966 PLASMA FIBRONECTIN LEVELS IN NORMAL PREGNANCY. L. Wayne Hess, Jerry R. Holmberg, William P. Monaghan, James Haddock, William F. O'Brien, Val G. Hemming, Stephen M. Golden (Spon. by Gerald W. Fischer). Department of Pediatrics, Uniformed Services University, Bethesda, MD.

Fibrinonectins are glycoproteins with important biological functions in host defense. Human plasma fibronectin levels were assayed longitudinally in 22 normal, low risk pregnant women (first and second trimesters, delivery, 4-8 weeks postpartum, cord plasma on each baby) utilizing a rapid immunoturbidometric procedure. Total plasma protein levels were determined simultaneously.

Maternal Plasma Fibronectins/Total Proteins by Trimester

	1st	2nd	3rd	Delivery
*251.6 ± 11.0	243.4 ± 14.7	297.6 ± 17.0	315.6 ± 21.2
** 7.6 ± 0.1	7.4 ± 0.1	7.1 ± 0.1	7.2 ± 0.1

*Fibronectins µg/ml **proteins g/dl

Mean fibronectin levels rose significantly throughout pregnancy ($p < 0.01$) and at delivery maternal levels (315.6 ± 21.2) significantly ($p < 0.01$) exceeded cord levels (137.9 ± 11.9). Four to 8 weeks postpartum fibronectin levels remained at delivery levels (309.6 ± 11.9) while total protein levels had returned to normal (7.8 ± 0.1). No significant ethnic differences in fibronectin levels were observed during pregnancy or between postpartum lactating and nonlactating mothers.

† 967 TREATMENT OF MARROW CELLS WITH ANTI-NK CELL ANTISERUM INCREASES CLONAL GROWTH OR ERYTHROID AND MYELOID COLONIES. Susumu Inoue and Joseph Kaplan. Department of Pediatrics, Wayne State University School of Medicine, Children's Hospital of Michigan, Detroit.

To test the hypothesis that NK cells have a role in clonal stem cell growth we performed clonal stem cell assays on normal bone marrow cells (cells obtained from 4 leukemic children in remission and off treatment for at least 6 months). Ficoll-Hypaque separated bone marrow cells ($1x10^5$ or $2x10^5$) were incubated in rabbit C' alone (control) or in rabbit C' plus monoclonal anti-human NK cell antiserum HNK-1 (Leu-7) for 60 min. After one wash in alpha medium, control and antiserum-treated cells were resuspended to an identical volume and plated in 1% methylcellulose with 2 I.U. of sheep erythropoietin. Erythroid and myeloid colonies were scored after 6-7 days culture.

	%INCREASE AFTER TREATMENT WITH HNK-1+ C'	
SUBJECT	ERYTHROID COLONIES	MYELOID COLONIES
1	115	45
2	35	70
3	6	80
4	100	117

The HNK-1 treated cells consistently formed more erythroid and myeloid colonies than the cells treated with C' alone (control). These findings strongly suggest that removal of bone marrow NK cells increases the proliferation of both erythroid and myeloid precursors. This is consistent with the view that NK cells exert a physiological inhibitory effect on both erythroid and myeloid stem cell proliferation.

968 IMMUNE STATUS OF BLOOD PRODUCT RECIPIENTS. Janine M. Jason, Margaret W. Hilgartner, Robert C. Holman, Bruce L. Evatt (Spon. by Roger A. Feldman), Centers for Disease Control, Atlanta, & Cornell Medical Center, New York

Hemophiliacs are at risk for a newly recognized disorder, acquired immunodeficiency syndrome (AIDS), consisting of opportunistic infections or unusual neoplasms, usually associated with a decreased number of T_{helper} lymphocytes (T_H) and an inverted $T_H/T_{suppressor}$ lymphocyte ratio (T_H/T_S). Several studies of clinically asymptomatic hemophiliacs have shown a high incidence of the immune abnormalities found in AIDS, leading to speculation that many hemophiliacs have had exposure to the AIDS agent through blood product therapy. We therefore evaluated the immune status of three groups of blood product recipients without AIDS. Pediatric participants included 8 hemophiliacs 13 to 17 years of age on Factor VIII therapy, 18 thalassemics 9 to 17 years of age who received whole blood, and 12 sickle cell anemics (SCA) 8 to 17 years of age who received whole blood or plasma. Hemophiliacs had a significantly lower lymphocyte count (median 1500 cells/mm^3) than did thalassemics (6110 cells/mm^3, $p<.001$ by Wilcox or rank-sum test (WRS)) and SCA (5461 cells/mm^3, $p=.03$ WRS), associated with a relatively lower number of T_H (median 513 cells/mm^3 vs 1831.5 cells/mm^3 for thalassemics, $p<.001$ WRS, and vs 1573 cells/mm^3 for SCA, $p=.03$ WRS). The T_H/T_S was lower for hemophiliacs (median 0.9), than thalassemics (1.7, $p<.01$ WRS) and SCA (2.2, $p=.001$ WRS). We conclude that immune abnormalities exist in this population with hemophilia. Differences may be related to lyophilized factor or to the large number of blood product donors represented by factor therapy.

