A multicenter evaluation of the safety and effectiveness of a 0h/1h protocol in the assessment of emergency department chest pain patients

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Background

In emergency department (ED) chest pain patients, the European Society of Cardiology recommends the use of a 0h/1h high-sensitivity cardiac Troponin (hs-cTn) protocol. However, the recommendation is based on observational studies and the effects of the protocol when implemented in routine care is unknown. The aim of the present study is to determine the safety and effectiveness of a 0h/1h hs-cTnT protocol (Figure below) which also incorporates patient history and ECG, when implemented in routine care.

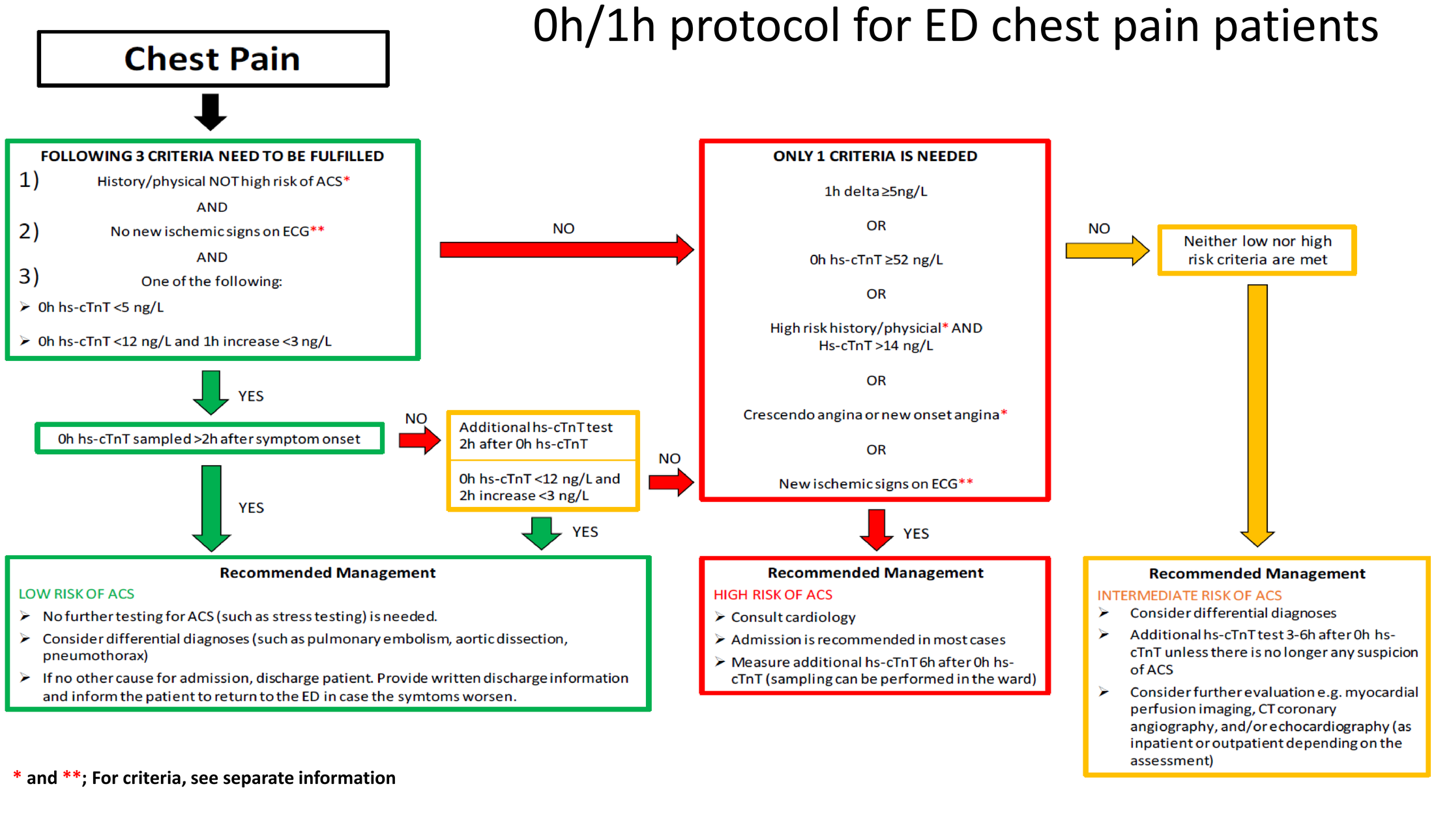
Methods

In this before-and-after implementation study (ClinicalTrials.gov Identifier: NCT03421873), all patients ≥18 years with a chief complaint of non-traumatic chest pain and possible acute coronary syndrome (ACS) will be included at the EDs of Lund, Helsingborg and Ystad. Malmö and Kristianstad will act as concurrent controls. Patients with STEMI, a non-Swedish citizenship or leaving against medical advice will be excluded. Patient outcomes will be compared in the 10-month periods before and after the implementation (starting February 1, 2018), and the primary outcomes are the 30-day rate of acute myocardial infarction/all-cause death and the ED length of stay in patients discharged from the ED. Secondary outcomes include the proportion of patients discharged from the ED and of non-ACS-patients admitted to the cardiac care unit.

Conclusion

If a 0h/1h protocol implemented in routine care can rapidly identify a large proportion of chest pain patients suitable for early discharge with no need for further cardiac testing, this may reduce ED and hospital crowding, objective testing, health care costs and will benefit both patients and the health care system.

0h/1h protocol for ED chest pain patients



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