

RESEARCH ARTICLE

Evaluation of biochemical profile of Chronic Kidney Disease of uncertain etiology in Sri Lanka

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Abstract

Chronic Kidney Disease of uncertain etiology (CKDu) is an endemic, disease that mostly affects young agricultural workers in the rural dry zone of Sri Lanka. This study was designed to identify specific biochemical manifestations of CKDu cases. All (119) non-dialysis definite CKDu patients in Girandurukotte and Wilgamuwa were selected. Blood and urine samples were collected and measured biochemical parameters. All analyses were performed in IBM SPSS statistics version 23 (IBM Corp, USA). The median blood pressure was normal though nearly half of the patients (45.4%) who were in the advanced stages (Stage 3b, 4 and 5) of CKDu. Patients without a history of hypertension before the diagnosis of CKDu (100%) and minimal proteinuria (26%) are similar to the previous findings. Patients without a history of diabetes before the CKDu diagnosis had high percentages of diabetes (15.7%) and pre-diabetes (59.8%) and hence indicated the possibility of uremia induced impaired glucose intolerance in the rural areas of the country. There were 62.2% patients who had low vitamin D and only a minority had evidence of bone mineral diseases. Out of liver disease markers serum glutamic pyruvic transaminases (SGPT), serum glutamic oxaloacetic transaminases (SGOT), gamma-glutamyl transferase (GGT), and Lactic acid dehydrogenase (LDH) had an inverse correlation with the advancement of the disease indicating subclinical liver disease. Osmolality in serum and urine showed a discrepancy despite > 50% of CKDu patients had increased their serum osmolality. The current study supports most of the previously described manifestations of CKDu. Moreover, some specific patterns have been identified which need to be validated in a larger group.