●985 INCREASING INCIDENCE OF HETEROSEXUAL TRANSMISSION OF THE HUMAN IMMUNODEFICIENCY VIRUS (HIV) IN MOTHERS OF INFANTS WITH AIDS OR ARC. Andrew A. Wiznia; Jay M. Kashkin; John W. Scott; Larry I. Bernstein; Samuel Grubman; Arye Rubinstein. Albert Einstein College of Medicine, Department of Pediatrics, Bronx, New York.

Most children with HIV infection in the U.S.A. acquire their disease in utero. We have retrospectively evaluated the route of HIV infection in mothers of children with proven HIV infection. A detailed history of paternal and maternal intravenous drug abuse (IVDA), blood transfusion, and sexual contacts with people at risk for HIV infection was obtained independently by a physician, nurse, and social worker. Sixty-six cases in which history was questionable were excluded. Eighty-eight infants seropositive for HIV (by ELISA and Western Blot) with symptoms and signs consistant with AIDS or ARC born between 1978 and 1986 were used as index cases. Over the past 2 years we have noticed an increase in women whose only known risk factor was heterosexual contact with HIV positive men. All 14 infants born between 1978-1980 were born to IV drug abusing mothers. Two of 35 (6%) infants born in 1981 and 1982 were infants of mothers in whom the only identifiable risk factor was heterosexual contact with an HIV seropositive male. In the years 1983 and 1984, 2 of 24 (8%) infants were born to women with similar risks. However, 7 of 16 (44%) of HIV infected infants born in 1985 and 1986 were born to mothers with only heterosexual contact as their risk factor (P 0.005). This study clearly demonstrates an epidemiological change in regard to maternal acquisition of HIV infection.

986 **POOR CRANIAL CALCIFICATION AND POSSIBLE HYPOPHOSPHATASIA IN A GIRL WITH AIDS.Richard HK Wu, Barbara Haseltine, Althea Burrowes, & Andrew Wiznia(Spon.by P. Saenger) Albert Einstein Coll.Med.,Bronx-Leb & Jacobi Hosp. Depts. Ped & Immunol., Bx. NY.**

A 2½ y.o. girl with AIDS and growth failure was found to have widely separated sutures and open fontanels.AIDS was diagnosed at age 6 mos.Growth has been 3SD below the mean for ht. and wt., with head circumference at the 0-5%.Dentition was intact with 16 teeth present.Serum calcium (Ca) was 7.2-9.6 mg/dl, inorganic phosphorous was 3.4-6.4 mg/dl, and alkaline phosphatase (AP)was 51-102IU (nl:146-477).Total protein was 9.0-12.8 mg/dl; albumin was 2.6-3.7 mg/dl.Endocrine studies revealed:ionized Ca, 5.2 (nl:4.6-5.4 mg/dl);C-Terminal PTH, 109 pg/ml (nl:50-330 pg/mg);Vit D25, 19ng/ml (nl:9-52);Vit Dl-25, 66 pg/ml (nl:15-60) and TSH, 4.3 uu/ml (nl: 5.0).After TRH, TSH rose from 4.3-43.0 uu/ml (60 min) and GH peaked, paradoxically, at 30 min (6.0 ng/ml).Urinary phosphoethanolamine (PE) was 1 MCM/24hr (nl:26-101).Radiographic studies showed:BA 1½ yrs. vs. CA 2½ yrs, poorly formed skull bones, typical of hypophosphatasia and osteoporotic long bones without rickitic changes or metaphyseal defects.Good permanent teeth formation was present.Mother also had delayed fontanel closure, but she and three uneffected half-sibs were unavailable for study.Our patient has many features of hypophosphatasia with low serum AP and poor cranial bone formation.However, the absence of high total serum Ca, high urinary PE, poorly formed dentition and rickitic bony changes, usually seen in hypophosphatasia, might be explained by the poor growth caused by AIDS.Her clinical manifestations is best explained by a combination of AIDS and hypophosphatasia.

987 COMPARATIVE STUDY OF THE INFECTION RATES OF BROVIAC/HICKMAN CATHETERS (BHC) AND TOTALLY IMPLANTABLE VENOUS DEVICES (IVD) IN PEDIATRIC ONCOLOGY PATIENTS. Carol L. Wurzel, Lorry G. Rubin, and Karen Halom (Spon. by Philip Lanzkowsky). SUNY at Stony Brook, and Schneider Children's Hosp. of Long Island Jewish Med. Ctr., Dept. of Peds., New Hyde Park, NY.

We reviewed the records of 30 patients with 37 venous access catheters who were prospectively identified at time of placement to compare complications of BHC (Broviac or Hickman, n=20) and IVD (Mediport or Infusaport, n=17). Choice of catheter type (BHC or IVD) was by parental discretion. The groups were comparable with respect to age [BHC: mean 5.4y(0.3y-19.0y); IVD: 6.2y(0.7y-19.0y)], sex, diagnoses, days in place (mean=164d, BHC group; 154d IVD group), percent time neutropenic, percent inpatient days, and percent days accessed (BHC: 30% vs IVD: 28% of days). There were 10 catheter-associated infections in the BHC group (3282 days at risk), 3 local and 7 with bacteremia; 4 required catheter removal. There were 9 catheter-associated infections in the IVD group during 2618 days at risk (5 local, 4 with bacteremia); only 1 required catheter removal. All infections requiring catheter removal occurred in patients < 2 years of age. Pathogens included S. epidermidis (8), S. aureus (3), enterococcus (2), E. coli (1), and C. albicans (1). Noninfectious complications occurred in 14 BHC (5 resulting in catheter removal) and 11 IVD (5 resulting in catheter removal). Overall infection rate per 100 catheter days was 0.34 and 0.30 for the IVD and BHC groups respectively. Mechanical complication rate per 100 catheter days was 0.42 for both groups. Thus the incidence of infectious and noninfectious complications was comparable for both types of catheters.

