

New method quickly determines if chest pain is acute coronary syndrome

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Researchers at Karolinska Institutet have tested a new method for quickly ruling out acute myocardial infarction or other serious acute coronary disease in emergency department patients complaining of chest pains. The method, which is presented in a new doctoral thesis, seems able to reduce the percentage of cardiac patients in Sweden who need to be kept in hospital under observation by 10 to 20 percent. A number of hospitals in Stockholm and Uppsala will start applying the method this winter.

Roughly 20 percent of all [patients](#) seeking emergency medical care at the nation's hospitals do so because of chest pains. It is difficult for doctors to promptly rule out myocardial infarction or other serious coronary problems, and even though only 8 to 10 percent of these individuals actually have a heart attack, almost half of them have to be kept in for observation. This means that many people with a perfectly benign cause of chest pain become an unnecessary burden on [hospital](#) resources.

In her doctoral thesis, Dr Dina Melki at Karolinska University Hospital's cardiology department has examined a new method of quickly ruling out a [myocardial infarction](#) or other serious coronary disease. The method involves combining the results of new sensitive assays for blood levels of troponin T (a substance released from the heart during a [heart attack](#)) with a risk-score system that takes into account the patient's medical history, age and ECG. Using this method, doctors have been able to confidently rule out serious acute [coronary disease](#) in 60 percent of the patients within their first two hours of arrival at hospital.

"The method seems to improve the way these patients are taken care of, as it brings fewer risks and saves hospital resources, as fewer patients have to be kept under observation," says Dr Melki. "So 10 to 20 percent of those kept in today could go home instead."

The four studies comprising her thesis are based on data from almost 48,000 patients. This winter, Stockholms and Uppsala's Accident and Emergency clinics will be embarking on a project to adopt the method in their daily clinical routines. The risk-score system is based on a point system developed by a Dutch research team.

More information: Assessment of patients with symptoms suggestive of acute coronary syndrome: the use of high sensitive cardiac troponin T and a risk score, Department of Medicine, Huddinge, Karolinska Institutet, November 2013, ISBN: 978-91-7549-326-8.

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