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IMPACT OF DIABETES MELLITUS ON NUTRITIONAL STATUS IN CHRONIC KIDNEY DISEASE

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Objectives: Protein-energy malnutrition is a common fettle in patients with chronic kidney disease (CKD). It may be associated with elevated systemic inflammatory response due to uremic state, metabolic disturbances, hormonal derangements and other underlying complex pathogenic mechanisms which lead to malnutrition-inflammation complex syndrome (MICS). Hyperglycemia and insulin deprivation in diabetes mellitus (DM) may impair protein and fat metabolism, increase oxidative stress and circulating levels of cortisol. These conditions may accelerate protein wasting in CKD patients. The aim of this study is to compare nutritional status between diabetic and non-diabetic kidney disease patients.

Methods: A cross-sectional study was held in September - October 2019 in Surakarta, Indonesia. Sixty patients with CKD were enrolled and divided in two groups (30 DM patients and 30 non-DM patients). Nutritional status was assessed using Subjective Global Assessment (SGA) questionnaire. Interpretation of SGA split in three categories, well-nourished, moderately malnourished, and severely malnourished. The data were analyzed statistically with chi square, $p < 0.05$ considered significant.

Results: Mean age of subjects were 48.68±13.12 years old. Mean of body mass index (BMI), ureum, creatinine serum, albumin in diabetic and non-diabetic patients were 20.94±2.76 kg/m^2 vs 23.38±2.97 kg/m^2 ($p = 0.002$), 105.53±39.31 mg/dl vs 93.26±37.63 mg/dl ($p > 0.05$), 9.64±3.60 mg/dl vs 8.9±3.81 mg/dl ($p > 0.05$); 3.20±0.53 g/dl vs 3.51±0.64 g/dl ($p = 0.042$), respectively. SGA questionnaire analysis showed diabetic kidney disease patients have lower nutritional status ($p = 0.042$).

Conclusions: Diabetic kidney disease patients have lower nutritional status compared to non-diabetic chronic kidney disease patients.