

Homocysteine and malondialdehyde (MDA) levels associated with the occurrence of cardiovascular disease (CVD) in chronic renal failure (CRF) in Malaysia.

ABSTRACT

Introduction: Atherosclerosis and following cardiovascular disease (CVD) are known as important reasons of the increased morbidity and mortality observed in patients with chronic renal failure (CRF). The association of serum malondialdehyde (MDA), homocysteine as well as other cardiovascular risk factors in relation to existence and cause of CVD were investigated. **Methods:** In these study 66 CRF patients without dialysis and 107 patients receiving dialysis were recruited and further stratified into group with CVD and without CVD as case groups. Those without renal failure and CVD were assigned as control group (n=33). **Results:** The patients with CRF showed a significant increase in plasma levels of MDA, homocysteine and C-reactive protein (CRP) compared to control. The positive association were observed between homocysteine, creatinine and MDA (all $p < 0.01$) and another positive association were between CRP and age, creatinine and MDA (all $p < 0.05$). Analysis of association risk factors showed that only age, CRP and lipid profile had significant association with CVD events. **Conclusion:** The results demonstrated elevation in plasma values of MDA, homocysteine and CRP in patients with CRF, with or without CVD. However, these modifications may be lead to atherosclerosis and consequence CVD event. These parameters may be important with respect to the high morbidity and mortality of CVD found in patients with CRF.

Keyword: Chronic renal failure (CRF); CVD; Hyperhomocysteinemia; Oxidative stress.