The Association between Hemoglobin Level and Rehospitalization for Acute Coronary Syndrome (ACS) in De Novo ACS Patients in Phramongkutklao Hospital

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**Background:** The development of Public health care system and technology has recently been far more advanced, resulting in decreasing of morbidity and mortality. Previous studies revealed that patients with acute coronary syndrome (ACS) have a prevalence of readmission around 20-30%. The association of hemoglobin level and multiple risk factors is considered to play a role in readmission and increase of morbidity and mortality.

**Objective:** To study the association between hemoglobin level and readmission of acute coronary syndrome in 6 months after patient discharge from hospital.

**Methods:** A prospective analytic study/cohort study was conducted. Patients who had acute coronary syndrome and admitted in the CCU or SEMI-CCU between June 2016 and April 2017 were enrolled.

**Results:** There were 163 patients, mean age 68 years with male preponderance (69.3%). Prevalence of readmission for acute coronary syndrome was 30.9%. The level of hemoglobin lower than 12 g/dl significantly increased a risk of readmission within 6 months (adjusted OR 4.098, 95% CI 1.141-14.728). Moreover, significant risk factors associated with readmission for acute coronary syndrome were unsuccessful revascularization, no further coronary artery bypass graft surgery (CABG) (adjusted OR 5.707, 95% CI 1.709-19.060), and the length of stay more than one week (adjusted OR 5.569, 95% CI 1.266-24.504).

**Conclusion:** The hemoglobin level of lower than 12 g/dl significantly increases a risk of readmission within 6 months in acute coronary syndrome patients. Unsuccessful revascularization with no further CABG and the length of hospital stay more than one week are also two significant readmission risk factors.

**Keywords:** Readmission, Acute coronary syndrome, Hemoglobin level