1074 Neurologic complications in oral polio vaccine recipients. John W. Gaebler, Martin B. Kleiman, M.L.V. French, Gordon Chastain, Charles Barrett and Charles Griffin. Dept. Peds., Indiana Univ. Sch. Med. and Indiana St. Bd. Hlth, Indpls, IN. (spon. by R. Schreiner)

In the period 1969-81, the CDC reported 37 cases of paralysis compatible with vaccine related poliovirus (VPV) infection in OPV recipients in the U.S.; no cases were reported in Indiana (pop. 5.5 million). From April 1982 to June 1983 we evaluated 4 children 3-24 mos of age whose neurologic abnormalities were compatible with VPV infection. All were epidemiologically unrelated residents of Indiana without symptoms suggestive of immunodeficiency. VPV infection was unsuspected prior to referral. All had OPV (1st dose in 3, 4th dose in 1) with DPT in the left anterior thigh within 30 days of symptoms, had VPV (confirmed by CDC) isolated at presentation, and had symptoms (left leg paralysis in 3, developmental regression, spasticity, and progressive fatal cerebral atrophy in 1) persisting for at least 6 mos. Immune function was normal in 2 with poliovirus type 3 infection and abnormal (hypogammaglobulinemia, combined immunodeficiency) in 2 with type 1 and type 2 infection. The incidence of observed VPV infection in Indiana OPV recipients was .058/100,000/yr, significantly greater ($p = .02$) than predicted. Neurologic complications among OPV recipients may: 1) Be increasing in frequency; 2) occur more frequently than estimated; 3) be incompletely reported; or 4) be more accurately detected with active surveillance.

1077 ROLE OF HOUSE DUST MITES IN KAWASAKI SYNDROME (KS). Mary P. Glode, Jane C. Burns, Lynn Joffe, Larry Arlian, Alan Adinoff, Donald Y.M. Leung. The Children's Hospital and National Jewish Hospital, Denver; Children's Medical Center, Boston; Wright State University, Dayton, OH.

From January 1983 through August 1983, 18 children were identified with KS in Denver, CO. An epidemiologic questionnaire was administered to 14 families and to 10 "best friend" controls at a mean of 27 days after onset of illness (range 3-60 days). 39 samples of vacuumed house dust from homes frequented by 11 cases and 21 samples from 7 control homes were examined for mites using sieve filtration. IgG antibody to 2 species of mite was measured by ELIZA in convalescent sera from 12 patients and 10 similarly aged hospitalized controls. 8 of 14 KS patients reported an exposure to freshly cleaned rugs in the month prior to onset of KS. 6 of the 8 patients were exposed in locations outside of the home. 2 of 10 controls recalled carpet cleaning within their home in the previous 30 days and none reported exposure outside the home. There was no difference between cases and controls with regard to other housecleaning practices, pets, home humidification or air conditioning. Mite analysis revealed that 2 of 39 KS samples had mites in low concentrations (1/.05 gms) compared to 1 of 21 control samples. Mean anti-mite Ab was .196 and .212 in KS patients compared to .218 and .269 in controls for the two mite species tested. Although this study supports an association between exposure to cleaned carpets and KS, we were unable to demonstrate any correlation with mite exposure and KS. 82% of patients with KS in Denver had no mites demonstrable in homes which they frequented prior to illness.

●**1075** VARICELLA VACCINE: PROTECTIVE EFFICACY IN CHILDREN WITH LEUKEMIA. Anne A. Gershon, Sharon P. Steinberg Angelo Ferrara, William Borkowsky, Philip LaRussa, Lawrence Gelb, George Galasso, & NIAID Collab. Study Gp. Dept. Peds., NYU Med. Ctr., NY, Dept. Med., Wash. U., St. Louis, MO, & NIH, Bethesda, MD.

Varicella may be severe in children with leukemia, with 10% mortality. We therefore evaluated the efficacy of live attenuated varicella vaccine in children with acute lymphocytic leukemia (ALL) in remission. We immunized 53 children with ALL off chemotherapy and 138 with ALL with chemotherapy suspended for 2 weeks, with 1000 pfu of varicella-zoster (VZ) (Oka) vaccine. After 1 dose of vaccine 82% seroconverted; 95% seroconverted after 2 doses, as detected by the fluorescent antibody to membrane antigen (FAMA) assay.

The only significant side effect was rash, which occurred in 4% off chemotherapy, and in 36% with chemotherapy suspended. Rashes were not severe, but spread of VZ virus occurred to 4/129 (3%) of susceptible siblings. There was no increase in ALL relapse or incidence of zoster in vaccinees compared to a control ALL group after natural varicella. There were 22 household exposures to VZ virus in vaccinees, after which the incidence of mild varicella (average # of vesicles 50) was 18%, significantly lower than the usual 80-90% attack rate. Mild varicella occurred even in vaccinees with VZ antibody at exposure. This vaccine was 80% effective in preventing clinical varicella and 100% effective in preventing severe varicella in children with ALL, even those on chemotherapy.

