†979 MOLECULAR EPIDEMIOLOGY OF ROTAVIRUS (RV) INFECTION IN A NEWBORN CONVALESCENT ROOM. Pablo A. Vial, Karen L. Kotloff, Gail Krall, Genevieve A. Losonsky. Center for Vaccine Development, Division Infectious Diseases, Dept. Pediatrics, U. Maryland, Baltimore, Maryland. (Spon. by Allen D. Schwarz)

Little is known about factors responsible for asymptomatic primary RV infection in newborns. Prior studies suggest that newborns may be infected by attenuated strains. In a prospective study, all patients admitted to a newborn convalescent unit (NCU) on an infant-toddler ward (ITW), between January and April 1985, were tested every other day for RV excretion by ELISA. RNA electropherotypes of the RV strains identified in this population were analyzed in order to determine whether specific virus strains were associated with newborn infection. RV strains infecting older symptomatic children were also available from the ITW. 39 patients admitted to the NCU were enrolled in the study (mean gestational age: 31.9 weeks; age range 2-90 days). RV was detected in the stools of 12 NCU patients, 11 of whom were asymptomatic. Three different electropherotypes were seen among the RV positive NCU patients; these were identical to the RV electropherotypes identified in the ITW from older children with community acquired and nosocomial diarrhea during the same study period. Each of the 3 strains was first identified in the ITW and subsequently detected in the NCU within 3 to 6 days. We failed to identify a particular strain infecting exclusively newborns. Our data suggest that RV strains introduced into ITW by children with acute diarrhea produced infection, usually asymptomatic, in hospitalized newborns. Host factors are important for the lack of expression of clinical disease in this population.

980 TUBERCULOSIS IN URBAN CHILDREN: 1979-1985. Robert J. Vinci, Clair Murphy, Stephen I. Pelton (Spon. by Joel J. Alpert). Boston University Medical School, Boston City Hospital, Boston.

Even with the availability of effective chemoprophylaxis, tuberculosis (Tb) continues to be a problem in children. From 1979 to 1985, 76 cases of Tb in children were reported to the Department of Public Health (Boston). 7 were incorrectly classified; 9 records were incomplete. We reviewed the remaining 60 cases that occurred in children aged birth to 18 years of age, all residents of Boston.

Tb was diagnosed in children who had a positive culture or whose clinical presentation was consistent with Tb. 29 of the 60 children were born in the US, 28 in Haiti, Asia, or Cape Verde, and 3 unknown. The mean age was 8.1 years with 30% of children under age 3. The indications for Tb screening were as follows: routine screening (19), known contact (20), clinical suspicion (17), and unknown (4). The PPD was positive in all 60 children. 31 of the children were symptomatic - including cough, recurrent fever, anorexia, weight loss and night sweats. The chest x-ray was abnormal at the time of diagnosis in 52 of 53 children with pulmonary Tb. (28 pulmonary infiltrates, 8 infiltrates and adenopathy, 8 adenopathy, 3 scars, 5 pleural disease, 1 mediastinal mass). 6 of the 7 children with extrapulmonary Tb (4 cervical adenitis, 1 miliary, 1 meningitis, 1 renal) had abnormal x-rays.

We conclude: (1) 50% of pediatric Tb cases in Boston occurred in children born outside of the US; (2) active Tb in the home, pulmonary symptoms, and abnormal chest x-rays were common; (3) 48% of the cases occurred in children with no symptoms; (4) in all of our cases the PPD was positive. Based on these findings vigilant screening of certain high risk populations is essential.

●981 ROLE OF VIRUS SPECIFIC IgE IN THE RELEASE OF LEUKOTRIENE C4 (LTC4) IN NASOPHARYNGEAL SECRETIONS (NPS) OF INFANTS WITH RESPIRATORY SYNCYTIAL VIRUS (RSV) INFECTION. B. Volovitz, R. Welliver, D. Krystofik, P.L. Ogra, SUNY at Buffalo, Dept. of Pediatrics, Children's Hospital of Buffalo, NY.

Samples of NPS from groups of infants with bronchiolitis or upper respiratory illness alone during infection with RSV were analyzed for LTC4 content using a reverse-phase high-pressure liquid chromatography (HPLC) assay and confirmed by radioimmunoassay. Titers of RSV-specific IgE in NPS specimens were determined using an ELISA assay. LTC4 was present in 67% of samples obtained in the first week after the onset of illness and was detectable in progressively lower concentrations in samples obtained up to 27 days after the onset of illness, but not beyond. LTC4 was detectable in samples of NPS obtained in the acute phase of illness from 73% of infants with bronchiolitis due to RSV, and in about 30% of samples of NPS obtained during the same interval from infants with upper respiratory illness alone. Significantly, however, quantities of LTC4 measured in NPS could be directly correlated with the magnitude of the peak RSV-IgE response in secretions ($r=0.557$, $p<0.02$). LTC4 was not detected in NPS specimens from any of the patients who did not develop an RSV-IgE response. These studies lend support to previous investigations suggesting that severe bronchiolitis due to RSV results from IgE-mediated hypersensitivity reactions to viral antigens, with release of chemical mediators of airway obstruction. Their implications should be considered in new approaches to therapy for RSV bronchiolitis.

