Reviewer's report

Title: What decides the suspicion of acute coronary syndrome in acute chest pain patients?

Version: 1 Date: 4 April 2013

Reviewer: Albert Jacob Six

Reviewer's report:

1. Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

1. The subject of decision making in chest pain patients is very important in daily practice. This study addresses the positive predictive value of patient history, ECG changes and single TNT assessment upon admission.

2. The endpoint is not well defined ("overall level of suspicion"). This study does not make use of an endpoint committee.

3. The index characteristics (History, ECG, TNT) were part of this endpoint. The study does not address the negative predictive value. Almost half the study population was discharged without follow up. What makes the investigators believe that they didn't miss any diagnosis of ACS in discharged patients? The feared complication of a missed diagnosis may ultimately result in sudden death.

4. Troponin measurements are indeed not sensitive when they are only performed upon admission. Typically, these are repeated after 6 hours in most hospitals. Not surprisingly, the positive predictive value of single TNT is low.

5. Age is an important predictor of adverse outcome, as has been documented in the TIMI, GRACE and HEART score studies. In addition, low age has a strong negative predictive value. The contribution of age to the making and ruling out of ACS is ignored in this study.

6. The contribution of classical risk factors for coronary artery disease (DM, smoking, hypertension, hypercholesterolemia and family history) has not been taken into account.

7. A very positive thing in this study is that the value patient history is (again) well documented.
8. We advise to add up various diagnostic elements of ACS instead of comparing them.