7.3.2 RENAL TUBULAR FUNCTIONS OF FARMERS OF HIGH PREVALENCE AREA FOR CKD*u.*

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Introduction:

The CKDu is common among the farmers of the North central region & mortality shows a seasonal variation of more cases with intense farming. The risk of developing CKDu is more with agricultural practices that show higher degree of exertion in farmland activities. Research on aetiological agents failed to identify a likely environmental toxin in toxic levels. The dehydration due to sweating in dry weather can have effects on the renal tubular functions.

Objective:

The aim of this study is to assess the dehydration and its effects on renal functions of farmers from high prevalence area with a matched control group.

Method & material:

Urine electrolytes & osmolality was determined in cases & controls before & after routine work & fluid balance was measured for the said period. Serum creatinine & electrolytes were determined from blood sample collected after routine work. The same test was repeated after provision of natural spring water to the test group for a period of two weeks.

Results:

The results showed that the farmers have significantly low urine outputs, Na+, K+, Cl- & osmolality than controls before ($p<0.05$) & after work ($p<0.05$). Farmers with lowest values for Na+, K+, Cl-, & osmolality showed significant improvement of these parameters after intervention ($p<0.05$).

Conclusion:

The study shows possibility of a distal tubular dysfunction in farmers which showed some improvement with natural spring water. Either the intake of natural spring water or improved water intake due to better water quality may have improved the renal tubular defect. Using urine electrolytes & osmolality to detect early cases at a reversible stage of renal damage need further investigation.