CLINICAL EFFECTS OF INTRODUCING HIGH SENSITIVE CARDIAC TROPOVIN T INTO CLINICAL PRACTICE: DATA FROM 48,594 PATIENTS IN THE SWEDHEART REGISTRY

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Background: The aims were to examine the effects of introducing high sensitive cardiac troponin T (hs-cTnT) into clinical practice and to define at what hs-cTnT level the risk starts to increase.

Methods: We included 48,594 chest pain patients at 45 SWEDEHEART centers. Patients were divided into: Group 1: hs-cTnT < 14 ng/L. Group 2: hs-cTnT 14-49 ng/L, i.e. a group in which most patients would have had a negative cardiac troponin T (cTnT) if the old cTnT-assay had been used. Group 3: hs-cTnT ≥ 50 ng/L.

Results: There were 12,281 (25%), 10,476 (22%) and 25,837 (53%) patients in group 1, 2 and 3 respectively. Group 2 were similar to group 3 regarding age, gender and risk factors, but had more often previous cardiac disease. From group 1 to 3, there were increasing proportions of patients with significant coronary stenoses and left ventricular systolic dysfunction. The proportion with myocardial infarction was 2.4 %, 18 % and 81 % in group 1, 2 and 3 respectively. When patients were divided into 20 groups according to hs-cTnT level, the adjusted one-year mortality started to increase at hs-cTnT ≥ 14 ng/L (figure).

Conclusion: The introduction of hs-cTnT has led to a large proportion of patients with minor cardiac troponin elevations (14-49 ng/L), a group in which most patients would have had a negative cTnT if the old cTnT-assay had been used. The majority with minor elevations do not have myocardial infarction but are still at high risk. The adjusted mortality starts to increase at the level of the 99th percentile in healthy controls.