505 ANDROGEN LEVELS IN AN INFANT WITH KLINEFELTER'S SYNDROME. Isabel Young, Shirley Ratcliffe, John D. Booth, David E.C. Cole, D. Lynn Loriaux and Fernando Cassorla. (Spon. by J. Sidbury). DEB, NICHD, NIH, Bethesda, MD 20205, MCR Cytogenetics Unit, Edinburgh, Scotland and I.W. Killam Hospital, Halifax, Canada.

Serum testosterone levels increase during early infancy in boys. Testicular failure occurs in patients with Klinefelter's syndrome, but it is not known whether testicular function is impaired during early infancy in these subjects. In order to answer this question, we studied total testosterone (T), testosterone binding globulin (TeBG), and free testosterone (FT) plasma levels during the first year of life in an infant with Klinefelter's syndrome. The newborn had intrauterine growth retardation, persistent patent ductus arteriosus and bilateral undescended testes. Karyotype was 47 XXY. Developmental milestones were retarded. Ligation of the ductus was undertaken at age 1 yr and orchiopexy at age 2 9/12 yrs. Endocrine studies were compared with cross-sectional measurements obtained in normal male infants of the same age.

Age	T(ng/dl)		TeBG(ug/dl)		FT(ng/dl)	
(months)	XXY	control	XXY	control	XXY	control
1-2	51	192	2.2	4.4	0.42	0.86
3-4	21	145	2.8	4.2	0.14	0.67
6-12	41	33	2.8	2.1	0.27	0.28

T, TeBG and FT levels were low from 1 to 4 months of age in the XXY infant. These results suggest that testicular failure may be present during early infancy in some patients with Klinefelter's syndrome. It is not known whether the low androgen levels observed in this patient are related to his genetic condition and/or his undescended testes.

508 COAGULASE-NEGATIVE STAPHYLOCOCCUS (CNS) BACTEREMIA - OBSERVATIONS ON MORTALITY AND MORBIDITY. Endla K. Anday and Maria Delivoria-Papadopoulos. University of Pennsylvania School of Medicine, Department of Pediatrics, Philadelphia, PA. 19104

Bacteremia with coagulase-negative staphylococcus often presents as an indolent disease; blood cultures positive for CNS are frequently regarded as "contaminated." We analyzed the records of 42 infants born at the Hosp. of the Univ. of PA. from 1/82 - 9/94 diagnosed with CNS bacteremia to determine the mortality and morbidity associated with this organism. Mean birth weight and gestational age of the infants were, 1017 g (range, 350 - 2680 g) and 28.2 wks (range, 25 - 38 wks), respectively. Thirty of 42 infants (71%) weighed $\leq$ 1250g. Supportive measures at the time of CNS bacteremia (numbers are mean and range) included: Hyperalimentation, 28/42 (67%) infants for 26 days (7-60 days), mechanical ventilation, 24/42 (59%) infants for 41 days (1-150 days), central venous catheter, 10/42 (24%) infants for 16 days (1-60 days). Focal infection with CNS in the bacteremic infants included: meningitis, 3 infants (7%), pneumonia, 7 infants (16%), and urinary tract infetion, 1 infant (2%). Twelve infants (29%) developed grossly bloody stools and abdominal distension at the time of diagnosis of CNS bacteremia. No infant with coagulase-negative bacteremia expired as a direct result of sepsis with this organism. However, 91% of CNS were resistant to gentamicin, necessitating a change in antibiotics to vancomycin.

This study indicates that although bacteremia with CNS primarily affects the low birth weight critically ill newborn, and has a universally favorable prognosis with respsect to mortality, significant morbidity exists. The emergence of gentamicin-resistant CNS is of great concern and may alter this favorable prognosis.

● **506** SHORT CHILDREN SECRETE INSUFFICIENT QUANTITIES OF GROWTH HORMONE. Zvi Zadik, Stuart A. Chalew, Salvatore Raiti, A. Avinoam Kowarski, University of Maryland School of Medicine, Department of Pediatrics, Baltimore.

We compared the 24-h integrated concentration of growth hormone (IC-GH) from 46 children of normal stature (NS) with 90 short children. Nineteen of the short children had classical GH deficiency (GHD) by standard pharmacologic growth hormone stimulation tests. Seventy-one children had normal GH (NGH) responses to stimulation. The mean IC-GH of NS (6.6±1.9 ng/ml) > NGH (3.8±2.3 ng/ml) > GHD (1.6±0.6 ng/ml), differences between groups were all statistically significant ($P<0.0001$). Forty-five percent of NGH children had IC-GHs within the range of the GHD group and this may be the explanation for their poor growth. Thus, NGH is a mixed group of patients with a spectrum of spontaneous GH secretion ranging from normal to impaired. Fourteen NGH children with low IC-GH (<3 ng/ml) were treated with GH. Ten of them had an increase in growth rate of 50% or more from pretreatment growth rate.

Conclusion: 1/The IC-GH test is indicated for all children who present with clinical feature of GH deficiency even if their GH response to pharmacological stimuli is normal. 2/GH therapy of NGH children with low IC-GH levels can promote significant improvement in growth rate.

