1063 CEFUROXIME (CXM) THERAPY OF POTENTIALLY BACTEREMIC SOFT TISSUE INFECTIONS IN CHILDREN. William J. Barson, Dwight A. Powell, Michael T. Brady, David L. Pacini, Mario J. Marcon, Marilyn M. Hribar and Marcia A. Miller. The Ohio State University College of Medicine, Children's Hospital, Department of Pediatrics, Columbus, Ohio.

Although used extensively in Europe, there is limited pediatric clinical experience with CXM in the United States. Thirty children, 4-43 mo in age received CXM, 25 mg/kg IV every 8 hr for potentially bacteremic soft tissue infections of the face, or epiglottitis. Infections treated included pre-septal (16) and buccal (12) cellulitis and epiglottitis (2). Blood cultures were positive in 18 patients: H. influenzae type b-13 (2 β-lactamase positive); S. pneumoniae-4; and β-lactamase positive, nontypable H. influenzae-1. An additional 5 patients with buccal cellulitis had negative cultures but H. influenzae type b antigenuria. All isolates were susceptible to CXM. The median MBC for the blood culture isolates was 0.5 μg/ml (range 0.008-2.0 μg/ml). A good clinical response was noted in all patients and repeat blood cultures performed on initially bacteremic patients were sterile. The mean duration of CXM therapy was 4.6±1.2 days. All patients were discharged on an appropriate oral antibiotic to complete a 10 day course of therapy. There were no clinical adverse effects or breakthrough meningitis experienced during therapy with CXM. Lab abnormalitis encountered included absolute granulocytopenia (4); thrombocytosis (3); and elevated liver functions (2). CXM appears to be a safe and effective therapy of pediatric soft tissue infections due to H. influenzae and S. pneumoniae.

1064 Measurement of Antiviral Drugs Active Against Varicella Zoster Virus (VZV) Using ELISA Directly on Infected Cells: Superiority Over Plaque-Reduction Assay (PRA). F.E. Berkowitz and M.J. Levin. Dept Pediatrics, University of Colorado Health Sciences Center, Denver, CO 80262.

The standard method for measuring antiviral activity against VZV is PRA. This has several disadvantages: 1) Subjective endpoint; 2) time and labor intensity; and 3) inability to measure the drug-induced changes in plaque size. We improved upon this method as follows: human embryonic lung fibroblasts in microtiter plates were infected with VZV, antivirals were added, and 3 days later the monolayers were glutaraldehyde-fixed. VZV antigen was quantitated in-situ using hyperimmune human globulin (VZIG) and peroxidase-conjugated goat anti-human IgG in a standard ELISA. Antigen representing 5 to 10 plaques could be detected. Dose-response curves for ELISA, PRA and infectious center assay were similar. When the activity of 4 antivirals (acyclovir, trifluorothymidine, adenine arabinoside and bromovinyldeoxyuridine) were compared by ELISA and PRA the ID_{50}'s and the means of the coefficients of variation were lower by ELISA. An inoculum effect was also demonstrated for 3 of the 4 drugs tested. The in-situ ELISA was found to be superior to conventional PRA because the endpoint measurement was objective, multiple replicates were easily performed with little extra time or effort, and there was less variability. It is quicker when 3 or more samples must be tested, and is particularly suitable for viruses that produce plaques slowly.

1065 ACYCLOVIR (ACV) TREATMENT OF PRIMARY GENITAL HSV-2 INFECTION IN GUINEA PIGS (GPS): EFFECT ON RECURRENCE PATTERNS. David I. Bernstein, Lawrence R. Stanberry, Christopher J. Harrison, and Martin G. Myers. University of Cincinnati, J.N. Gamble Inst. Med. Res., Children's Hosp. Med. Ctr., Department of Pediatrics, Cincinnati.

In humans ACV diminishes the immune response to herpes simplex virus (HSV) and may therefore increase the severity of first recurrences. ACV may also diminish the long-term recurrence pattern and can prevent recurrences when taken prophylactically. To determine the effects on recurrence patterns, oral ACV (5 mg/ml in drinking water) was provided for 21 days beginning 12 hours after intravaginal HSV-2 inoculation in weanling Hartley gps. The severity of initial skin disease was decreased and 6/18 ACV-treated animals exhibited no skin lesions. Vaginal virus titers, however, were similar in both control and ACV treated groups. During the period from 14-21 days, while still receiving ACV, treated gps had similar rates of viral isolation and clinical recurrences which were similar in numbers but clinically milder than those seen in control animals. During ACV treatment blood ACV levels were .35 to 3.8 μg/ml. All HSV isolates remained sensitive to ACV. In the period immediately after ACV was discontinued (day 22-30) drug-treated gps had recurrencs that were similar in number, duration and severity to control animals. Five of the 6 ACV-treated animals that had subclinical initial infection had either asymptomatic viral shedding (1) or clinically apparent disease (4) during this period. Animals followed to day 60 had a similar number of recurrences whether or not they had received ACV. ACV treated animals did not have more severe disease immediately after therapy was discontinued nor a reduction in the number of long-term recurrences.