† 969 EFFECT OF PROPHYLACTIC CYCLOSPORIN ON THE DEVELOPMENT OF INSULIN DEPENDENT DIABETES AND LYMPHOCYTIC MIGRATION TO TARGET ORGANS IN AUTOIMMUNITY IN THE BB RAT M.A. Jaworski and L. Honore, Department of Pediatrics and Muttart Diabetes Research and Training Centre, and Department of Pathology University of Alberta, Edmonton, Alberta.

Insulin-dependent diabetes mellitus (IDDM) develops spontaneously by 80 - 120 days of age in approximately 50% of animals from high-risk lines of Wistar BioBreeding (BB) rats. In addition, these rats also show subclinical evidence of autoimmunity against several endocrine and lymphoid organs.

IDDM developed in none (0/11) high-risk BB rats which were treated with 10 - 20 mg/kg/day of cyclosporin beginning at 42 days of age and continued until 151 days of age. 50% of sex-matched littermate controls treated with the olive oil vehicle for the same length of time developed IDDM. Histologic examination of animals sacrificed at the end of the treatment period showed absent to minimal lymphocytic infiltration of the pancreatic islets and gastric mucosa, and normal thyroid glands in the cyclosporin treated animals. Untreated littermates who developed IDDM had insulitis, a decreased number of islets, and mild to severe thyroiditis and gastritis; 2 of the control littermates who did not develop IDDM also had focal insulitis, peri-insulitis and moderate thyroiditis and gastritis.

We conclude that cyclosporin completely abrogates the development of clinical IDDM, and inhibits or abolishes lymphocyte migration to organs against which there is autoimmunity in this animal model of juvenile-onset, type 1 diabetes.

970 NK ACTIVITY IN HEMOPHILIA AND VON WILLEBRAND DISEASE. Z. Jin, R. Gera, R. Cleveland, D. Murray, E. Romond, & D. Kaufman. Dept. Peds/Human Develop., Mi. State Univ., E. Lansing, MI & Red Cross Blood Center, Lansing, MI.

Impaired natural killer (NK) activity has been reported in patients with autoimmune diseases, tumors & also certain hematologic disorders. Patients with hemophilia (Hem) are at risk for development of AIDS & may also exhibit immune abnormalities. We investigated 41 patients focusing on NK activity compared with other immunologic parameters & clinical status. Patients were divided into subgroups: Hem A treated with lyophilized commercial Factor VIII concentrates (LYOPH-C) or from voluntary donors (LYOPH-V); Hem A with Factor VIII inhibitors; Hem B & untreated patients with Hem A or Von Willebrand's. Overall, patients had significantly ↓ NK cytotoxicity (42.4 ± 15.3% vs 61.7 ± 15.0%, $p<0.01$). Although the LYOPH-V group had a slightly higher NK activity (49.9 ± 13.9%), there was no significant difference among patient groups. Untreated patients exhibited ↓ NK activity (39.1 ± 13.6%, $p<0.01$). There was no relationship between reduced NK activity & other immunologic parameters including blastogenesis, MLC, T cell markers, QIG's, auto Ab & circulating immune complexes (CIC). In patients with + CIC, there was a higher rate of ↓ NK activity compared with those - for CIC (8/27 vs 2/14) but these were not statistically different. There was also no relationship between NK activity & patients' clinical status including severity of disease, CMV Ab & amount of plasma product infusion. This study suggests that patients with various bleeding disorders may have underlying immune abnormalities which are unrelated to specific plasma product treatment.

971 **ANTIBODY MEDIATED RENAL TUBULAR DYSFUNCTION IN SJORGRENS SYNDROME (SS): EVIDENCE FOR TRANSPLANCENTAL TRANSFER OF IgG ANTIBODIES REACTIVE WITH RENAL TUBULAR CELL (RTC) ANTIGENS.** Stanley C. Jordan, Rebecca Sakai, Michael A. Tabak, Robert B. Ettenger, Arthur H. Cohen, Nancy Vinton and Euytham Kontaxis. UCLA Medical Center, Division of Pediatric Nephrology, L.A., Calif.

Renal tubular dysfunction (type I- renal tubular acidosis (RTA) renal failure concentrating defects and Fanconi Syndrome) has been described with SS, but the mechanism(s) responsible are unclear. We describe a patient with SS, type I-RTA, renal failure and a concentrating defect who delivered an 1860 gm female infant. Shortly after birth the neonate exhibited polyuria, a concentrating defect and type I RTA. Using a panel of 5 normal kidney targets, indirect immunofluorescence (IF) and immunoperoxidase (IP) analysis of serum samples obtained from the infant revealed IgG antibodies reactive with RTC antigens and TBM. Similar antibody reactivity against the target kidneys was noted in the mother's serum, but IgM>IgG. Test sera also showed reactivity with normal human salivary gland. At age 10 weeks the infant is thriving, off all medications, and has normal electrolyte values. Repeat IF and IP analysis of serum is negative for pathogenic antibodies. These studies strongly suggest that the transient renal tubular dysfunction was mediated by transplacentally transferred IgG reactive with neonatal RTCs. This thesis is supported by the disappearance of disease concident with disappearnace of pathogenic maternal IgG from the infants serum.