

**1045** TRANSMISSION OF CYTOMEGALOVIRUS WITHIN A LARGE NEONATAL INTENSIVE CARE NURSERY. Stuart P. Adler, Linda T. Lawrence, and Mary S. Wilson (Spon. by H. Maurer). Children's Medical Center, Medical College of Virginia, Richmond.

Acquired cytomegalovirus (CMV) infections are associated with significant morbidity and mortality for very low birthweight (LBW) infants, <1300gm, and infant-to-infant transmission has apparently occurred. Therefore, CMV acquisition by all infants hospitalized over 30 days was prospectively studied in a 60-bed neonatal intensive care nursery for 24 months. All newborn urines were cultured for CMV at birth and weekly until discharge. Sera from all LBW infants were assayed for IgG against CMV(EIA). All LBW infants lacking IgG against CMV (seronegative) received blood products from seronegative donors. Of 87 LBW infants born with IgG against CMV (seropositive), 7 acquired CMV while hospitalized. Of 71 LBW seronegative infants none acquired CMV ( $p < 0.01$  compared to seropositive infants). Infants with CMV viraemia received no special isolation procedures. No infant acquiring CMV received breast milk. EcoRI digestion of the DNAs of 13 CMV isolates from infants (acquired and congenital) during the last year showed no identical isolates. These results prove that transmission of CMV from infant to infant within a large neonatal intensive care unit occurs without significant frequency.

**1046** THE DETECTION OF ANTIBODY AGAINST CYTOMEGALOVIRUS (CMV) USING LATEX AGGLUTINATION (LA). Stuart P. Adler, David Marshall, Michael McVoy and Patricia Hider. (Spon. by H. Maurer) Children's Medical Center, Medical College of Virginia, Richmond, and Hynson, Westcott and Dunning, Baltimore.

Transfusion acquired CMV infections should be prevented for seronegative (SN) premature infants by providing blood products from SN donors. In order to provide laboratories with a very simple and rapid method for detecting antibody against CMV, latex beads were coated with CMV antigen, incubated for 8 minutes at room temperature with 25 $\mu$ l of sera, and examined for agglutination. The sensitivity and specificity of LA was compared to indirect hemagglutination (IHA, Cetus) and enzyme immunoassay (EIA) using 316 sera from random blood donors. Of 177 sera SN by EIA and IHA, 177 had a LA titer of <1:4 (specificity=100%). Of 119 sera with detectable antibody by EIA and IHA, 115 had a LA titer of 1:4 or greater (sensitivity=97%). Plasma (EDTA, heparin, and citrate) did not effect LA. LA was also used quantitatively to detect 4 fold or greater rises in antibody in paired sera from 10 patients with post-transfusion CMV infections. LA is a sensitive and specific assay that is extremely rapid and simple to perform.

**1047** CYTOMEGALOVIRUS TRANSMISSION AMONG CHILDREN ATTENDING A DAY CARE CENTER. Stuart P. Adler, Mary S. Wilson, and Linda T. Lawrence. (Spon. by H. Maurer). Children's Medical Center, Medical College of Virginia, Richmond.

Sixty-seven children, with a mean age of 30 months, attending a day care center had urine samples cultured for cytomegalovirus (CMV) 3 times over 6 months. Twenty-one children had CMV viraemia. Viraemia did not correlate with the length of day care center attendance nor age. The prevalence of CMV viraemia among these children (32%) was significantly higher than among a group of 926 age-matched hospitalized children. Of this group, 64 (6.9%) had CMV viraemia. ( $X^2=49$ , 1df,  $p < 0.0001$ , when compared to day care center children). Restriction endonuclease digestion using EcoRI, of the DNAs of 14 of the CMV isolates, revealed only 7 different patterns, two sets of 4 children and one set of 2 children had identical patterns. In contrast, EcoRI digestion of the DNAs of 13 randomly selected CMV isolates from the hospitalized children revealed 13 different patterns. These results prove that CMV was frequently transmitted among children attending the day care center.

**1048** FEVER IN A HEMODIALYSIS PATIENT. Rekha Agrawal, Eunice G. John, Farahnak K. Assadi, Alejandro Marchini, John Sullivan-Bolyai, (Spon. by Ira M. Rosenthal). University of Illinois Health Sciences Center at Chicago, Department of Pediatrics, Chicago.