†982 IMMUNOBLOT IDENTIFICATION OF A 43,000 DALTON MYCOPLASMA PNEUMONIAE MEMBRANE PROTEIN IN CLINICAL SPECIMENS. Leonard B. Weiner, Janet W. Smith, Julia A. McMillan, Anne M. Higgins, Randy D. Madsen, Steven R. Coates. (Spon. by R. Spitzer) Department of Pediatrics, SUNY Health Science Ctr, Syracuse, NY and Cetus Corporation, Emeryville, CA.

The laboratory diagnosis of M. pneumoniae (M.pn) has previously depended upon cumbersome culture methods or comparison of acute and convalescent antibody titers. We have developed an immunoblot assay which employs a monoclonal antibody against a 43,000 Dalton (43-kDa) M.pn membrane protein. This technique was used to detect M.pn in throat swab specimens from young adults with pharyngitis. Specimens were inoculated into transport media (46) or PBS (33) and frozen at -70° C within 2 hours. The immunoblot asssay detected the 43-kDa protein in 0.5 ml aliquots of all 79 specimens. All 79 specimens were also culture positive and confirmed by growth inhibition assay. Throat swabs from 33 M.pn culture-negative patients and induced sputum samples from 10 healthy adults as well as clinical isolates of U. urealyticum and M. hominis did not demonstrate the 43-kDa membrane protein. This immunoblot assay provides accurate detection of M.pn from direct clinical specimens and yields results within 24 hours, thus allowing for relevant therapeutic decisions.

†983 IMMUNIZATION OF CHILDREN WITH CANCER WITH HAEMOPHILUS INFLUENZAE TYPE b (HIB) POLYSACCHARIDE VACCINE. Steven J. Weisman, K. Lynn Cates, Gary J. Allegretta, John J. Quinn, Arnold J. Altman University of Connecticut Health Center and Washington University School of Medicine, Departments of Pediatrics, Farmington and St. Louis.

HIB is responsible for approximately 5% of sepsis in immunocompromised children with malignancies. We studied the antibody response to HIB purified polysaccharide(PRP) vaccine in 27 children with cancer (mean age 62.6 mo). At the time of immunization 17/21 patients (PTS) with acute leukemia and 4/6 PTS with solid tumors were receiving chemotherapy. Pre and (2 mo) post immunization titres of antibody to PRP (APRP) were obtained. 63% of all PTS had non-protective preAPRP levels <1.0 ug/ml. 85.2% of all PTS had post-APRP titres of >1.0 ug/ml. 7/10 PTS <72 mo were non-immune; 6/7 converted. 10/17 PTS >72 mo had non-protective pre-APRP; 7/10 converted. Overall 76.5% of non-immune PTS developed postAPRP levels >1.0 ug/ml.

Diagnosis	n	% PreAPRP >1.0 ug/ml	% PostAPRP >1.0 ug/ml	% >2-fold rise in PostAPRP
Leukemia	21	23.8	81.0	76.2
Solid	6	83.3	100.0	16.7
On Rx	21	38.1	85.7	61.2
TOTAL	27	37.0	85.2	63.0

Our data show a significant number of children from 6-10 years with non-protective levels of APRP. HIB vaccine is immunogenic in most PTS being treated for malignant disease. Therefore these older children should be included in the targeted vaccine group.

984 CHEST RADIOGRAPHS IN INFANTS AND CHILDREN WITH VIRAL RESPIRATORY INFECTIONS. Susan R. Wildin, Tasnee Chonmaitree, Leonard E. Swischuck. (Spon. by Ben Brouhard). Department of Pediatrics, University of Texas Medical Branch, Galveston, Texas.

Many viruses can cause lower respiratory infection (LRI). To determine if chest radiographs could be useful adjuncts to clinical and viral diagnoses, we reviewed initial x-rays of 99 previously healthy children (0 to 14 yrs) from whom respiratory viruses were isolated from nasal washing. The causative viruses include respiratory syncytial virus (RSV) in 55 cases, parainfluenza (21), influenza (13), and adenovirus (10). Clinical syndromes include pneumonia (36), bronchiolitis (28), URI (16), asymptomatic (6), combined LRI (4), and croup (3). Significant correlation ($P<.05$) was found between RSV isolation, bronchiolitis and hyperexpansion on x-ray. 73% of RSV patients had hyperexpansion and 45% had clinical bronchiolitis. 85% of bronchiolitis cases caused by all viruses had hyperexpansion. RSV was more likely to cause parahilar peribronchial infiltrates than influenza (78% vs 31%) and more likely to have atelectasis than parainfluenza (44% vs 19%). X-rays were normal in 15% of RSV, 62% of influenza, 50% of adenovirus and 38% of parainfluenza infections. In addition to clinical presentation, age and season, radiographic findings are useful in predicting the causative virus and may be used as an adjunct to/or in lieu of rapid viral diagnosis in the consideration of antiviral treatment.