817 DIENTAMOEBA FRAGILIS, PATHOGEN OR NONPATHOGEN IN CHILDREN. Mary J. Spencer, Lynn Garcia (Spon. by James D. Cherry), UCLA Sch. of Med., Depts. of Peds. and Clin. Labs., Los Angeles.

Chronic abdominal pain, constipation, diarrhea, and anorexia are often difficult symptoms for a pediatrician to evaluate. These children are often thought to have psychosomatic complaints. It has been noted that stools for ova and parasites obtained on some of these children have demonstrated parasites often thought to be nonpathogenic. Thus, a retrospective evaluation was performed of children seen at UCLA during the time period from June 1976 through November 1977 in whom the parasite Dientamoeba fragilis (DF) was isolated from stool specimens. DF was present in 14% of 350 children who had stools analyzed for ova and parasites. DF was the only parasite obtained in 9% of the 350 children. History was available from 28 of these 37 patients in whom DF was the only pathogen. Children were aged 10 months to 17 years; males predominated 1.6 to 1. Forty-eight percent of children had been born in the U.S. and had no history to foreign travel; 39% were from Mexico or South America. Ninety-three percent (26/28) had gastrointestinal symptomatology (abdominal pain, diarrhea, anorexia or constipation); 2 (7%) were asymptomatic. The most common symptom in these children was diarrhea (57%) which was often intermittent. Abdominal pain, often vague and localized to the lower abdominal quadrants was present in 54%; anorexia and fever were present in 39% and 29% respectively. Children were treated with either diiodyhydroxyquin, metronidazole or tetracycline and all but one were asymptomatic on follow-up evaluation.

818 A COMBINED VIROLOGIC-IMMUNOLOGIC ASSAY TO DETECT CONGENITAL CYTOMEGALOVIRUS (CMV) INFECTION. Sergio Stagno, David W. Reynolds, and Charles A. Alford. University of Alabama in Birmingham Medical Center, Department of Pediatrics, Birmingham, Alabama.

In a prospective study, 1412 neonates were screened for congenital CMV infection by detection of viruria during the first week of life; 31 (2.2%) proved to be infected. Rheumatoid factor (RF) was present in the cord sera of 7 of 18 (38%) infected and 0 of 155 uninfected infants. Likewise IgM was elevated (≥20 mg%) in 7 of 18 (38%) infected patients (77% correlation with the presence of RF), but was also increased in 5 of 155 (3.2%) controls. IgM-CMV antibodies (FA) were detected in cord sera of 14 of 16 (88%) infected neonates and surprisingly in 14 of 59 (23%) controls. The false positive reactions in the IgM-FA were unrelated to the presence of RF, IgM elevation or poor specificity of the IgM conjugate. Because of the time required for conventional isolation of CMV and the poor sensitivity and specificity of the immunologic assays it seemed desirable to develop a more convenient diagnostic assay. A rapid viral isolation method based on the expression of specific 24 hrs. nuclear fluorescence was developed and assessed. In 19 of 20 (95%) urine samples containing CMV the diagnosis was correctly made only one day after receiving the samples. The number of positive nuclei per field correlated with the infectivity established by tube titration. This rapid assay has a specificity and sensitivity equivalent to the conventional CMV isolation method and matches the rapidity of the immunologic assays.

819 SEROLOGIC AND VIROLOGIC STUDIES OF EPSTEIN-BARR VIRUS INFECTIONS IN CHILDREN WITH AN INFECTIOUS MONONUCLEOSIS(IM)-LIKE DISEASE. Ciro V. Sumaya and Yasmin Ench. Univ. of Texas Hlth. Sci. Cntr., Dept. of Ped., San Antonio.

Few data are available about the antibody response to Epstein-Barr virus(EBV) and the rate of isolation of this virus in children with an IM-like disease. Twenty-five children presenting with a clinical picture suggesting this diagnosis are the subject of this report. Fourteen children were 4 mo to 5 yrs of age, eleven were 6 to 16 yrs. High antibody(IgG) titers(≥160) to viral capsid antigen of EBV were detected in the sera of 15(60%) of the children. Antibodies to early antigen, predominately to the diffuse component, were found in 22(88%). Specific IgM to EBV was detected in 17(81%) of 21 children's sera examined. The initial sera of 14(56%) children contained antibodies to viral capsid antigen but lacked antibodies to nuclear antigen of EBV. The latter was further evidence of a primary EBV infection. EBV was isolated from the oropharynx in 12(63%) of 19 children tested. Children <3 yrs of age tended to lack IM-associated heterophile antibodies and have a higher rate of antibodies to restricted component of early antigen than the older group. Two children, 4 mo and 2 yrs old, probably did not have an EBV-induced disease. The type and duration of the immune response and the rate and duration of EBV isolation were roughly similar to that noted in adults with EBV-induced IM. EBV specific serologic and virologic testing is a valuable diagnostic aid particularly when the heterophile antibody test is negative, early or throughout the course of IM, or the clinical presentation is atypical.

