●967 SUSCEPTIBILITY TO INVASIVE H. INFLUENZAE (Hi) INFECTION IMMEDIATELY AFTER IMMUNIZATION WITH THE CAPSULAR VACCINE. Sunil K. Sood, John R. Schreiber, George R. Siber, Robert S. Daum. Tulane U, New Orleans, and Dana-Farber Cancer Institute, Harvard U, Boston.

To understand the immunologic mechanism underlying early (<7 day) "vaccine failure" after administration of the Hi capsular polysaccharide vaccine (HiPV), we used the infant rat model to evaluate whether HiPV might, for a short period, decrease the protection afforded by anticapsular antibody (ACA). 74 five day old infant rats were passively protected with bacterial polysaccharide immune globulin (BPIG) prepared from adults immunized with HiPV. One day later, the mean ACA concentration was 173 ± 85 ng/ml. The pups were immunized 24 hours after BPIG with either 75 or 7500 ng HiPV. The lower HiPV dose was extrapolated from that currently recommended for infants. Controls were given BPIG alone or HiPV alone. All animals were challenged ip with $5x10^5$ cfu Hi type b one day after immunization. Detectable bacteremia and meningitis were more frequent in HiPV immunized BPIG recipients than in unimmunized BPIG recipients (100% vs 18%, p<.00001 for bacteremia and 100% vs 18%, p<.00001 for meningitis). Also, in bacteremic animals, the magnitude of bacteremia in the BPIG/HiPV recipients exceeded that in BPIG protected, non-HiPV recipients ($10^{4.6}$ vs $10^{2.1}$, p=.0005). HiPV administration did not deplete complement. However, animals given BPIG followed by HiPV had lower mean ACA concentrations than animals receiving BPIG alone (29 vs 151 ng/ml, p < .01). Moreover, ACA was undetectable (< 25 ng/ml) in 18/20 BPIG/HiPV recipients. We conclude that immunization with HiPV may decrease the ACA concentration and produce a 'window' of susceptibility to Hi disease in the early post-vaccination period.

●968 HERPES SIMPLEX VIRUS GLYCOPROTEINS AS TREATMENT FOR RECURRENT GENITAL HERPETIC INFECTION. Lawrence R. Stanberry, Rae Lyn Burke, Martin G. Myers. Children's Hospital Research Foundation, University of Cincinnati, Cincinnati, OH and Chiron Corporation, Emeryville, CA.

We have previously shown that herpes simplex virus (HSV) glycoprotein vaccines administered prior to viral challenge protect animals from initial herpetic disease as well as reduce the incidence of subsequent recurrent infections. We hypothesized that control of recurrent genital herpes in animals with established latent HSV infection might be achieved through the administration of HSV glycoprotein vaccines after recovery from initial infection. In an initial experiment Hartley guinea pigs were intravaginally inoculated with 5.7 log 10 pfu HSV-2 MS strain and treated with acyclovir in drinking water for 10 days. Half the animals were treated on days 18 and 40 with hind footpad administration of a lentil lectin purified mixture of HSV-2 glycoproteins (gP-2) derived from infected Vero cells. The treated animals had significantly fewer (p <.05) and less severe (p <.001) episodes of recurrent disease then the unimmunized controls. In a second experiment, animals were immunized on days 21 and 42 with either gP-2 or a mixture of genetically engineered HSV-1 glycoprotein B and D. The recombinant vaccine was as effective as gP-2 when compared to unimmunized or sham inoculated controls. Vaccine treated animals experienced fewer (p <.05) and less severe (p <.001) recurrences.

A possible new strategy for the control of recurrent HSV infection would be the use of HSV glycoproteins as immunotherapeutic agents.

●969 SAFETY AND IMMUNOGENICITY OF LIVE ATTENUATED INFLUENZA VACCINES IN INFANTS AND CHILDREN. Mark C. Steinhoff, Neal A. Halsey, Modena Wilson, Mark Snyder, Brian R. Murphy, Mary Lou Clements. Johns Hopkins University, Center for Immunization Research, Baltimore, and Laboratory of Infectious Diseases, NIAID, NIH, Bethesda, Maryland.

Inactivated influenza vaccines confer incomplete and transient protection from disease, and the whole-virus inactivated vaccines cause high rates of reactions in children. Live, attenuated vaccines have been developed from cold-adapted (CA) and avian-human (AH) influenza virus reassortants, and are safe and effective in adults. We compared the infectious $dose_{50}$, immunogenicity, reactogenicity and transmissability of CA and AH influenza A/Bethesda/85 (H_3N_2) reassortant vaccines in young children. Fifty-eight seronegative 6 to 36 months old children were studied in groups of 6 to 10 in close contact in a day-care-like setting for 2 days before and 9 days after receiving a placebo or 10^3 to 10^6 $TCID_{50}$ of either vaccine. Seroconversion occurred in >50% of children who received a dose of 10^6 $TCID_{50}$ of either vaccine. There were no differences in rates of febrile or respiratory illness between vaccinees and placebo recipients. Vaccine virus was shed in low titers (5.6 to 27.5 $TCID_{50}$/ml) for 1 to 5 days by vaccinees, and no transmission to placebo contacts occurred. Both vaccines appear to be safe and immunogenic in young children and infants.

