment elevation LBBB) is as prevalent in nSTE-ACS as it is in acute myocardial infarction, and whether, in the presence of ACS-type chest pain and non-ST segment elevation LBBB it is possible to distinguish between acute myocardial infarction and nSTE-ACS. These issues should be addressed urgently, so that clinicians confronted with the association of ACS-type chest pain and non-ST segment elevation LBBB should be able to make an informed decision whether to manage the patient along the lines recommended for acute myocardial infarction or along the lines specified for nSTE-ACS.

The absence of a policy statement is even more glaring in the instance of old left bundle branch block (old LBBB), given the fact that, in one study, the proportion of acute myocardial infract (AMI) patients presenting with old LBBB (30/1125) was virtually identical with the proportion of AMI patients presenting with new LBBB (34/1125). Conversely, given the fact that as many as 86% of nSTE-ACS patients have unstable angina (UA) rather than enzymatically proven AMI, allowance for the fact that some patients with old LBBB might fit into the UA category should be reflected in an enrollment policy for nSTE-ACS which explicitly includes bundle branch block (both LBBB and right bundle branch block) as opposed to one which does not.

References

Oscar M. Jolobe
Manchester Medical Society
Medical Division
1 The Lodge
842 Wilmslow Road
Didsbury
Manchester
Lancashire M20 2RN
UK
Tel: +44 161 274 6048
Email: oscarjolobe@yahoo.co.uk

Guidelines for the diagnosis and treatment of non-ST-segment elevation acute coronary syndromes: The Task Force for the Diagnosis and Treatment of Non-ST-Elevation Acute Coronary Syndromes of the European Society of Cardiology

‘Guidelines for the diagnosis and treatment of non-ST-segment elevation acute coronary syndromes: The Task Force for the Diagnosis and Treatment of Non-ST-Elevation Acute Coronary Syndromes of the European Society of Cardiology’ recently published in European Heart Journal 1 rightly dedicates space to the pitfalls that can be encountered when reading presentation ECGs. However, we wish to draw attention to what we think is an important omission. No reference is made in this context to acute aortic syndrome (AAS)—a condition in which inappropriate administration of aggressive anti-thrombotic therapy may have catastrophic consequences. 2 It is common knowledge that AAS can occasionally cause STEMI via coronary artery dissection.

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However, in recent years, accumulating evidence indicates that ischaemic alterations, often interpretable as non-STEMI, are rather common at presentation of AAS. In a large international registry, ischaemic alterations were observed in ~15% of all AAS patients\textsuperscript{\textsuperscript{2,5}} and in as many as 21% of those with Stanford type A.\textsuperscript{\textsuperscript{4}} Ischaemic ECGs can occur in both Stanford subtypes (and in intramural haematomas as well as classic aortic dissection).\textsuperscript{\textsuperscript{3,5}} Ischaemic presentation ECGs appear to be more common in complicated forms of AAS.\textsuperscript{\textsuperscript{3,5}} In Stanford type A disease, such ECGs have been associated with higher in-hospital mortality.\textsuperscript{\textsuperscript{4,5}} Remarkably, in both Stanford types, ischaemic ECGs seem more often to be characterized by non-STEMI features.\textsuperscript{\textsuperscript{2,5}} Of note, the difficulties in recognizing AAS in patients with chest pain may be amplified by the finding of raised troponin levels.\textsuperscript{\textsuperscript{3}} In AAS, ischaemic ECGs can stem from very different substrates, including interference by the aortic flap in the coronary flow (at the ostial level), left ventricular pressure/volume overload, pericardially mediated electrical abnormalities, pre-existing repolarization abnormalities, and global myocardial ischaemia either due to low cardiac output or due to shock.\textsuperscript{\textsuperscript{2,5}} Underlying coronary artery disease may in turn amplify the effects of any of these determinants. Taken together, these observations indicate that the issue of differential diagnosis between acute coronary and aortic syndromes cannot be confined to the physical examination phase. The consistency of the available evidence\textsuperscript{\textsuperscript{2–5}} highlights the importance that clinicians should be aware that presence of an ischaemic ECG pattern (whether non-STEMI or STEMI) does not in any way exclude the diagnosis of AAS.

### Funding

Funding to pay the Open Access publication charges for this article was provided by the Fanti Melloni Foundation, University of Bologna, Italy.

### References


### Letters to the Editor

**Claudio Rapezzi**

Institute of Cardiology
University of Bologna and S. Orsola-Malpighi Hospital
via Massarenti 40
40138 Bologna
Italy

Tel: +39 051349858
Fax: +39 051344859
Email: claudio.rapezzi@unibo.it

**Elena Biagini**

Institute of Cardiology
University of Bologna and S. Orsola-Malpighi Hospital
Bologna
Italy

**Angelo Branzi**

Institute of Cardiology
University of Bologna and S. Orsola-Malpighi Hospital
Bologna
Italy

**Guidelines for the diagnosis and treatment of non-ST-segment elevation acute coronary syndromes: The Task Force for the Diagnosis and Treatment of Non-ST-Segment Elevation Acute Coronary Syndromes of the European Society of Cardiology: reply**

The letter from Rapezzi et al. draws attention to a very important point, namely, conditions that may mimic the presentation of non-ST-elevation acute coronary syndromes and whose outcome could be worsened by the administration of anti-coagulant and anti-platelet agents. Aortic aneurysm or dissection is certainly among these conditions. The authors are right when they point out that both clinical presentation and ECG tracings may be confusing. In some instances, troponin release may add to the confusion, rendering a diagnosis difficult.

These points are addressed in section 4.3 of the guidelines, p. 1607, under the section ‘Differential diagnosis’, as well as in Table 4 on the same page. In a guidelines document, it is unfortunately impossible to address in detail every single situation that can mimic acute coronary syndromes. However, the reader’s attention is clearly drawn to the problems posed by aortic aneurysm or dissection. It is stated in the document that ‘NSTE-ACS may be a complication of aortic dissection when the dissection involves the coronary arteries. In a patient with undiagnosed aortic dissection, the current therapies for NSTE-ACS may exacerbate the patient’s condition and result in detrimental outcomes’.

This message is underlined once again in Table 4, on the same page, where it is indicated that aortic dissection, aortic aneurysm, and aortic coarctation can mimic non-ST-elevation acute coronary syndromes, implying that these patients may...