

The Demographic Profile of Young Patients (<45 years-old) with Acute Coronary Syndromes in Queensland

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Background

There is little data regarding the demographic profile of young (<45 years) Australian acute coronary syndrome patients. The aim of this study was to compare baseline characteristics, risk factor profile and outcomes of young patients compared with their older counterparts referred to two metropolitan Queensland hospitals.

Methods

Over a four-year period, data on acute coronary syndrome patients referred to The Prince Charles and Royal Brisbane Hospitals were retrospectively analysed. Three major groups were identified: <45 years, 45–60 years and those >60 years. Age, sex, body mass index, risk factor profile, degree of coronary disease, left ventricular dysfunction, mode of presentation, initial pharmacological therapy and mortality data were compared between the three groups.

Results

4549 patients were analysed of whom, 277 were less than 45 years old. Younger patients tended to be male, more overweight and present more commonly with ST segment elevation myocardial infarction compared to their older counterparts. Smoking, family history and dyslipidaemia tended to occur more frequently in younger patients as compared to those >45 years. Those patients >45 years tended to present with non-ST segment elevation myocardial infarction and have a higher degree of ischaemic burden and left ventricular dysfunction. No patients <45 years died in their index admission at 30 days or at one year.

Conclusions

Although young patients <45 years make up the minority (6.1%) of patients presenting with acute coronary syndrome and generally have a favourable prognosis, this paper highlights the need for aggressive risk factor modification, with particular attention to smoking and dyslipidaemia, before the onset of overt clinical disease.

Keywords

Demographic • Profile • Young • Patients • Acute coronary syndrome

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Introduction

There is a paucity of Australian data examining the profile of young patients with acute coronary syndromes (ACS). It has been well established internationally that young patients make up the minority of the ACS cohort and that they generally have a good prognosis [1–3]. Despite this, the morbidity and potential for early mortality poses a real threat to the most productive years of these patients. This in turn leaves a great potential for societal burden.

Patients younger than 45 years account for approximately 5–10% of all acute coronary syndrome patients. [1–5] These patients tend to have a lower rate of multi-vessel coronary disease [3,6,7], a higher rate of non-atherosclerotic related heart disease and very low in-hospital mortality. Traditional risk factors for coronary disease that are particularly important are family history [2,3], dyslipidaemia [4,6,7] and smoking history [2–4,6]. It is not clear whether an Australian cohort of patients with premature coronary disease share these features and outcomes. Furthermore, there is little Australian data comparing the similarities and differences in ACS patients, particularly those <45 years old and their older counterparts.

A unique web-based ACS referral service has been established to reduce the disparity of access to acute cardiac care services between metropolitan and non-metropolitan regions in Queensland. This has provided the opportunity to systematically collect data on patients and examine for trends in an ACS cohort. In this study, the authors endeavoured to

evaluate the basic clinical characteristics of young ACS patients referred to two metropolitan hospitals in Queensland from nine non-metropolitan hospitals over the four years that the referral system had been in place. Particular attention was paid to Framingham risk factors, mode of presentation, substance abuse, degree of coronary disease, pharmacological therapy, left ventricular (LV) systolic dysfunction, and mortality during the index admission. This was then compared to two older cohorts of patients, namely 45–60 years and greater than 60 years of age.

Methods

Patients

Between 16th February 2007 and 28th June 2011, all patients transferred using the novel web-based referral system to The Prince Charles Hospital (TPCH) or Royal Brisbane and Women’s Hospital (RBWH) with an ACS were included for analysis. This included 277 patients less than 45 years of age and 4272 patients greater than 45 years.

Patients were referred from one of nine non-metropolitan hospitals to either TPCH or RBWH. Fig. 1 describes the referral pathway using the web based referral system. All patients were managed along an ACS clinical pathway and were diagnosed with ST segment elevation myocardial infarction (STEMI), non-ST segment elevation myocardial infarction (NSTEMI) or unstable angina using standard

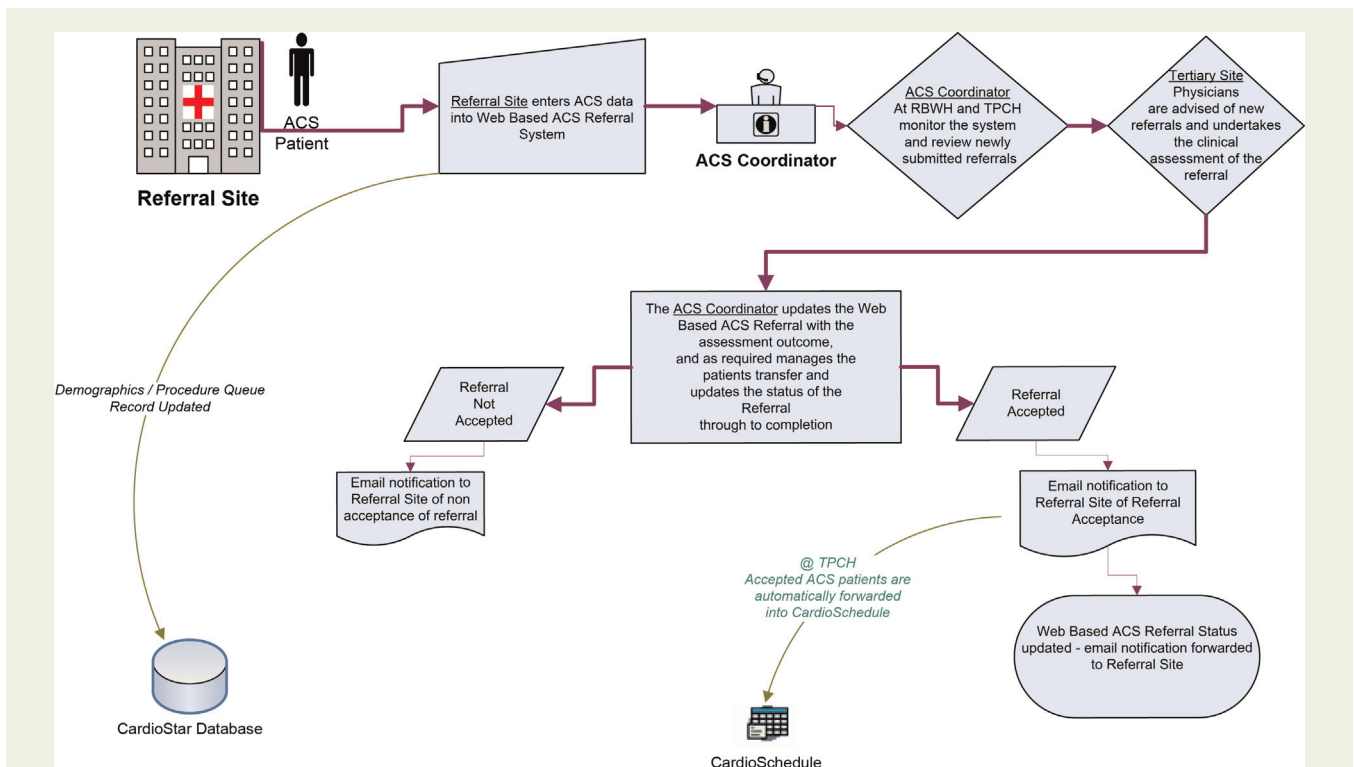


Figure 1 Web-based acute coronary syndrome (ACS) referral pathway. RBWH, Royal Brisbane and Women’s Hospital; TPCH, The Prince Charles Hospital.

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