970 COMPARISON OF LATEX AGGLUTINATION AND ELISA MONOCLONAL ANTIBODY ASSAYS FOR DETECTION OF HUMAN ROTAVIRUS (HRV). Carol Stout, Robin Roberts and M. Dianne Murphy. University of Tennessee Hospital, Dept. of Pediatrics, Knoxville, TN. Spons.: Jim Todd, M.D.

Rotavirus is an important cause of childhood gastroenteritis resulting in dehydration, hospital admission and nosocomial infections. False negative antigen tests may lead to further unnecessary diagnostic tests and therapy. We compared a latex agglutination assay (Rotalex; Medical Technology Corp.) with an ELISA procedure (Pathfinder; Kallestad Laboratories) for the diagnosis of HRV. The latex agglutination test used fresh stool suspended in 10 ml's of buffer which was mixed with reactive and non-reactive latex particles for 2 minutes and observed for agglutination. The 1 1/2 hour direct ELISA utilized diluted stool mixed with a monoclonal antibody and added to tubes precoated with antibody. Both assays were visually interpreted. From 11/85 to 4/86, 109 stool specimens were tested by both methods; 15 (14%) were Rotalex (+) for HRV and 48 (44%) were ELISA (+) for HRV. Thirty-five specimens were ELISA (+)/Rotalex (-). Of these, 22 of 30 available specimens were confirmed by a blocking assay as true positives. Sensitivity and specificity of Rotalex was 37% and 98%, respectively, when compared with the confirmed ELISA. The Rotalex latex assay appears to be less sensitive than the Pathfinder ELISA assay for detecting HRV. The benefits of the very rapid latex test must be weighed against its insensitivity. The latex test may best be used as a screening procedure.

971 COMPARISON OF SHELL VIAL CENTRIFUGATION, STANDARD CULTURE AND FLUORESCENT ANTIBODY (FA) TECHNIQUES FOR DIAGNOSIS OF RESPIRATORY SYNCYTIAL VIRUS (RSV). Carol Stout, Robin Roberts, M. Dianne Murphy & Anthony A. Kattine, Univ. of Tennessee, Dept. of Pathology & Pediatrics, Knox., TN. Spons.: Jim Todd, M.D.

Respiratory syncytial virus (RSV) is an important cause of respiratory disease in young children. We evaluated a centrifugation culture technique's ability to provide rapid culture diagnosis. Between 11/85 & 3/86, 365 respiratory specimens were processed by standard culture &/or direct immunofluorescent antibody (FA). Of these, 183 specimens (74% nasal washes) were inoculated with 0.2 ml onto HEp-2 shell vials (SV), centrifuged at 35°C, 2500 x g for one hour & incubated for 24 & 48 hours. Coverslips were acetone fixed & stained with RSV Fitc-conjugated monoclonal antibody. For standard cell cultures, the time to positive cytopathic effect (CPE) was seven days. Thirty of 140 (22%) were standard cell culture positive for RSV, 38 of 111 (34%) were FA positive for RSV & 34 of 183 (34%) were FA positive for RSV by shell vial. Sensitivity & specificity by shell vial were, respectively, 70% & 96%, compared with culture, & 63% & 96% compared with FA. Specificity for SV is 99% if specimens positive on FA & SV are considered false negatives on routine culture. This centrifugation culture technique, as applied to RSV, provided specific results five days sooner than standard culture. Only 10% of specimens negative by both FA & SV were positive on culture. A combination of FA & shell vial methods could provide a rapid, specific & sensitive diagnosis for RSV while allowing virus isolation.

972 BIOAVAILABILITY AND CSF PENETRATION OF CIPROFLOXACIN IN EXPERIMENTAL HAEMOPHILUS INFLUENZAE MENINGITIS Harris R. Stutman and Melvin I. Marks Department of Pediatrics, University of California, Irvine and Miller Children's Hospital, Long Beach

Ciprofloxacin (C) is a new quinolone antimicrobial with a broad spectrum of activity and oral bioavailability that may be useful for the therapy of systemic infections in children. Pharmacokinetics, CSF penetration and efficacy of this agent were studied in an infant rabbit model of bacteremic Haemophilus (Hib) meningitis induced by intranasal inoculation. C concentrations were determined by bioassay. Uninfected rabbits were given 25 or 50 mg/kg orally and intravenously. Results were:

Dose	[Serum], peak ug/ml	T½ oral	AUC, oral ug/ml/h	[CSF], peak ug/ml
25 mg/kg	1.6± 0.3	3.8h	9.0± 3.2	<0.1
50 mg/kg	4.2± 0.1	2.9h	23.2±2.6	<0.1

Serum concentrations (conc.) peaked 1-3 h after oral dosing and bioavailability (AUC po/AUC iv) was 40.5%. Rabbits with Hib meningitis were given C 50 mg/kg po q12h. Peak serum conc. (3.3±1.5) and T½ (3.0 h) were similar to uninfected animals, but CSF conc. were higher (mean 0.14 ug/ml, penetration 7.8±1.6%). Serum conc. 12 h after an oral dose (0.16 ug/ml) were still 10X the Hib MIC. CSF cultures showed 2500 cfu/ml before and 16 cfu/ml 2h after treatment. CSF cultures at 6 h were sterile. C warrants further study in the treatment of systemic Hib infections.