

Prevalence of thyroid hormone abnormalities in stage 5 chronic kidney disease: a tertiary care center study of Nepal

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Abstract

Chronic kidney disease (CKD) implies progressive, long-standing and irreversible impairment in renal function that results in end stage renal disease (ESRD). ESRD is a frequent cause of Non-thyroidal illness (NTI) with low free triiodothyronine (fT3), usually elevated reverse T3 (rT3), normal or low thyroid stimulating hormone (TSH), and if prolonged, low free thyroxine (fT4), despite patient remaining clinically euthyroid. Present study aimed to estimate the prevalence of thyroid hormone abnormalities in stage 5 CKD patients and also to compare these changes with healthy controls. The present cross-sectional observational study was conducted on thirty eight stage 5 CKD patients and 38 age-sexes matched healthy volunteers as control. The demographic data, medical history, etiology, physical examination and laboratory results were recorded on a special form developed by the researchers. The mean age of male and female stage 5 CKD patients were 50.81 ± 17.30 . 44.73% of the stage 5 CKD patients had low fT3 whereas 28.94% had low fT4 values below the reference range. 5.26% patients had increased TSH values above the normal reference limit. The mean TSH values were not significantly differing among diseased and control groups. Among the risk factors for CKD, diabetic nephropathy (44.73%) was found to be the lead primary cause

followed by chronic glomerulonephritis (26.31%) and hypertension (21.05%). From this study, it was concluded that the prevalence of thyroid hormone abnormalities especially low fT3 and fT4 is very common in stage 5 CKD patients. Diabetic nephropathy was among the lead cause of stage 5 CKD.

[16th World Nephrology Conference](#) August 20-21, 2020 Webinar

Biography

1. Dr. Samir Singh has completed his M.Sc. Biochemistry from Bundelkhand University, Jhansi, India and PhD in Biochemistry from Jaipur National University, Jaipur, India. Currently he is working as Associate Professor of Biochemistry at Department of Biochemistry, KIST Medical College and Teaching Hospital, Lalitpur, Nepal. He has more than 12 years of working experiences in teaching of various programmes like medical, dental, nursing, pharmacy, biotechnology and food technology. He is registered Biochemist with the Nepal Health Professional Council and Acting President of Association of Basic and Applied Medical Sciences in Nepal. He has published more than 15 papers in reputed journals