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A description of the characteristics of patients with non-ST elevation acute coronary syndromes admitted to different settings in the 1990s

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Accepted 29 January 2008

KEYWORDS

Coronary care unit;
Acute cardiology ward;
General medical ward;
Non-ST elevation acute
coronary syndromes

Summary

Background: Little is known about the characteristics of patients who were admitted to the coronary care unit (CCU) in the 1990s with non-ST elevation acute coronary syndromes (ACS) compared with those admitted to medical and cardiology wards in hospitals in the United Kingdom (UK).

Aim: To understand if there were systematic differences in the characteristics of patients who were admitted to UK critical care units (CCU), intermediate care environments (cardiology wards) or generalist wards (acute medical ward) in an observational study carried out in the 1990s.

Methods: This paper is based on a secondary analysis of PRAIS (UK), a prospective, observational, multi-centred study which recruited 1038 patients with non-ST elevation ACS. This analysis compares the characteristics of 860 of these patients dependent on whether they were cared for in a coronary care unit, acute medical ward or cardiology ward.

Results: The results showed that patients admitted to CCU were more likely to be younger, male, have a history of diabetes or have ST depression on their ECG. There was very little difference in other risk factors or prior concomitant therapy. Interestingly there were no systematic differences in treatments or outcomes other

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than would be expected by chance, although there were trends to higher rates of MI and heart failure in the CCU group.

Conclusion: Our analysis shows that the main drivers of admission to CCU in the 1990s were ST depression and MI—both indicators of high risk, but older age and female gender seemed to decrease the likelihood of admission to CCU. Criteria for admission to specific specialist and non-specialist care environments should be standardised and the use of risk scores could be an important way forward.

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Introduction

Coronary care units (CCUs) were first developed in the 1960s to cater for the needs of patients with potentially life threatening cardiac conditions. In reality these facilities were used mainly for patients with acute myocardial infarction (AMI). Indeed it has been argued (Braunwald, 1998) that the CCU is the most important advance in the treatment of ST elevation MI. However more recently CCUs have been used for a wider group of patients including non-ST elevation acute coronary syndromes, severe arrhythmia and advanced heart failure.

The PRAIS (UK) study (Collinson et al., 2000) provided information on the characteristics and outcomes of patients with non-ST elevation acute coronary syndromes. However little is known about the differences in the characteristics of the patients who are admitted to highly resourced intensive care environments, e.g. CCU compared with those admitted to less intense care settings such as cardiology wards and general medical wards in the UK.

With the increased prevalence of non-ST elevation acute coronary syndromes in comparison with a reduction in prevalence of ST elevation MI (Kleiman and White, 2005) we analysed the characteristics of patients admitted to CCUs compared to other ward areas in the PRAIS-UK patient population.

Whilst these data relate to the late 1990s we felt that this information would provide a historical overview of care upon which more contemporary studies could draw comparisons when studying the evolution of cardiac care.

Methods

This investigation conforms with the principles outlined in the declaration of Helsinki and describes the results of a secondary analysis of the PRAIS (UK) study (Collinson et al., 2000). The study was approved by the UK Multi-Centre Research Ethics Committee, Local Research Ethics Committees and

all patients gave their written informed consent prior to taking part in the study.

The original PRAIS (UK) study (Collinson et al., 2000) was undertaken as a prospective observational cohort registry of patients admitted to 56 UK hospitals with non-ST elevation acute coronary syndromes. Between May 1998 and February 1999 a sample of 20 consecutive patients with non-ST elevation acute coronary syndromes admitted to each of the hospitals was obtained, irrespective of their admission location or consultant team. A total of 1046 patients who were admitted to a CCU, acute cardiology ward or general medical ward were enrolled in the study. Data were obtained by means of a proforma questionnaire completed by the admitting clinician. When completed, all proformas were sent to the co-ordinating centre at the Royal Brompton Hospital. About 15% of the participating sites were visited to review screening methods and accuracy of data collection. A more detailed outline of the study's methodology has been published elsewhere (Collinson et al., 2000).

This analysis undertaken here has excluded all patients who were discharged from hospital with a non-cardiac diagnosis. The main reason for this exclusion is to ensure that the secondary analysis considers only the patients with non-ST elevation acute coronary syndromes. The data from the remaining 860 patients were therefore considered.

Definition

Unstable angina is defined by the type of pain the patient experiences. In view of this subjectivity it can often be difficult to diagnose. For the purpose of this study unstable angina was defined as chest pain thought to be cardiac in origin with either ischaemic changes (at least 1 mm ST depression in two or more consecutive leads) present on at least one ECG without significant cardiac enzyme rise and/or chest pain thought to be cardiac in origin with evidence of existing coronary heart disease. The use of this broad inclusion criterion enabled us

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