820 TOXIC SHOCK SYNDROME ASSOCIATED WITH PHAGE GROUP I STAPHYLOCOCCI. James Todd, Frank Kapral, Mark Fishaut, and Thomas Welch (Intr. C.H. Kempe). Departments of Pediatrics and Pathology, The Children's Hospital of Denver and the Department of Pediatrics, University of Colorado Medical Center, Denver, Colorado, and the Department of Medical Microbiology, Ohio State University, Columbus, Ohio.

Six otherwise normal children (ages 8-16 years) have presented sporadically in 1977 with a clinically distinct syndrome of high fever (40-41°C), headache, confusion, conjuctival hyperemia, a diffuse scarlatinaform erythroderma, subcutaneous edema, vomiting, watery diarrhea, hypotension, oliguria, and a propensity to develop acute renal failure, hepatic abnormalities, D.I.C., and severe prolonged shock. One patient died, one developed gangrene of the toes, and all have had fine desquamation of affected skin surfaces as well as marked peeling of palms and soles during convalescence. All five patients studied prospectively have grown phage group I Staphylococcus aureus from mucosal sites (nasopharyngeal, vaginal, tracheal) but not from the blood or CSF. These organisms have been shown to produce a toxin which causes a positive Nikolsky's sign in the newborn mouse model but is biochemically, pathologically, and immunologically distinct from the phage group II staphylococcal exfoliatin. Only one of seven contacts and 0/3 older children with other febrile exanthematous illness grew a similar phage group I staphylococcus. The toxic shock syndrome appears to be a dramatic new clinical entity possibly related to toxin production by certain staphylococci.

821 THE ROLE OF EXCHANGE TRANSFUSION (ET) IN THE TREATMENT OF SEVERE SEPTICEMIA AND SCLEREMA NEONATORUM. Nestor E. Vain, Jean L. Newbold, J. Joseph Quilligan, Jr., O. Ward Swarner, Chul C. Cha, Loma Linda University Medical Center, Department of Pediatrics, Loma Linda, California.

Septicemia is the most frequent cause of sclerema neonatorum. With few exceptions, patients with this condition have a rapidly fatal course. Since Sept., 1976, we have been using specific antibiotics & multiple ET for our patients with severe septicemia and sclerema. We did 3-4 ET at 8-12 hr. intervals using fresh whole blood, 160 cc./kg. Eight newborn infants were treated in this way. The most frequently identified etiologic agents were E. Coli & Group B Streptococcus. The birth weights ranged between 1120 & 3160 g. with a mean of 2061 g. Five infants survived and 3 died. All the fatal cases had DIC and possible intracranial bleeding by the time the first ET was started. The clinical course of the 5 surviving infants markedly improved immediately after the first ET. The prognosis of the very low birth weight infants improves with the use of routine ET if done in the first 12 hrs. of life, (M.D. Papadopoulos, J. Peds. 89: 273, 1976). Prod'hom speculates that increased levels of IgM & IgA, enhancement of other defense mechanisms, removal of bacterial toxins, and improvement of circulation & oxygen transport may be the mechanisms of action of ET in severe septicemia, (Pediatrics 53:170, 1974). We believe that multiple ET could play an important role in the management of rapidly deteriorating newborn infants with septicemia and sclerema. However, a controlled study is necessary.

822 PASSIVE IMMUNIZATION AGAINST GROUP B STREPTOCOCCI WITH HUMAN GAMMA GLOBULIN IN THE CHICK EMBRYO. Lawrence C. Vogel, Roberto R. Kretschmer, Donna Padnos, and Samuel P. Gotoff. Pritzker School of Medicine, University of Chicago, Michael Reese Hospital and Medical Center, Department of Pediatrics, Chicago.

Clinical and experimental observations have indicated that lack of type-specific antibody is a predisposing factor in the susceptibility of newborn infants to group B beta hemolytic streptococcal (GBBHS) disease. In a study limited to GBBHS type Ia, we showed that IM or IV pooled human gamma globulin (HGG) protects 21-day-old mice from a lethal challenge (J. Infect. Dis., Nov. 1977). We now report HGG protection studies with types Ia, II and III using a chick embryo model. 0.1 ml. of different dilutions of 16% HGG was injected IV into 12-day-old chick embryos simultaneous to the IV challenge with a lethal inoculum of GBBHS. Protection was established if at least 75% of the chick embryos survived the bacterial challenge. HGG protected chick embryos from a lethal challenge of GBBHS-Ia at a dilution as low as 1:20, which is approximately equivalent to an IM injection of 0.2 ml/kg of pooled HGG in the human newborn. In contrast, undiluted HGG failed to protect chick embryos challenged with lethal doses of GBBHS types II and III. The results in mice and chick embryos suggest that passive immunization in newborn infants with HGG is feasible against GBBHS type Ia, but will not provide immunity to GBBHS strains II and III. Since some human sera protect chick embryos against challenge with type II and III strains, future studies should evaluate hyperimmune HGG.