1078 VARICELLA ZOSTER (VZ) ANTIBODY TITERS IN NEWBORNS. Johanna Goldfarb, Ilya Spigland, Abayomi Orafidiya, Savanna Offut, Mario Reale, Harry S. Dweck. New York Medical College, Westchester County Medical Center, Department of Pediatrics, Valhalla, New York.

VZ antibody was measured from serum specimens of 27 newborns inadvertently exposed to a pediatric resident with active chicken pox. Ten infants had a gestational age of less than 28 weeks. Nine of these 10 infants had a protective antibody titer of ≥1:8. All seventeen infants of >28 weeks gestation had antibody titers greater than 1:8. Most of the infants of gestational age less than 28 weeks, including the infant with a titer of less than 1:4, had received blood transfusions prior to sampling.

VZ indirect fluorescent antibody titer:	1:4	1:8	1:16	1:16	
gest age (Dubowitz)	no of infants				total
28 weeks	1*	3	2	4	10
29-32 weeks		1*	1	4	6
33-36 weeks			1	4	5
37-41 weeks				6	6

* FAMA (fluorescent antibody to membrane antigen)

All sick infants or those ≤28 weeks gestation received ZIG. None of the babies subsequent to exposure developed varicella.

These results suggest that the current recommendations for the use of ZIG for exposed infants less than 28 weeks gestation require further study.

†**1076** ANTIBODY DECLINE IN SPLENECTOMIZED CHILDREN AFTER PNEUMOCOCCAL VACCINATION. G. Scott Giebink, Chap T. Le, and Gerald Schiffman, University of Minnesota, Depts. of Pediatrics and Biometry, Minneapolis, and Downstate Medical Center, Department of Microbiology, Brooklyn, NY.

Asplenic children are at increased risk of life-threatening pneumococcal sepsis. These children show a nearly normal increase in type-specific antibody activity after polyvalent pneumococcal vaccination (PPV), but the duration of elevated antibody levels and, presumably, increased protection is not known. To obtain this information, serum was obtained from 33 asplenic children before and at intervals up to 4½ yrs. after PPV. Using a summarized analysis of 12 antibody types, the postvaccination antibody decline was significant ($P=.03$) in 23 children splenectomized for trauma (TR) but was not significant ($P=.29$) in 10 children splenectomized for hereditary spherocytosis (HS). The rate of antibody decline did not depend on the prevaccination antibody level. There was a highly significant difference in rates of antibody decline among the 12 pneumococcal serotypes; the rates of decline were significant ($P<.05$) in the TR group for types 1, 4, 6A, 7F, 8, 18C, 19F and 23F and in the HS group for types 4, 8 and 23F. Extrapolation of these rates of decline indicate that protective antibody levels (≥ 300 ng AbN/ml) would be expected to persist for 1.3 - 3.8 years after vaccination for the 8 types that showed a significant decline. These results suggest that asplenic children might benefit from re-vaccination with PPV 1 - 3 yrs. after initial vaccination.

●**1079** RESPONSE TO VACCINE AND RISK OF HAEMOPHILUS TYPE B (Hib) DISEASE IN CHILDREN WITH THE KM(1) IMMUNOGLOBULIN (Ig) ALLOTYPE. Dan M. Granoff, Janardan P. Pandey, Eyla G. Boies, Janet E. Squires, Robert S. Munson, Jr. and Brian Suarez, Washington Univ. School of Med. St. Louis

In experimental animals, immune response (Ir) genes have been identified which are linked to genes controlling Ig allotypes. We examined the antibody (Ab) responses of 74 children with different Km(1) or Gm(23) allotypes to an Hib vaccine (PRP-Pertussis). By RIA, the responses of Km(1)+ black or white children to the type b capsule (PRP) were 4.6 to 9.5-fold higher than in subjects who lacked Km(1) ($p<0.003$). No differences were found in the responses with respect to Gm(23). To date, IgG and IgM antiPRP have been measured by ELISA in sera from 25 children. The higher antiPRP ab in Km(1)+ children was due to IgG ($p=0.004$) and not IgM (p=NS). No significant differences were found in the IgG responses to pertussis outer membrane protein. The frequency of Km(1) was examined in 170 patients (pts) with Hib meningitis, 71 pts with epiglottitis and 173 controls. Km(1) was detected less frequently in blacks with meningitis (38%) than in those with epiglottitis (81%, $p<0.002$) or in controls (66%, $p<0.0006$). No differences in the frequency of Km(1) were found in the white pts (18%) and controls (18%). Thus, Km(1) defines a subpopulation of both races who are high responders to Hib vaccine. Furthermore, blacks but not whites with this allotype are at decreased risk of developing meningitis (relative risk=0.3). These data suggest that in blacks, genes associated with Km(1) may interact with another factor related to race and affect susceptibility to Hib meningitis.