Prolonged unexplained fever is a continuing problem in chronic renal failure patients on hemodialysis (HD) and poses a diagnostic problem. These patients have an increase in susceptibility to various infections, caused by usual pathogens, as well as by opportunistic organisms.

We report a 10-year-old patient with chronic renal failure on HD, who developed prolonged unexplained fever secondary to pseudomembranous colitis associated with clostridium difficile toxin in the stools. She was admitted for HD and treated with tobramycin and cefazolin for fever, pneumonia and atelectasis of left lung for 3 weeks. Fever recurred 3 weeks after antibiotic therapy (AT) and persisted for 6 more weeks. She also developed bloody diarrhea 4 weeks after AT. Blood, stool, urine and sputum cultures for virus, fungus, and bacteria were negative. Stool, however, was positive for clostridium difficile toxin (CDT) (>1:1000). She became afebrile 2 days after oral vancomycin therapy (VT). Diarrhea and fever recurred when VT was discontinued but normalized after restarting VT therapy. Clostridium difficile infection should be considered in prolonged unexplained fever in HD patients.

**1049** An outbreak of cryptosporidiosis in a day care center. G Alpert, IM Bell, CE Kirkpatrick, ID Budnick, JM Campos, HM Friedman, SA Plotkin, University of Pennsylvania.

Over a period of 2 months, 23 of 53 (43%) children attending a day care center and 15 of 104 (14%) household contacts developed diarrhea. Stool specimens from the children, their household contacts and personnel were cultured for *Salmonella*, *Shigella*, *Yersinia*, *Campylobacter*, *Aeromonas* and *Vibrio* spp. organisms. Viral cultures were performed and presence of Rotavirus RNA was determined. Each specimen was tested for the presence of protozoal cysts and for helminth ova. The rapid dimethyl sulfoxide modified acid fast stain was used to detect *Cryptosporidium* oocysts. *Cryptosporidium* oocysts were identified in 13 of 20 (65%) symptomatic children tested, compared to 3 of 27 (11%) asymptomatic children ( $P < 0.001$ ). The prevalence of *Cryptosporidium* oocysts in parents with diarrhea (15%) was not significantly different from the prevalence in parents without diarrhea (3%). Enteropathogenic bacteria, rotavirus and other protozoan parasites were ruled out as the cause of the diarrhea. Enteroviruses were cultured from 40% of the symptomatic children and 37% of the asymptomatic children.

The pattern of appearance of new cases suggested human to human transmission. Diarrhea in family members was strongly associated with the presence of an ill child and especially a child with proven cryptosporidiosis. The present report shows that *Cryptosporidium* should be added to the list of organisms that can cause outbreaks of diarrhea in day care centers.

**1050** Persistent upper airway colonization in Haemophilus influenzae type b (HITB) meningitis. G Alpert, J. Campos, D Smith, S Barenkamp, G Fleisher, Univ of Penna Medical School, sponsored by SA Plotkin.

We determined, prospectively, the incidence and course of upper airway colonization in 35 children with HITB meningitis. We swabbed the nasopharynx and throat on admission and after 6 and 10 days of intravenous antibiotic treatment. We used a selective medium and enrichment broth. Patients were treated intravenously with ampicillin and chloramphenicol for 48 hours and then with one of the drugs. Treatment with rifampin, when indicated, was given to all members of the households on the day of diagnosis and to the index cases from the 6th to the 10th day of hospitalization. The incidence of upper airway colonization is presented in the table.

CSF isolate	Prior antibiotics	Upper airway colonization			
		Day 1	Day 6	Day 10	
Beta Lactamase (-)	23	7	13	4	1
Beta Lactamase (+)	12	2	8	2	0
Total	35	9	21	6	1

After 6 days of intravenous treatment with antibiotics 18% of the patients were still colonized by HITB. In 5 patients the HITB isolates from the CSF and isolates from the upper airway on the 6th day were compared by biotyping and by outer membrane protein subtyping and were found to be identical. We thus ruled out the possibility of nosocomial colonization of the upper airway. Rifampin is indicated for eradication of HITB carriage in patients with HITB invasive disease, and probably should be given early in the course of treatment.