

"Serum cystatin C in type 2 diabetes patients with early renal damage"

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18th Mandalay Medical Conference, Myanmar Medical Association. (2019)

Abstract

Diabetic nephropathy is one of the most common complications in Diabetes Mellitus (DM). The ability to assess renal function in diabetic patients rapidly and early is major importance. Nowadays, cystatin C is introduced as a new marker for diagnosis of early renal damage. The purpose of this study was to study serum cystatin C in type 2 diabetic patients with early renal damage. This is a hospital based cross-sectional analytical study involving 50 cases of type 2 diabetic patients attending to Diabetic Clinic of Mandalay General Hospital who fulfilled with the criteria were enrolled and studied starting from 1st July 2016 to 30th June 2017. Determinations of serum cystatin C and urine for albumin creatinine ratio were done at Pathology Department, Mandalay General Hospital. In this study, most cases were females with male to female ratio of 1:2. The age range was from 32 years to 78 years. Majority of cases were between 40 to 59 years of age (50%). Mean age was 59.56 ± 11.9 . Mean value of serum cystatin C was 0.89 ± 0.37 mg/L. Mean value of urine for ACR was 18.46 ± 16.47 mg/g. Mean value of eGFR was 92.34 ± 22.63 ml/min. In this study, 60% of cases were eGFR 60-90 ml/min and 40% of cases were eGFR > 90 ml/min. And then, 82% of cases were normoalbuminuria and 18% of cases were microalbuminuria. The Pearson correlation coefficient (r) of serum cystatin C with eGFR was - 0 .0235 and p value was 0.1. The correlation coefficient (r) of serum cystatin C with urine for ACR was 0.177, and p value was 0.219. The correlation coefficient (r) of serum cystatin C with normoalbuminuria was 0.188 and p value was 0.238. The correlation coefficient (r) of serum cystatin C with microalbuminuria was -0.008 and p value was 0.984. The study is concluded that serum cystatin C was higher in both normoalbuminuric and microalbuminuric type 2 diabetic patients. The correlations of serum cystatin C with microalbuminuria and normoalbuminuria were not statistically significant. Therefore, it is controversial to say that serum cystatin C can be used as early detection maker of renal damage in type 2 diabetic patients in this study.