988 HAEMOPHILUS INFLUENZAE TYPE B (Hib) CAPSULAR ANTIGEN (PRP) CONJUGATE VACCINE INDUCES ANTI-PRP ANTIBODY (Ab) IN CHILDREN FOLLOWING Hib INFECTIONS. John M. Zahradnik, Sheldon L. Kaplan, Edward O. Mason, Cynthia Dukes. Baylor College of Medicine, Texas Children's Hospital, Department of Microbiology and Pediatrics, Houston Texas

PRP vaccine is a poor immunogen when administered to some children following Hib infection or their sibs. To date, we have immunized 18 patients (mean age 19 mos., range 7-45 mos; 14 meningitis) with PRP-diphtheria toxoid conjugate vaccine (PRP-D) containing 20 µg PRP. Children were inoculated 1-8 mos. (15 ≤ 2 mos.) post illness with 1 or 2 doses of PRP-D. Serum was obtained for anti-PRP Ab (radioantigen binding assay at Connaught Laboratories) prior to and 1 month post vaccine. Serology is available on 13 patients, 6 of whom were Ab negative (< 0.012 µg/ml) pre-vac (4 were ≤ 16 mos. when immunized). Anti-PRP rises developed in 11/13 patients and 5/6 pre-vac Ab negative patients. The pre- and post-geometric mean titers were 0.13 and 2.0 µg/ml, respectively ($p < 0.001$ for log transformed data). One patient (pre-vac Ab neg), a non-responder to routine PRP given at 24 mos., developed 0.28 µg/ml anti-PRP Ab following PRP-D at 26 mos. Anti-PRP Ab developed in 3/3 sibs, (8, 11, and 24 mos.), 2 of whom were Ab negative pre-vac.

Our data indicate that young children who may not have developed anti-PRP within 1 or 2 mos. of Hib infection usually respond to 1 or more doses of PRP-D and suggest that children at increased risk for Hib disease will likely respond to PRP conjugate vaccines.

989 MUCOSAL AND SERUM ANTIBODY (Ab) RESPONSES TO PARENTERAL IMMUNIZATION OF 1-YR-OLD INFANTS WITH H. INFLUENZAE B CAPSULAR (PRP) ANTIGEN CONJUGATED TO A DIPHTHERIA PROTEIN CARRIER. John M. Zahradnik, Susan Porcelli, Porter W. Anderson. Baylor College of Medicine, Departments of Microbiology and Pediatrics, Houston, Texas and University of Rochester, Department of Pediatrics, New York.(Sponsored by W. Paul Glezen).

Seventeen healthy infants age 9-15 mos received a 2-injection sequence of a PRP oligosaccharide conjugate vaccine. Sera and samples of nasal mucus obtained using saline washes (NW) were taken before the 1° and 2° injections and 1 mo and 6 mos after the 2°. A rise in total serum anti-PRP Ab [determined by radioantigen binding (RAB)] occurred in 15 of 17. NW anti-PRP Ab developed in 6 of 17 as detected by RAB and in 8 of 17 as detected by an Ig class-specific immunosorbent assay (ELISA); these ELISA responses occurred as IgG (7 of 17), IgM (5 of 17), and IgA (4 of 17). Ab responses in NW were related to the magnitude of the serum Ab response: in 8 infants with post-2° serum Ab of <2 µg/ml, NW responses were detected in 0 of 8 by RAB and 1 of 8 by ELISA; in 9 infants with serum Ab >2 µg/ml, NW responses were detected in 6 of 9 by RAB and 7 of 9 by ELISA. At 6 mos after 2° injection, anti-PRP Ab was still detectable in NW in 6 of 16 subjects. Thus, a mucosal Ab component may contribute to the protective potential of conjugate vaccines.

METABOLISM & DIABETES

990 RELATIONSHIP BETWEEN LARGE FOR GESTATIONAL AGE AND APPROPRIATE FOR GESTATIONAL AGE INFANTS OF CLASS B DIABETIC MOTHERS. Trini Aguilar, Annabel Teberg, Steven Golde (Spon. by PYK Wu), Univ. of So. Calif. School of Medicine, LAC/USC Med. Ctr., Depts. of Pediatrics and Obstetrics, Los Angeles.

To determine the relationship between intrauterine growth and neonatal morbidity in the infant of class B diabetic mother, we compared 145 appropriate for gestational age (AGA) infants and 41 large for gestational age (LGA) infants born from July 1985 to July 1986. California Intrauterine Growth Curves were used to categorize the infants. The mean birth weight of the AGA infants was 3260g compared with 4098g ($p<0.001$) of the LGA infants. Forty-five % of the AGA infants were born by C Section compared with 64% of the LGA infants ($p<0.05$). No differences were found in mean gestational age (AGA 37.8 weeks vs LGA 37.9 weeks), Apgar scores, initial calcium level, initial or peak bilirubin. Differences were found in glucose value done 30 minutes after birth (dextrostix), 39.7mg% in AGA vs 35.0mg% in LGA ($p<0.001$), in lowest glucose value (dextrostix), 33.3 mg% in AGA vs 31.4 mg% in LGA ($p<0.005$), and in highest hematocrit, 59.7% in AGA vs 61.2% in LGA ($p<.01$). There were no differences in need for intravenous glucose supplementation, in volume or in time of initiation of oral feeds. The great majority of infants did very well and did not require special observation after 12 hours. Only 12.5% of AGA and 9.8% of LGA infants remained hospitalized after five days. We conclude that the major management differences between the groups related to method of delivery and that minor differences did not affect the nursery course and management between the AGA and LGA infants.