

HIGHLIGHTS

Providing optimal care for STEMI

Choosing the best course of care for ST-segment elevation myocardial infarction (STEMI) requires the coordination of various services, including prehospital emergency medical services, emergency medicine and interventional cardiology. Although primary percutaneous coronary intervention (PCI) is considered the best therapy for STEMI, it may not be available at all centres. This study describes the clinical management and health outcomes of 2247 patients admitted to hospital for STEMI over a three-year period in southern Ontario, Canada. Patients presenting to the region's PCI-capable hospital were more likely to receive primary PCI (82.5% v. 65.2%, $p < 0.001$) and to be treated within optimal treatment times than those initially presenting to a centre not capable of PCI (Table 1). However, there was no significant difference in mortality rates by type of centre. A systematic approach to regional STEMI care focusing on timely access to the best available therapies, rather than the type of reperfusion provided alone, can yield favourable outcomes, say the authors. *CMAJ Open* 2015;3:E1-7

Table 1: Management and health outcomes by centre type

Outcome	PCI-capable centre; no. (%) of patients <i>n</i> = 731*	Non-PCI-capable centre; no. (%) of patients <i>n</i> = 1450*	<i>p</i> value (χ^2)
Primary PCI	603 (82.5)	946 (65.2)	< 0.001
Catheterization only	84 (11.5)	121 (8.3)	0.02
Fibrinolytic therapy	6 (0.8)	276 (19.0)	< 0.001
No reperfusion	38 (5.2)	107 (7.4)	0.05
Death in hospital	48 (6.6)	90 (6.2)	0.7
Death (90 d)	57 (7.8)	109 (7.5)	0.8

*Unless otherwise indicated.

Risk factors for death among patients with *Staphylococcus aureus* bacteremia

Staphylococcus aureus is one of the leading causes of hospital-acquired infections, and rates of infections are increasing steadily in North America. In this retrospective cohort study set in a tertiary care Canadian hospital, the all-cause mortality rate associated with *S. aureus* bacteremia was 28%. Between 2008 and 2012, 925 patients were admitted with *S. aureus* bacteremia, 21% died in hospital and 7% died within 90 days after discharge.

Risk factors associated with all-cause and in-hospital mortality included age, sepsis, admission to the intensive care unit, hepatic failure and metastatic cancer (Table 2). Several factors (i.e., methicillin resistance, hepatic failure, cerebrovascular disease, chronic obstructive pulmonary disease and metastatic cancer) were associated with higher mortality rates after discharge. *CMAJ Open* 2014;2:E352-9

Table 2: Factors associated with all-cause mortality

Variable	Adjusted HR* (95% CI)	<i>p</i> value
Age, yr		
< 60	1.00 (ref)	–
61–70	1.54 (0.98–2.41)	0.06
71–80	3.07 (2.04–4.62)	< 0.0001
> 80	5.18 (3.54–7.57)	< 0.0001
Sepsis		
No	1.00 (ref)	–
Yes	1.49 (1.08–2.06)	0.02
Admission to the ICU		
No	1.00 (ref)	–
Yes	3.78 (2.85–5.02)	< 0.0001
Hepatic failure		
No	1.00 (ref)	–
Yes	3.36 (1.91–5.90)	< 0.0001
Operative intervention		
No	1.00 (ref)	–
Yes	0.67 (0.49–0.92)	0.01
Metastatic cancer		
No	1.00 (ref)	–
Yes	2.58 (1.77–3.75)	< 0.0001

Note: CI = confidence interval, HR = hazard ratio, ICU = intensive care unit.
*Adjusted for variables listed in the table.

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