

Prognostic impact of plasma glucose on cardiogenic shock patients with or without diabetes mellitus: smart rescue trial

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Background: Even though the presence of hyperglycemia has shown to affect the clinical outcome of cardiogenic shock patients, the extent of hyperglycemia and its association with prognosis have not been fully addressed in large population

Purpose: Investigate the clinical relationship between hyperglycemic status and in-hospital mortality in cardiogenic shock patients

Method: A total of 1,177 consecutive cardiogenic shock patients were enrolled from January 2014 to December of 2018 at 12 hospitals in South Korea. The primary outcome was in-hospital mortality. Patients were divided into four groups according to their initial plasma glucose level in each of diabetes patients (n=752) and non-diabetes patients (n=425); group 1 (≤ 8 mmol/L), group 2 (8–12 mmol/L), group 3 (12–16 mmol/L) and group 4 (≥ 16 mmol/L).

Results: The groups with higher admission plasma glucose were associated with lower systolic blood pressure and higher lactic acid level in both diabetic and non-diabetic patients. In-hospital mortality increased in groups with higher admission plasma glucose level in non-diabetic patients (group-1:24.2%, group-2: 28.6%, group-3: 38.1%, group-4: 49.0%, $p<0.01$) whereas in diabetic patients, mortality and admission plasma glucose level showed no significant association (group-1: 45%, group-2: 35.4%, group-3: 33.3%, group-4: 43.1%, $p=0.26$). Even after Multivariate analysis, high plasma glucose was an independent predictor of in-hospital mortality in non-diabetic patients

Conclusion: In cardiogenic shock patients, plasma glucose obtained at admission was associated with in-hospital mortality in non-diabetic patients

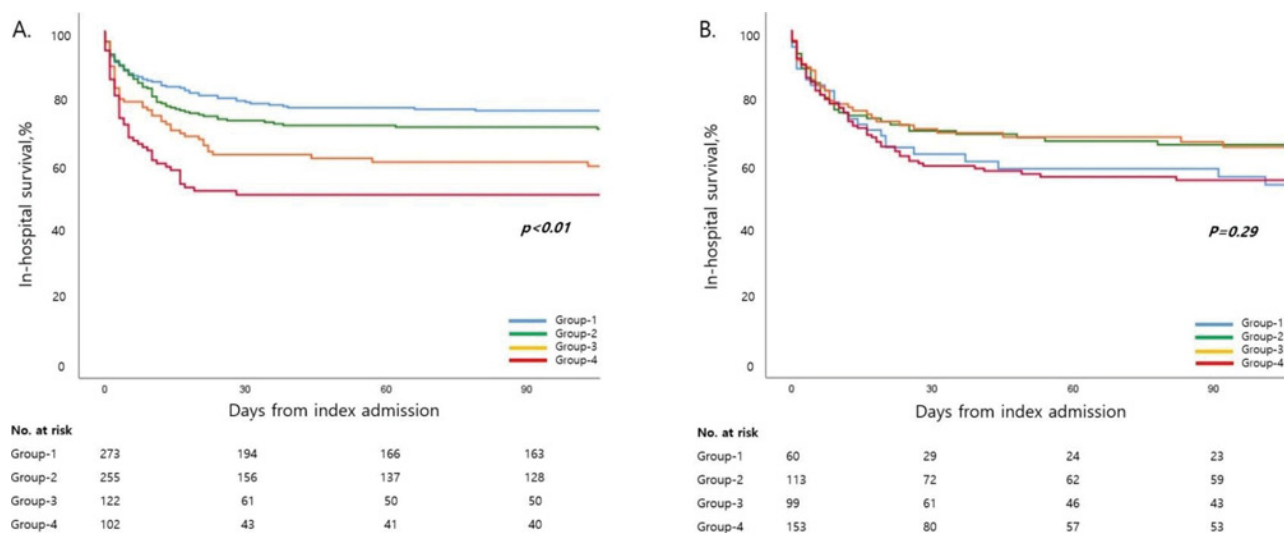


Figure 1