DETECTION OF ANTIPATELET ANTIBODIES IN PATIENTS WITH IDIOPATHIC THROMBOCYTOPENIA PURPURA (ITP) AND IN PATIENTS WITH RUBELLA AND HERPES GROUP VIRAL INFECTIONS.

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A highly sensitive enzyme linked immunosorbent assay (ELISA) technique was developed for serological detection of antibodies against platelets. Protein A covalently bound to Sepharose CL-4B was used to enrich sera in the IgG^ subclass. The assay utilized antigen-coated polystyrene microplates; antigen consisted of sonicated platelets obtained from 0, Rh negative donors. Goat anti-human IgG peroxidase conjugate was used to detect antigen bound antplatelet antibodies. The ELISA procedure was applied to detect antplatelet antibodies in patients with herpes or rubella viral infections and in patients with idiopathic thrombocytopenic purpura (ITP). Twenty-eight sera from 13 thrombocytopenic patients showed high levels of antplatelet antibodies. Two splenectomized patients in remission became negative for antplatelet antibodies.

Seventy-four sera from patients with serological diagnosis of herpes group viral infections comprising 10 cases of cytomegalovirus, 9 cases of varicella, 6 cases of herpes simplex and 4 cases of Epstein-Barr virus were examined for the presence of antplatelet antibodies. All ten patients with acute CMV infection presented high titers against platelets. In four of them the highest titer of antplatelet antibodies was observed even when the specific anti-CMV titer was still very low. All six patients with herpes simplex and all four cases with EBV as well as seven out of nine patients with varicella showed positive titers of antplatelet antibodies. Out of eight cases of rubella which were also examined seven displayed antibodies against platelets. Sera from a group of 51 healthy controls were evaluated for antplatelet antibodies. Forty-nine (96%) were negative (40), whereas the other two were only slightly positive.

NEONATAL POLYCYTHEMIA: A DISORDER ASSOCIATED WITH HYPERVISCOUSITY, NORMAL COAGULATION FINDINGS AND THROMBOCYTOPENIA.

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Thirty-two newborns with elevated capillary hematocrits >65% were studied. Twenty-two newborns required plasma-exchange transfusion. All had central (veinous) hematocrits >65% and had symptoms referable to complications associated with this syndrome. Of the 22, 15 were appropriate-for-gestational age, 5 were small-for-gestational age, and 2 were large-for-gestational age. Viscosity measurements in the 10 newborns who did not require plasma-exchanges showed increased viscosity in 2 in the slow shear rates associated with bloodflow in the smaller vessels. Coagulation data before and after plasma exchange did not show a hypercoagulable state: PT-14.2±0.7 and 12.9±1.2 secs, PTT 49.9±3.6 and 42.2±3.2 secs, factor VII 73±5 and 78±5%, factor VIII 103±10 and 94±10%, AT III levels were low 14±1.2 and 17±1.3 mg/dl, fibrin degradation products were <10μg/ml, fibrin monomer was not detected, plasminogen levels were 50±8 and 7±0.9mg/dl, fibrinogen levels were 203±9.8 and 200±11.8 mg%. Vitamin K dependent factors were reduced factor V 44±6 and 49±11%, factor VII 77±5 and 86±5%, factor IX 28±2 and 42±3%, factor X 35±4 and 62±6%, factor XI 53±5 and 84±9%, factor XII 47±5 and 63±5%. Statistical significant differences were found only with factors IX, X, XI and XII. Thrombocytopenia was present in 6 patients (20% incidence) and post-plasma exchange the platelet counts rose significantly and in 2 patients within 3 days reached normal levels. No statistical difference in the platelet counts were noted before and after the plasma-exchange and were similar to the levels determined in 10 newborn controls. Neonatal polycythemia with thrombocytopenia may indicate a more severe disorder, with hematocrits in the 6 patients >70%. It is suggested that the mechanism of the thrombocytopenia may be aggregates of platelets that deaggregate following plasma-exchange. The complications associated with neonatal polycythemia appear related to hyperviscosity, erythrocyte and platelet "sludging" in the smaller vessels.