serum sialic acid concentration in diabetic patientsandits rellation to v ascular complications retionopathy and nephropathy

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This work has been done to study serum s.a. in diabetic patients and toshed light on its relation with vascular complications, retinopathy andnephropathy. Fifty - five persons constituted the subjects of this study:* Group I(IDDM) included 20 patients.* Group II (NIDDM) included 20 patients.* Group III(controls) included 15 persons .They were over night fasting and the following was performed for everysubject:{A} Thorough history and clinical examination withspecial stress on the following:1) Duration ofD.M.2) Blood pressure .3) Vascular complications; peripheral ischaemia, ischaemic heartdisease or cerebro-vascular diseases.4) Manifestations of diabetic nephropathy.5) Fundus examination for retinopathy .6) Mode of therapy of D.M.7) Criteria of control of D.M.fB} Laboratory investigations:1) Urine analysis with stress on microalbwninuria .2) Fasting and 2 hours post- prandial plasma glucose levels.3) G1ycated haemoglobin .4) Serum creatinine and serum urea.5) Lipid profile .6) Serum sialic acid .The results obtained were as follows:1) Systolic and diastolic blood pressures were significantly increased inboth diabetic groups in relation to the control group .2) Serum creatinine & serum urea were significantly increased Indiabetics in relation to the control group.3) Microalbuminurea & gross proteinuria were manifested in the majorityof cases as indications of nephropathy as well fundus examination toreveal diabetic retinopathy.4) Vascular complications and neuropathy were manifested in both groupsof diabetes .5) Serum TG, cholesterol and LDL-C were significantly increased Indiabetics in relation to the control group.6) HDL-C was significantly decreased in -diabetics in relation to thecontrol group.7) Serum glucose levels (fasting & post prandial) and g1ycatedhaemoglobin were significantly increased in both diabetic groupscompared to normal controls.8) Serum sialic acid was significantly increased in all diabetics, but therewas no significant difference between both groups (IDDM & NIDDM)in the level of s.a.9) Serum s.a. was correlated significantly with blood -pressure , lipidprofile , parameters of glycaernic control (fasting & post prandialblood glucose and GHb) , parameters of nephropathy , retinopathy,neuropathy and vascular complications.~~~~~~~~bwmmuvu; Ami, C~This study concluded that, serum s.a. is increased in diabetic patientswith complications . This reflects generalised endothelial cell dysfimctionor macrovascular disease , either through loss of sialic acid containingg1ycoproteins from vascular cells into blood stream or through decreasedrenal function which may

impair excretion of s.a. containingglyco.conjugates .So , s.a. can be used as a marker in diabetic patients particularly withvascular complications.retinopathy and nephropathy .