Prevalence of Thiamine Deficiency in Heart Failure Patients: Ramathibodi Cardiology Clinic Experience

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Background: Heart failure is associated with thiamine deficiency especially in patients receiving diuretic therapy. Thiamine deficiency is still a public health concern in developing countries, including Thailand.

Objective: We sought to find the prevalence of thiamine deficiency in a chronic heart failure outpatients.

Methods: A cross-sectional descriptive epidemiological study in 50 heart failure patients scheduled for regular follow up visits at Ramathibodi Cardiology Clinic. Erythrocyte Transketolase activity (ETKA) was used to identify thiamine deficiency. Review of electrical medical records were done in order to collect variable clinical and demographic data.

Results: The prevalence of thiamine deficiency in a chronic heart failure outpatients was 4% (n=2). There was no correlation between the dose of diuretic and thiamine levels (r = 0.053, P = 0.15), duration of heart failure and thiamine levels (r = 0.019, P = 0.34), left ventricular ejection fraction and thiamine levels (r = 0.031, P = 0.22). There were subsequent serious adverse cardiovascular outcomes (1 had cardiac arrest and underwent left ventricular assist device).

Conclusion: We found that the prevalence of thiamine deficiency in chronic heart failure outpatients is low in urban outpatient setting. However, patients with thiamine deficiency portend bad prognosis in our study. The finding may indicate that thiamine deficiency, though not common as expected, may be a prognostic maker of end-stage heart failure.

Keywords: Thiamine, Heart failure, Prevalence