●1177 MYCOPLASMA PNEUMONIAE (MPN) ETIOLOGY OF PHARYNGITIS - USE OF ENZYME-IMMUNOASSAY (EIA) FOR RAPID AND DIRECT DETECTION OF INFECTION. L. Weiner, J. McMillan, L. Poe, S. Gidding, V. Lamparella, A. Patti. S.U.N.Y., Upstate Medical Center, Dept. of Peds. and Syracuse University Student Health Center (SUSHC). Syracuse, NY (Spon. Roger Spitzer).

In a prospective study of pharyngitis among older adolescents we compared the clinical and microbiologic findings among 260 pts. with a major complaint of sore throat (ST). In addition a similar group of 297 pts. with non-respiratory complaints served as a control population. All pts. were seen at the SUSHC over a 3 month period and were cultured for MPN and beta-hemolytic streptococci (BHS). MPN were recovered from 88/260 (34%) of individuals with ST vs. 26/297 (9%) of the control population ($p < .005$). BHS were recovered from 46/260 (18%) of ST pts. and 31/297 (11%) of controls. There were 6 gp A, 4 gp B, 16 gp C and 13 gp G among the 46 BHS isolates from ST pts. and 3 gp A, 8 gp C and 7 gp G among the 31 BHS isolates from controls. The etiology of ST could not be predicted from analysis of clinical findings. Because of the long interval (5-14 days) required for culturing of MPN we developed a four-layer EIA technique for direct identification of MPN from throat swab specimens. Of 59 SUSHC pts. with ST 33 had EIA and MPN culture positive throat swabs. There were no false negatives but 2 pts. who had received > 7 days of erythromycin therapy prior to obtaining their throat swab specimens were EIA (+) and MPN culture (-). MPN appears to be an important cause of pharyngitis among older adolescents and can be rapidly diagnosed from throat swabs by EIA.

1178 TYPE SPECIFIC ANTIBODY PREVENTS PLATELET AGGREGATION INDUCED BY GROUP B STREPTOCOCCUS TYPE III. Ellen G. Wood, Barry M. Gray, St. Louis Univ., Dept. of Ped., St. Louis, Mo. and Univ. of Alabama in Birmingham, Dept. of Peds., Birmingham, Al.

Group B streptococcus type III (GBS III) organisms readily induce platelet aggregation and serotonin release in human platelet rich plasma (PRP). In a system employing 10^8 platelets in PRP and 10^6-10^8 live GBS III, aggregation usually occurred after 3-7 minutes incubation. Serotonin release began within the first minute and usually reached about 40% before aggregation was detected. The addition of type specific rabbit antisera inhibited aggregation and release in a dose dependent fashion, but rabbit antisera against GBS type II and pneumococcus types 14 and 19 had no effect. To test the activity of different isotypes, monoclonal antibodies against the sialic acid determinant of the GBS III antigen were used. IgG, IgM, and IgA antibodies were all effective in blocking aggregation and release.

While the significance of this phenomenon is not clear, it may represent a protective function of antibody which is not directly related to opsonization and phagocytosis. If type specific antibody prevented release of platelet activators in vivo this could affect the hemodynamic changes, especially pulmonary hypertension, often seen in GBS sepsis and in animal models of the GBS sepsis syndrome.

● 1179 RHESUS ROTAVIRUS VACCINE IN CHILDREN. Peter F. Wright, Juliette Thompson, Kristina Kokubun, Albert Z. Kapikian, Vanderbilt University Hospital, Department of Pediatrics, Nashville & Laboratory of Infectious Diseases, NIAID, NIH, Bethesda

Rotaviruses are now recognized as a leading cause of severe diarrhea throughout the world with associated mortality estimated at 5-10 million/year. Several approaches to the derivation of an acceptable vaccine are under investigation. We are evaluating in progressively younger children a live, orally administered rotavirus derived from a heterologous host, rhesus rotavirus strain MMU 18006, serotypically related to human serotype 3. Fifty children aged 12 years to 9 months have been studied in groups of 6-12 children in close daily contact for 3 days before and 10 days after vaccine administration in a dose of 10^{5-6} plaque forming units. Following vaccination, 4/24 placebo controls and 2/26 vaccinees experienced fever and 3 placebo controls and 4 vaccinees had loose stools. No child had an increase in number of stools. We judge the vaccine clinically acceptable from trials to date. All stools were collected and tested for rotavirus antigen by ELISA and virus isolation in MA-104 cells. Eighteen of 26 vaccinees shed low titers of rotavirus (maximum 1.8×10^4/ml of 10% stool) from 2-10 days after vaccination. No stools were positive by ELISA, a less sensitive assay than tissue culture, and no rotavirus was recovered from controls. Serologic responses were determined by complement fixation, indirect hemagglutination or neutralization in 37 children. Antibody responses occurred in 15/19 vaccinees and 2/18 controls, suggesting possible limited transmission. The rhesus rotavirus appears to be a highly promising vaccine candidate for further evaluation in the prevention of diarrheal disease.

