comparison of giycosylated hemogiobhn and serum fructosamin as an index of glycemic coutrol in diabetic cpatints with chronic renal fallure

lamyaa hussein saad

This study aimed to compare between HbA1and fructosamine in diabetic patients with C.R.F. and to determine which of them is more valid as an index for glycemic control. The study was done on five groups: diabetic non uremic,diabetic uremic on regular hemodialysis, diabetic uremic onconservative treatment, uremic non diabetic on regular hemodialysis and group of healthy persons as controls.They were investigated for serum total protein, fasting and post prandial serum glucose, serum creatinine, serumfructosamine, GHb and Hb%,from the study we found that:I} The level of HbAI in diabetic groups with or without uremia was significantly higher compared to the control group and was significantly lower in the uremic non diabetic groupwhen compared to the control group this due to shortage R.B.Cs life span in the uremic patients.2} Hb level was significantly lower In uremic groups with or without diabetes when compared to the control group (butinsignificant in the diabetic group).3) There was a positive significant correlation between HbA1 and Hb among all the groups and also positive significant correlation between HbA1 and both fasting and post prandialblood sugar among the diabetic groups with or without uremia but insignificant positive correlation in the uremic non diabetic which could be possibly explained by the shorteningof life span of R.B.Cs which lead 10 decrease of level of HbA1• Also, positive insignificant correlation in the control group as blood glucose level was not so high when compared to D.M.4) Negative insignificant correlation between HbA1 and creatinine among all the studied groups.5) Regarding for fructosamine we found that the level of fructosamine was significantly higher in diabetic groups with or without uremia but insignificantly changed in the uremicnon diabetic group when compared to the controls, this insignificant change in the uremic group could be explainedby the finding that both parameters which affect serum fructosamine level (blood sugar and total protein) showed no significant alteration in these patients.6) There was a positive significant correlation between fructosamine level and both fasting and postprandial bloodsugar among all groups and also positive significant correlation between fructosamine level and total protein among all groups.7} There was negative insignificant correlation between fructosamine and creatinine among diseased groups.8} There was positive correlation between HbA1 and fructosamine among

all groups but this was significant only indiabetic as well as diabetic with uremia on conservative treatment groups.So we can conclude that the automaticity, reproducibility andcheapness of fructosamine and it was not affected by uremia as in HbA1 which was affected by uremia due to shortening red cell life span, fructosamine is a test of choice for judging the glycemic control in uremia.