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Copper, Zinc levels of newly diagnosed Type 2 Diabetic patients are better marker in RBC than in Plasma

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ims were to compare plasma, RBC Cu and Zn between Ahealthy and newly diagnosed type 2 diabetic patients, also association of hyperglycaemia, dyslipidaemia with plasma and RBC Cu, Zn. Study was carried out in departments of Biochemistry jointly with Endocrine Medicine, Bangabandhu Sheikh Mujib Medical University, during July 2002 to June 2004. Thirty three newly diagnosed type 2 DM, thirty one age and sex matched healthy controls were included. Both Cu and Zn were measured by atomic absorption spectrophotometer. The median value of plasma Cu in healthy controls was 942.00 ppb (ranging 846-1393.50 ppb), in newly diagnosed type 2 diabetic patients, 2739.00 ppb (ranging 1400- 5743.50ppb). Significantly higher level of plasma Cu was observed in cases (p<.001). Median value of RBC Cu of healthy controls was 1067.50 (ranging 423-2810.5 ppb) whereas that of diabetic patient was 773.50 ppb (ranging 52.50-2765.00 ppb). RBC Cu was significantly lower (p<.05) than the healthy controls. Median values of plasma Zn of healthy controls and type 2 diabetic patients were 777.50 ppb (ranging 621.50- 1018.00 ppb) and 703.00 ppb (ranging 472-930 ppb), whereas that of RBC Zn of both groups were 6984.00 ppb (ranging 5693.50-7796.00 ppb) and 5155.50 ppb (ranging 2820- 6153 ppb)

respectively. The plasma and RBC Zn were significantly lowered (p<.001) in diabetic group. There was significant positive correlation (p<.05) between fasting plasma Cu and glucose, negative (p<.05) correlation between fasting RBC Zn and triglyceride in type 2 DM. RBC is a better marker to see the trace element status than plasma.

Biography

At present I'm serving as Assistant Professor of Biochemistry at Laboratory Services Department of National Institute of ENT. I completed my MBBS from Dhaka Medical College and MD(Cli. Biochem) from Bangabandhu Sheikh Mujib Medical University. I joined government job after qualifying BCS(health) in 1995. Since then I served different Thana Health Complexes in Rajshahi,Narsingdi, Munshiganj Districts. After MD completion I started to serve Medical Colleges and Institutes like Dhaka, Sir Salimullah, Faridpur Medical college and National Institute of Diseases of Chest and Hospital. I'm a regular examiner of 1st Professional MBBS examination. I have a number of publications at national level. I'm the Press and Publication Secretary of Bangladesh Society of Medical Biochemistrs and also the Executive Editor of Bangladesh Journal of Medical Biochemistry. I'm also a member of Human Genome Organisation. I'm trained in Medical Biotechnology. I as a member of organizing committee arranged different national conferences of BSMB.

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