Chest pain without ST elevation: a continuing challenge

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Of the many patients with chest pain who are referred to hospitals, only a minority has ST elevation on ECG. Of the other majority, diagnoses include non-ST-elevation myocardial infarction, unstable angina and non-cardiac disease. In this majority, making an accurate diagnosis and risk stratification are very important and several tools have been described and recommended to predict prognosis and select optimal treatment. The optimal treatment includes both medication and (timing of) revascularisation. Several risk scores can be used to identify high-risk patients, including the HEART score, using History, ECG, Age, Risk factors and Troponin [1]. In this issue of the Journal, the prognostic value of the GRACE and TIMI risk scores are confirmed in a registry with a 10-year follow-up [2]. After multivariate analyses, the GRACE risk score was still a predictor of long-term mortality. The researchers from Amsterdam and Alkmaar also found that neither dobutamine stress echocardiography nor myocardial perfusion scintigraphy were predictors of long-term mortality. In their discussion, the authors mainly focus on the lack of predictive value of the non-invasive imaging of coronary artery disease in the study population. They do not suggest to use either the TIMI or the GRACE risk score (or both), and they do not discuss the differences between the two models. The strength of

the reported study is the almost complete long-term follow-up. However, the study has several limitations, and the authors discuss some in their limitations section. Major limitations were the lack of data on (additional) revascularisation and other clinical events during follow-up and the very limited (and probably selected) patients who had myocardial perfusion scintigraphy. In fact, with these data no conclusion can be made about the prognostic value of scintigraphy in these patients. Another limitation, inherent to all studies with long-term follow-up, is the fact that time has changed and newer diagnostic tools are now available. Possibly, newer laboratory measurements, including high sensitive troponin and pro-B-type brain natriuretic peptide (BNP), can more accurately identify patients with increased risk [3]. Also newer imaging techniques are now more widely available, including CT [4] and MR [5].

Chest pain without ST elevation remains a challenge [6] and assessment of these patients is not the easiest part of cardiology. It is therefore not surprising that there is some evidence that dedicated cardiology emergency departments have benefits over general emergency departments [7]. The success of such cardiology emergency departments is the result of a focused, protocol-driven approach directed by cardiologists who are involved in the complete process from the general practitioner referring the patient with chest pain to the final diagnosis and treatment plan. Future registries will hopefully give continuing insights into the most optimal diagnostic approach. All patients presenting with chest pain to a hospital should nowadays have documented risk assessment. Researchers are encouraged to collect data from these patients, in both small and larger hospitals, and to present these data, particularly with long-term follow-up with several clinical endpoints, to this Journal.

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