Coagulopathies in systemic lupus erythematosus

Mohamed Zakaria Iraky

The aim of this work was to study the effect of systemiclUpus erythematosus on the plasma activity of mostof the blood coagulation factors , fibrinogen , factorsII, V, VII, VIII, IX, X and XIII.30 patients of definite SLE comprised the materialof this work. They were 28 females and 2 males, all ofthem were diagnosed according to the revised 1982 criteriaof the American Rheumatism Association for classicationof SLE. Their ages ranged from 15 to 50 years ,with a mean age of 29.03 Z 9.75 years. The duration ofthe disease ranged from one year to 20 years, with amean value of 5.22 + 4.47 years.Complete clinical and laboratory examination for eachpatient were carried out to confirm the diagnosis.30 normal persons comparable with our cases as regardsthe sex and age formed the control group.Determination of the plasma activity of the coagulationfactors were carried out to all SLE patients aswell as the control group.The results of laboratory investigations of ourSLE patients were as follows : Erythrocyte sedemintation rate ranged from 14 to 135mm /hour with a mean value of 45.9 + 31.3 mm /hour._ Hemoglobin in gm % ranged from 8.7 to 15.4 , with amean value of 12 + 1.6 gm %._ The white cell count ranged from 3200 to 11400 /cmm ,with a mean value of 5963 + 2096 /cmm._ The platelet count ranged f~om 88000 to 524000 /cmm ,with a mean value of 361600 + 99892 /cmm._ The blood urea level ranged from 20 to 54 mg %, witha mean value of 36.97 + 7.75 mg %._ The serum creatinine level ranged from 0.5 to 1.7,themean value was 0.92 ~ 0.28 mg %._ The level of albumin /24 hours urine ranged from 0.2to 2.8 gm , the mean value was 0.68 + 0.8 gm.5 cases had lupus nephritis showing high levels ofblood urea , serum creatinine and albumin /24 hours urine._ LE cells were positive in 28 patients representing 93.3%._ Antinuclear antibodies (ANA) were positive in 27 patientsrepresenting 90 %.The hemostatic alteration in our study among the SLEpatients were as follows :- 13 patients (43.3 %) had a history of mild bleedingtendancy.- 2 patients (6.7 %) showed a manifest thrombocytopeniawith platelet count less than 100 000 Icmm.- The main results of determination of most of the coagulationfactors among our SLE patients compared with thecontrol group revealed the following data :- Fibrinogen :The plasma level of fibrinogen in our cases rangedfrom 108 to 452 mg I 100 ml.,the mean value was 314.7 +96.7 mg 1100 ml. In comparison with the control groupthere is insignificant DROP of fibrinogen (P ~ 0.05).- Clotting factor II (Prothrombin):The plasma activity of clotting factor II rangedfrom 74 to 103 % of the normal among SLE cases with amean value of 97.77 ~ 6.84 %. These values when comparedwith the control group there is significant reduction ofthe plasma activity of factor II (P 0.05).- Clotting factor VIII :The plasma activity of clotting factor VIII rangedfrom 25 to 112

% of the normal, with a mean value of 92.37± 23.41 % among our SLE cases. In comparison with the controlgroup there is significant reduction of factor VIIIactivity (P 0.05).- Clotting factor X :The plasma activity of clotting factor X ranged from44 to 104 % of the normal, with a mean value of 94.7 ~16.31 %. in comparison with the control group there is astatistically insignificant difference (P:> 0.05).- Clotting factor XIII :The plasma activity of clotting factor XIII in ourcases ranged from 50 to 100 % of the normal,with a meanvalue of 87.5 ~ 17.06 %. In comparison with the controlgroup there is a statistically insignificant difference(P > 0.05).Finally we can conclude that determination of thevarious clotting factors among our SLE patients showedthe following results:- No significant decrease of the plasma level of fibrinogen.- Significant reduction of the plasma activity of clottingfactor II ,V and VIII.- No significant decrease of the plasma activity ofclotting factors VII , IX ,X and XIII.- Marked reduction of the plasma activity of clottingfactors were found in some individual cases, though noserious bleeding was recorded in those patients.