† **509** BLOOD LEAD LEVELS AND STATURE IN THE NHANES II SURVEY Carol R. Angle, Joel Schwartz, James L. Pirkle, Hugh Pitcher, University of Nebraska Medical Center, Department of Pediatrics, Omaha, NE; U.S. Environmental Protection Agency, Washington, DC; Center for Disease Control, Atlanta, GA

The second National Health and Nutrition Examination Survey (NHANES II) incorporated medical history, physical examination, anthropometric measurements, dietary recall and food frequency, laboratory tests and x rays. Blood leads (PbB) were 5-35 µg/dl. In multiple weighted linear regressions of adjusted data from 2695 children 6 mos - 7 yrs, 91% of the variance in height, 72% of the variance in weight and 58% of the variance in chest circumference were explained by five variables: age or $(age)^2$, race, sex, PbB, total calories or protein and hematocrit or transferrin saturation. The coefficients remained stable after correction for collinearity. A difference in PbB of 10 µg/dl predicted a 1.2 cm difference in height. Variables that did not significantly improve the models predicting growth included family income, degree of urbanization, serum albumin, copper, iron and zinc, dietary carbohydrate, fat, calcium, potassium, phosphorus, Vitamin C, Vitamin A, niacin, riboflavin and thiamine. The highly significant, independent correlation of PbB with growth does not contradict the established association of childhood deprivation with increased lead exposure and with nutritional deficiencies known to enhance lead absorption. Correlation does not imply causality, but the significant regression of stature on PbB merits investigation of these observations in other surveys and consideration of the multiple biologic mechanisms by which low level PbB could modify growth.

EPIDEMIOLOGY

† **507** SUSCEPTIBILITY TO VARICELLA ZOSTER VIRUS (VZV) AMONG ADULTS AT HIGH RISK FOR EXPOSURE. Sherman J.Alter, Jeanne Hammond, Carol J. McVey, Martin G. Myers, Unversity of Cincinnati, Children's Hosp. Med. Ctr., Department of Pediatrics, Cincinnati.

Hospital personnel, especially those who work with children or the immunocompromised, are at increased risk for exposure to VZV. For example, in a 21 month period we prospectively recorded 16 uncontrolled introductions of VZV into our hospital. These resulted in exposure of 273 patients and 426 hospital personnel. 29 exposed employees (7%) were uncertain of their VZV immune status and of these 13 were found to be serologically VZV susceptible.

Because the susceptible adult represents both a risk to the hospital and to himself, we prospectively defined the VZV immune status of 2501 (of 2694) Children's Hospital employees. 2051 employees (82%) reported a prior history of varicella or herpes zoster which was accepted as evidence of immunity. Sera from 291 of 446 employees with uncertain prior VZV infection were tested by ELISA and/or FAMA for serologic evidence of VZV immunity. 79 sero susceptible individuals were identified and during the subsequent 10 months, five of these adults acquired varicella from sources outside of the hospital. Varicella also occurred in one individual who had a negative history but did not submit blood for serology.

Adults at high risk for exposure should be screened for immunity to VZV by history, and if uncertain, by serologic testing. Such individuals who are found to be susceptible should be aware of the potential to both acquire and spread VZV. Susceptible adults at high risk for VZV exposure represent potential candidates for VZV immunization.

510 DIFFERENCES IN NEONATAL (NB)MORTALITY OUTCOME IN NB CARED FOR AT LEVEL I HOSPITALS. Yucel Atakent, Lee Passman, Angelo Ferrara. New York University School of Medicine, Department of Pediatrics, New York, N.Y.

In studying the effectiveness of NB transport (NCHSR #5-R18-H SO3832), an evaluation was done on NB (<2000g). Of the 333 studied in 1979 [67% were transported (T) after initial care & the rest were matched non-transported (NT)]. 178 were born at a Level IA (community hospitals c some visiting neonatal consultation but generally scarce resources & 155 at a Level IB (community hosp. c no neonatal input). In all available data, there was no signif. diff.* between those born in IA & IB with respect to the following: BW (1410±441g, 1483±478g respectively), apgar score (7.4±2.8+7.1±3.2 respectively), sex (52% males in IA & 46% in IB), body temperature (96.0 in IA & 95.8 in IB) the mean hours of transports <8 hrs.(3.0±1.3 for IA + 2.9±1.2 for IB) or the % of toxemia, fetal distress or previous neonatal death. t, χ^2, & Mantel Haenszel (M-H) testing was used. Results: 1) there was NS* in mortality between IA & IB as a group ($\chi^2=0.7$)* or when adjusted in 3 wt. categories (≤1000,1001-1500,1501-2000). M-H $\chi^2=1.22$*. This was also true when analyzing only T ($\chi^2=2.66$)* & only NT ($\chi^2=3.32$)* in IA & IB. 2) IB has an improved survival (.65) compared to IA (.44) when adjusting for wt. in sick (Ap.<6) T (M-H $\chi^2=7.42$)** This diff. was not apparent for sick NT or for well (Ap.>7) T. 3) sick (Ap.<6) black T neonates had a signif. increased survival from Level IB compared to Level IA in wt.-adjusted groups <1500g. M-H $\chi^2=5.14$.** This diff. was not seen in well (Ap. 7) T or NT black NB. Adjusting for wt. T status, apgars & ethnicity is essential in comparing mortality data.

* $P>.05$ NS ** $P<.025$ SIG.