Abstract

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Is there a clinical difference in patients with acute coronary syndrome displaying Wellens type 1 versus type 2 patterns on ECG?

J. Kim1, K. Haladyn3, M. Zhang3, S. Buchholz2,3,∗
1Mackay Hospital & Health Service, Mackay QLD, Australia
2James Cook University, College of Medicine & Dentistry, Mackay Campus QLD, Australia

Background: Wellens syndrome (WS; recent angina, minor cardiac biomarker elevation, normal precordial R-progression without Q-waves or ST elevation on ECG) may signify an imminent occlusion of the left anterior descending artery (LAD). Electrocardiographic changes include deep symmetrical anterior T-wave inversion (type 1; WS-1) or subtle positive-negative biphasic anterior T-waves (type 2; WS-2). We sought to investigate differences between both ECG patterns in terms of clinical features, echocardiographic findings and extent of disease on invasive coronary angiography (CA).

Methods: Retrospective database interrogation between 2012-14 yielded 21 patients with acute presentation WS and LAD stenosis >50% on CA.

Results: No statistical difference (Students T-Test) was found between WS-1 (n= 6) and WS-2 (n= 15) with regard to patients gender, age (55 +/- 6 vs. 59 +/- 12), number of cardiac risk factors (3 vs. 2), maximum troponin leak (1.8 +/- 3.1 vs. 1.4 +/- 2.2 ng/L), per cent LAD stenosis (82 +/- 13 vs. 84 +/- 15), stenosis location (proximal, mid, distal), extent of regional wall motion abnormalities (absent, minor, extensive) and left ventricular ejection fraction (63 +/- 7 vs. 60 +/- 11). There were a nominally higher proportion of WS-1 patients with TIMI 3 coronary flow on initial CA (100% vs 60%; P= 0.12) as well as less patients displaying left ventricular akinesis or scar (0% vs. 20%; P= 0.06).

Conclusions: No statistical differences in a wide range of clinical features were found between WS-1 & -2. We observed a trend in WS-1 patients towards preserved coronary flow and left ventricular contractility.

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Is there any gender difference in presentation, coronary intervention and outcomes of acute coronary syndrome patients in Victoria?

L. Worrall-Carter1,2,3, S. McEvedy2, A. Wilson2,3, M. Rahman2,3,∗
1St Vincent’s Centre for Nursing Research (SVCNR), Australian Catholic University, Melbourne, Australia
2The Cardiovascular Research Centre (CvRC), Australian Catholic University, Melbourne, Australia
3St Vincent’s Hospital, Melbourne, Australia
4The University of Melbourne, Melbourne, Australia

Background: Acute coronary syndrome (ACS) is less common in women but their relative risk of in-hospital death is higher compared to men.

Objective: To describe gender differences in the epidemiology, treatment and outcomes of all ACS admissions in Victoria.

Methods: This was a retrospective cohort study. Patients (n=28,985) admitted to Victorian hospitals (public and private) during Jun 2007 and Jul 2009 with a first time primary diagnosis of ACS were included. Our main outcome measures were death and/or unplanned ACS readmission and proportion receiving angiogram, coronary stents and/or coronary artery bypass graft (CABG).

Results: Of a total of 28,985 ACS patients, 10455 (36%) were women. Compared to men, women were older (aged ≥75 years: 54% vs 31%, p<0.001), more likely to present with multiple comorbidities (>1 comorbidity: 53% vs 46%, p<0.001) and more likely to be diagnosed with non-ST-segment elevation ACS (86% vs 80%, p<0.001). Women were less likely to receive coronary interventions (angiogram: adj OR 0.71, 95% CI 0.66 to 0.75; stent: adj OR 0.73, 95%; CI 0.66 to 0.80; CABG: adj OR 0.58, 95% CI 0.53 to 0.64). Women were no more likely to have adverse outcomes than men (in-hospital mortality: adj OR 0.94, 95% CI 0.81 to 1.08; unplanned re-admission: adj OR 0.90, 95% CI 0.83 to 0.98).

Conclusions: Despite the fact that women were less likely to receive coronary interventions, female gender was not an independent predictor for in-hospital mortality or unplanned re-admission. Utilising evidence based guidelines would assist with minimising gender differences for coronary interventions.

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