



Presentation, management, and outcomes of 25 748 acute coronary syndrome admissions in Kerala, India: results from the Kerala ACS Registry

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Aims

There are limited contemporary data on the presentation, management, and outcomes of acute coronary syndrome (ACS) admissions in India. We aimed to develop a prospective registry to address treatment and health systems gaps in the management of ACSs in Kerala, India.

Methods and results

We prospectively collected data on 25 748 consecutive ACS admissions from 2007 to 2009 in 125 hospitals in Kerala. We evaluated data on presentation, management, and in-hospital mortality and major adverse cardiovascular events (MACE). We created random-effects multivariate regression models to evaluate predictors of outcomes while accounting for confounders. Mean (SD) age at presentation was 60 (12) years and did not differ among ACS types [ST-segment myocardial infarction (STEMI) = 37%; non-STEMI = 31%; unstable angina = 32%]. In-hospital anti-platelet use was high (>90%). Thrombolytics were used in 41% of STEMI, 19% of non-STEMI, and 11% of unstable angina admissions. Percutaneous coronary intervention rates were marginally higher in STEMI admissions. Discharge medication rates were variable and generally suboptimal (<80%). In-hospital mortality and MACE rates were highest for STEMI (8.2 and 10.3%, respectively). After adjustment, STEMI diagnosis (vs. unstable angina) [odds ratio (OR) (95% confidence interval) = 4.06 (2.36, 7.00)], symptom-to-door time >6 h [OR = 2.29 (1.73, 3.02)], and inappropriate use of thrombolysis [OR = 1.33 (0.92, 1.91)] were associated with higher risk of in-hospital mortality and door-to-needle time <30 min [OR = 0.44 (0.27, 0.72)] was associated with lower mortality. Similar trends were seen for risk of MACE.

Conclusion

These data represent the largest ACS registry in India and demonstrate opportunities for improving ACS care.

Keywords

Acute coronary syndrome • India • Registry • Outcomes

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Optimal in-hospital and discharge medical therapy in acute coronary syndromes in Kerala: results from the Kerala acute coronary syndrome registry.

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Abstract

BACKGROUND: In-hospital and postdischarge treatment rates for acute coronary syndrome (ACS) remain low in India. However, little is known about the prevalence and associations of the package of optimal ACS medical care in India. Our objective was to define the prevalence, associations, and impact of optimal in-hospital and discharge medical therapy in the Kerala ACS Registry of 25,718 admissions.

METHODS AND RESULTS: We defined optimal in-hospital ACS medical therapy as receiving the following 5 medications: aspirin, clopidogrel, heparin, β -blocker, and statin. We defined optimal discharge ACS medical therapy as receiving all of the above therapies except heparin. Comparisons by optimal versus nonoptimal ACS care were made via Student t test for continuous variables and χ^2 test for categorical variables. We created random effects logistic regression models to evaluate the association between Global Registry of Acute Coronary Events risk score variables and optimal in-hospital or discharge medical therapy. Optimal in-hospital and discharge medical care were delivered in 40% and 46% of admissions, respectively. Wide variability in both in-hospital and discharge medical care was present, with few hospitals reaching consistently high (>90%) levels. Patients receiving optimal in-hospital medical therapy had an adjusted odds ratio (95% confidence interval)=0.93 (0.71, 1.22) for in-hospital death and an adjusted odds ratio (95% confidence interval)=0.79 (0.63, 0.99) for major adverse cardiovascular event rates. Patients who received optimal in-hospital medical care were far more likely to receive optimal discharge care (adjusted odds ratio [95% confidence interval] = 10.48 [9.37, 11.72]).

CONCLUSIONS: Strategies to improve in-hospital and discharge medical therapy are needed to improve local process-of-care measures and ACS outcomes in Kerala.

KEYWORDS: acute coronary syndrome, health policy and outcome research, registries