Hepatic insulin clearance in niddm patients&their first degree relatives in different ethnic groups in qalioubyah governorate

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The study included three groups of subjects: urban, rural andBedouin populations, all were inhabitants of Qalioubyah Governorate.Each group consisted of 10 randomly chosen non-insulin-dependentdiabetics (type 2). For each patient, three healthy, preferably of youngage, first degree relatives were chosen. All relatives were healthy, nondiabeticwith normal liver and kidney functions.. All patients and their relatives were subjected to the following:I-complete history and medical examination.II-Laboratory investigations:Were done to all diabetic patients and their relatives1- Fasting & 2-hours pp. Blood glucose:2- blood sugar curve3-Liver function tests - included:a)-Total serum bilirubin.b)SGOT & SGPT liver enzymes: was done by colorimetric method usingbromocresol green4-kidney function tests: Serum creatinine was done by Jaffe method.5-B-cell function parameters:A-Plasma insulin -level: (Fasting, 30 and 120 minutes).Was done by radioimmuno-assay (RIA).B -human C-Peptide level: (Fasting, 30 and 120 minutes).Was done by radio-immuno assay (RIA).6-Hepatic insulin clearance : Was done According to (Haffner et al.,1992) calculations.'-Insulin resistance:Was done by homeostasis model assessment (HOMA).8-Serum lipid profile: (using electrophoresis) :Total serum cholesterol: was done by enzymatic colorimetric methodwith lipid clearing factor.Total serum triglycerides was done by enzymatic colorimetric methodwith lipid clearing factor.HDL : Was done by determination of cholesterol after precipitation ofchylomicrons, VLDL, and LDL.Results:The results of our work are presented in tables from (1) to (26) andin figures from (1) to (26).Patients and their relatives were chosen with comparable ages andno significant difference existed.Sex:A-Patients :For all patients groups, there were 12 males and 18 females.B-Relatives :49 males and 41 females were examined.BMI:A-Patients:. Statistically significant difference in BMI is noticed ong the 3studied groupS (urban> rural> desert groups).B-Relatives :Non significant difference existed between the three e ic groups.Liver-function tests:No statistically significant difference was detected betw en the threeethnic groups for both patients and relatives regarding S QT, SGPT,S.bilirubin and S.albumin.Serum creatinine:Didn't show statistically significant differences in both atients andrelativesregarding serum creatinine.Lipid profile~tients:There are significant increases for all parameters ofli id profile (S.TG, S.Cholesterol and HDL-c) : Urban> Rural> Desert.B-Relatives :No statistically significant differences were obse ed regardingsame parameters.Plasma

glucose:There are statistically significant increases in both p ients andrelatives regarding plasma glucose: urban> rural> desert.0Vs. relatives:PatientsIn all samples; there was statistically highly signific t increase ofplasma glucose towards urbanization: urban> rural >dese ethnic group.Plasma C-Peptide:There is statistically significant decease In C-p ptide for bothpatients and relatives : urban> rural> desert.Patients Vs. relatives:Apart from comparison between urban and d sert groups insamples I & 3 which were not statistically significant, th re is significantincrease of C-peptide: desert> rural> urban.Hepatic insulin clearance:Statistically significant increase ofHIC is noticed; esert> rural>urban in all samples for both patients and their relatives.Patients Vs. relatives:Only the comparison between urban and desert gr ups in the thirdsample is statistically significant, otherwise, there is no statisticallysignificant changes ofHIC is noticed.Serum insulin:Results are controversial regarding serum insulin Dr both patientsand relatives and no solid rule of statistical significan e is followed;meanwhile, mean values were relatively higher than norm .Insulin resistance:There were statistically significant decreases in in ulin resistancetowards urbanization : desert > rural> urban for both pa ients and theirrelatives.Patients Vs. relatives:Statistically highly significant differences is notic d between thethree groups and resistance is more towards urbanization.