Transient Renal Impairment in Primary Hypothyroidism

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Back ground : Hypothyroidism as a cause of renal impairment has not been well discussed and there is no much information available in this subject.

Aim : The study will evaluate the pattern of renal impairment in hypothyroidism and their response to therapy.

Institution : The study is a retrospective one, carried out at Combined Military Hospital

(CMH) Dhaka, CMH Jessore, Shahid Mansur Ali Medical College, Dhaka and Lab Aid Cardiac Hospital, Dhaka.

Patients and methods : Over a period of five years all the patients of primary hypothyroidism who were found to have raised level of serum urea and creatinine were included in the study.

Results : During the study period total of 746 patients were found to have hypothyroidism.168 patients were excluded from the study because of different reason. Finally out of 581 patients of primary hypothyroidism, estimated GFR was found to be low in 340 (58.519%) patients. The average estimated GFR was 49 ml/min. 72 patients (12.39 %) were found to have azotemia. Serum urea and creatinine levels ranged between 67mg/dl - 92 mg/dl and 1.6 mg/dl - 2.1 mg/dl respectively. All the patients had normal urea and creatinine levels after treatment. The estimated GFR improved to an average of 82 ml/min after thyroxin. Serum Sodium was low in 160 (27.882 %) patients and ranged between 126 mmol/L to132 mmol/L. The value normalized in all the patients after treatment. 503 (86.57%) patients were hypertensive, after treatment 154 (26.506%) of them continued with high blood pressure requiring antihypertensive.

There was no hematuria. 18 patients (3.09%) had hyaline cast in urine, all were normal after 3 months of thyroxin. Proteinuria (>150 mg/day) was recorded in 28 (4.819 %) patients. Eight of them had overt proteinuria (>500 mg/dl). Eight patients (1.376%) continued to pass protein (320mg to 578 mg daily) in their urine after three months. The incidence of hypothyroidism and renal impairment found to be directly related to age, more the age more the risk. Ultrasonography of kidneys was normal in all patients.

Conclusion: Renal impairment is found to be a common association with primary hypothyroidism; it is reversible with appropriate management.