†1066 ANTIBODY RESPONSE OF HSV-2 GENITALLY INFECTED GUINEA PIGS: EFFECT OF ACYCLOVIR (ACV). David I. Bernstein, Lawrence R. Stanberry, John C. Kappes, and Martin G. Myers. J.N. Gamble Inst. Med. Res., University of Cincinnati, Children's Hosp. Med. Ctr., Department of Pediatrics, Cincinnati.

Recent studies have suggested that the production of antibodies to specific herpes simplex virus (HSV) polypeptides can modify recurrent disease and be affected by ACV therapy. We examined the sequential response to HSV-2 polypeptides and the production of neutralizing antibodies following intravaginal HSV-2 inoculation of weanling Hartley guinea pigs. This response was then compared to simultaneously infected animals who received ACV (5 mg/ml in drinking water) for 21 days. The initial response, seen at 14 days in both ACV and control animals, was directed predominantly at two nonglycosylated proteins of MW 40 and 43K. The response to the major nucleocapsid protein (146K) was also seen initially on day 14 in the majority (9/14) of control animals but not until day 21 (7/16), and in some cases day 28, in ACV recipients. The response to glycoprotein B and a number of other proteins between 70 and 90K was also delayed in ACV recipients. By day 60 there was no apparent difference between ACV and control animals. Similarily, the mean titer of neutralizing antibody was significantly lower in ACV animals compared to controls on day 14 (2.8. vs. 5.8) ($P < .025$) and 21 (10.5 vs 29.5) ($p < .05$); however, by day 28 while titers were still lower (18.2 vs. 35.5) the difference was no longer significant. Control guinea pigs intravaginally inoculated with HSV-2 develop a characteristic antibody response while ACV-treated, HSV-2 infected guinea pigs developed similar but delayed antibody response.

†1067 SELECTIVE INTRAPARTUM CHEMOPROPHYLAXIS OF EARLY-ONSET GROUP B STREPTOCOCCAL DISEASE. K.M. Boyer, S.P. Gotoff, C.A. Gadzala, D.E. Fisher, J.B. Paton, L.I. Burd, The University of Chicago, Michael Reese Hospital & Medical Center, Depts. Pediatrics and OB/GYN, Chicago, IL.

We examined the effect of selective intrapartum chemoprophylaxis (SIC) on the incidence of group B streptococcal (GBS) early-onset disease in a randomized controlled trial. Parturients were eligible for the study if they had prenatal GBS colonization and either premature labor (<37 weeks) or prolonged membrane rupture (>12 hours). Treated mothers received 2 gm ampicillin IV followed by 1 gm IV Q4H until delivery. Blood cultures were obtained from all study infants at birth and from mothers or older infants if warranted clinically. Of the 175 randomized parturients, 93 received ampicillin and 82 did not. No infant whose mother received SIC had GBS early-onset bacteremia, whereas 5 (6.1%) of the infants whose mothers were not treated were bacteremic ($p=0.02$). We studied an additional 320 nonrandomized women with the same eligibility criteria. None of the infants born to 76 treated mothers had GBS early-onset bacteremia, whereas 7 of 224 (3.1%) whose mothers were not treated were bacteremic ($p=0.13$). Four untreated mothers (1 randomized, 3 nonrandomized) developed GBS obstetric sepsis. One infant born to a nonrandomized treated mother developed GBS late-onset sepsis. These results are the first prospective demonstration of the efficacy of SIC to prevent GBS invasive disease.

1068 DIARRHEA VIRUSES AND SUDDEN INFANT DEATHS. Carl D. Brandt, Robert H. Parrott, Roma Chandra, Hyun W. Kim, William J. Rodriguez. Children's Hospital National Medical Center and the George Washington University School of Medicine and Health Sciences, Washington, D.C.

Post-mortem fecal samples were collected over a period of several years from 175 infants and young children from metropolitan Washington D.C. who died suddenly, usually in their home. The specimens were tested for diarrhea viruses by direct or immune electron microscopy and a rotavirus enzyme-linked immunoassay. The death of 115 of those studied was anatomically unexplained (SIDS victims). An anatomic cause of death was found for 60 others, including 11 with severe diarrhea and dehydration. Rotaviruses were detected in 5 (45.5%) of those who died with diarrhea and dehydration, and also were found in 5 (4.3%) of the SIDS victims. Non-cultivable 27nm virus was found in two other SIDS victims. Rotavirus-positive individuals who died with frank gastroenteritis and dehydration usually were older (4,9,10,10 and 14 months of age) than the rotavirus-positive SIDS victims (who were 3 weeks, 4 weeks, 7 weeks, 4 months and 4 months of age). Near the time of their death, at least 2 of the rotavirus-positive SIDS victims had diarrhea (one with vomiting, the other with fever), and two others had a respiratory illness. Both of the 27nm infections and 10 of 11 rotavirus infections occurred in the months of December through February. 20% of the 30 infants and young children who died in January had a rotavirus infection at the time of death.