1180 MOXALACTAM USE IN INFANTS: LACK OF BLEEDING COMPLICATIONS. Terry Yamauchi, Donald E. Hill, Paula K. Morris, University of Arkansas for Medical Sciences and Arkansas Children's Hospital, Department of Pediatrics, Little Rock, Arkansas.

Moxalactam sodium is a semisynthetic oxa-beta-lactam antibiotic with a broad spectrum of activity against gram-positive and gram-negative microorganisms. Coagulopathy has been associated with use of this antibiotic in adults, but similar information is lacking in infants. Moxalactam in combination with ampicillin was used in the treatment of 63 infants with suspected bacterial sepsis. Antibiotic dosages were moxalactam 100-150 mg/kg/day and ampicillin 100 mg/kg/day depending upon the age of the infant. Ages of these infants ranged from 1-47 days. Microorganisms recovered from blood cultures included: group B streptococcus (2), E. coli, Klebsiella sp., Serratia marcescens and Staphylococcus aureus. A prolonged prothrombin time was noted in the infant with E. coli sepsis. No other infant demonstrated bleeding abnormalities (decreased prothrombin, increased bleeding time or thrombocytopenia). Moxalactam remains an acceptable antibiotic when used in combination with ampicillin for treating suspected sepsis in infants. It appears that there is little risk for moxalactam-associated coagulopathy in infants.

1181 COST CONTAINMENT BY USE OF ONCE-DAILY CEFTRIAXONE FOR SERIOUS PEDIATRIC INFECTIONS. Ram Yogev, Stanford T. Shulman, Ellen G. Chadwick, and A Todd Davis. Department of Pediatrics, Northwestern University Medical School, The Children's Memorial Hospital, Chicago.

Substantial reduction of hospital duration and costs may be achieved with use of an antibiotic with very long serum half-life and enhanced activity against pathogens, allowing once-daily dosing. For that reason, we evaluated the efficacy of once-daily ceftriaxone (CTX) in 40 children with serious infections: meningitis (13), ventriculitis (2), pyelonephritis (7), osteomyelitis (6), arthritis (3), and others (9). Isolates were *H. influenzae* (9), *E. coli* (8), *S. aureus* (6), *K. pneumoniae* (3), salmonella (3), group A streptococci (3), and others (9). CTX was given IV or IM at 50 mg/kg; CNS infections were treated with a loading dose of 100 mg/kg followed by 80 mg/kg once-daily. 38/40 patients were completely cured by CTX; one patient with *K. pneumoniae* ventriculitis had received intraventricular gentamicin briefly. One strain of *B. thetaiotomicron* was tolerant to CTX. Trough CTX serum levels were 3-10 µg/ml, while CSF levels were 3.5-15 µg/ml. Reactions included mild discomfort at IM sites (4), diarrhea (3), thrombocytosis (5), eosinophilia (4), mildly elevated liver enzymes (3), and leukopenia with neutropenia (2); all normalized after drug discontinuation. The high cure rate and minimal side effects suggest that once-daily CTX is safe and effective therapy for serious childhood infections. In the DRG era, use of a once-daily regimen combined with home health care or outpatient IV/IM therapy can result in savings of up to 90% of hospital costs.

●1182 PROTEASE ANATAGONISTS INHIBIT THE IN VIVO AND IN VITRO REPLICATION OF ROTAVIRUS. Robert H. Yolken, Joseph E. Eiden, Steven Vonderfecht, Richard Tidwell, Dieter Geratz. Departments of Pathology and Pediatrics, Johns Hopkins Unviersity School of Medicine, Baltimore, MD, Department of Pathology, University of North Carolina, Chapel Hill, NC.

Rotavirus is a major cause of gastrointestinal disease in humans. Rotaviruses replicate in the gastrointestinal tract and their growth is stimulated by gastrointestinal proteases. We investigated the ability of protease inhibitors to prevent rotavirus replication both in the presence and absence of exogenous proteases. We evaluated macromolecular protease inhibitors including alpha-1 anti-trypsin, soy protease inhibitor, and egg white inhibitor as well as low molecular weight inhibitors such as bestatin, pepstatin, and bis-(5 amidino-2-benzimidazolyl) methane (BABIM). All of the protease inhibitors demonstrated in vitro efficacy against rotavirus as determined by the inhibition of replication of cultivatable rotavirus strains in primary cell lines. Efficacy was noted both in the presence and absence of added proteases. In addition, BABIM was found to inhibit the replication of murine rotavirus in orally infected mice. The drug could be administered orally or parenterally and was without toxic effects at effective doses. The other protease inhibitors demonstrated lower levels of in vivo efficacy. BABIM is a protease inhibitor which is capable of preventing the in vivo and in vitro replication of rotavirus. This drug and other protease inhibitors might have efficacy for the prevention and treatment of human infection with rotaviruses and other protease requiring viruses.