Right coronary artery as a culprit artery for better prognosis in patients with acute myocardial infarction (AMI) with or without shock

H. Mizutani[1], T. Kurita[2], T. Ishise[3], T. Seko[4], E. Fujii[5], T. Kitamura[1], A. Kawasaki[6], K. Makino[7], M. Ito[2], K. Dohi[2]

[1]Suzuka General Hospital, Suzuka, Japan; [2]Mie University Graduate School of Medicine, Department of Cardiology and Nephrology, Tsu, Japan; [3]Okanami general hospital, Iga, Mie, Japan; [4]Ise Red Cross Hospital, Cardiology, Ise, Japan; [5]Nabari city hospital, Nabari, Mie, Japan; [6]Mie central medical center, Tsu, Mie, Japan; [7]Mie prefectural general medical center, Yokkaichi, Mie, Japan

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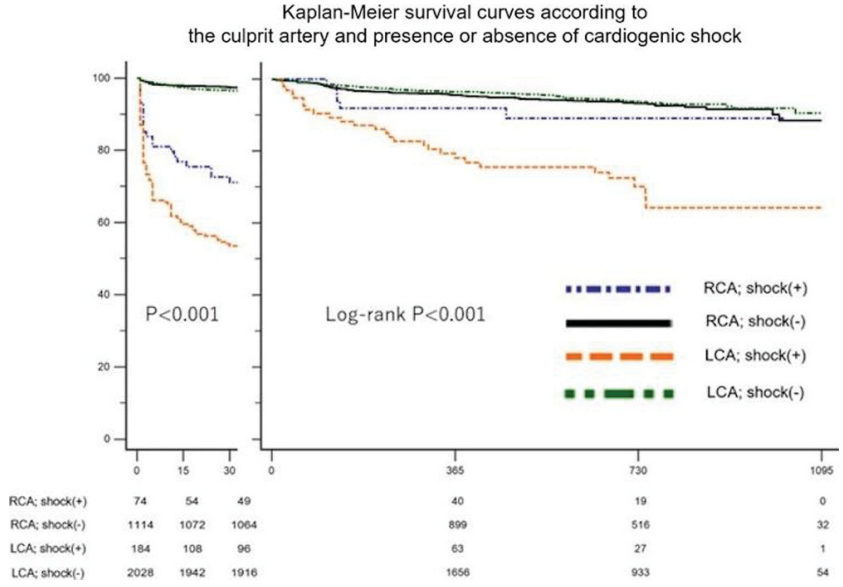
Background: Although patients with acute myocardial infarction (AMI) complicated by cardiogenic shock, morbidity and mortality remain high even with early revascularization and modern intensive care.
Culprit artery and prognosis were associated in patients with acute myocardial infarction.
Purpose: Evaluation of short- and long-term prognosis of AMI with cardiogenic shock by right coronary artery (RCA) and left coronary artery (LCR)
Method: We investigated 3400 AMI patients (age 68.8±12.7 y.o.) were enrolled from Mie ACS registry. They were divided into 4 groups according to the culprit artery and presence or absence of cardiogenic shock: RCA without shock n=1114, RCA with shock n=74, LCA without shock n=2028, LCA with shock n=184. Primary endpoint was defined as all-cause mortality.
Results: During the median follow-up periods with 743 days, 12.6% of the patients experienced all-cause death. RCA and LAC with shock groups demonstrated significantly higher in-hospital mortality compared to groups without shock ($p<0.001$, Figure 1A). Interestingly, after discharge, LCA with shock group showed significant higher all-cause mortality compared with other 3 groups. Surprisingly, RCA with shock group showed similar favorable prognosis to that of without shock groups (Figure 1B). Multivariate analyses for after discharge mortality showed that LCA with shock group was strongest independent poor prognostic factor with hazard ratio of 2.3 (95% CI 1.4–3.7), but RCA with shock group was not.
Conclusion: Association of cardiogenic shock is the hazardous risk factor for cases with AMI, especially LCA infarction. Surprisingly, RCA AMI cases with shock showed favorable prognosis as well as AMI without shock.



Kaplan-Meier survival curves