943 VARICELLA IN A GORILLA. Martin G. Myers, Lynn W. Kramer, Lawrence R. Stanberry. Children's Hospital Research Foundation, University of Cincinnati, and the Cincinnati Zoo, Cincinnati, Ohio.

Although the guinea pig is susceptible to varicella-zoster virus (VZV) adapted to fetal guinea pig tissue cultures, species other than the human have not proven susceptible to wild-type VZV infection. Varicella-like illnesses among cercopithecoids have been associated with herpesviruses related to, but distinct from, VZV. In contrast, varicella-like illnesses occurring among the hominoids have often been associated with exposure to VZV, although the etiologies have been considered to be species-specific agents other than VZV.

We observed a self-limited varicella-like illness in a young gorilla born and maintained in captivity in close proximity to other primates, including man. Electron microscopic examination of vesicle fluid revealed particles characteristic of an herpesvirus, an agent was isolated from vesicle fluid and nasopharyngeal secretions, and the gorilla seroconverted to VZV. Hind III and EcoRI digestion of the isolate demonstrated restriction patterns identical to that of VZV.

This gorilla probably acquired varicella from a human animal handler. However, because the gorilla is phylogenetically closely related to man, it is also possible that VZV may be a natural pathogen of other hominoids, such as the gorilla.

946 LOIASIS IN AN EXPATRIATE AMERICAN CHILD: DIAGNOSIS AND TREATMENT DIFFICULTIES

Karen N. Olness

This is a report of an American expatriate child treated for loiasis in the United States. A five year old girl was seen in Minnesota with typical calabar swellings, associated with the loa-loa variety of filariasis. Recently returned from Cameroon, she had been treated for presumed filariasis six months earlier. Other than an eosinophilia of 30 per cent, all initial laboratory findings were negative. These included multiple thick blood smears, urinalysis, staining of urine sediment, and initial antibody titers for filaria antigens. Due to the toxicity of diethylcarbamazine, physicians were reluctant to treat her unless the diagnosis could be confirmed. As a result she underwent skin snip biopsies, radiologic, and ophthalmologic diagnostic efforts; all were negative. The intermittent calabar swellings involving her right extremities and right periorbital area continued. After two months of waiting, she was treated on the basis of the clinical diagnoses with diethylcarbamazine.

She was admitted for treatment, given gradually increasing dosages, and observed carefully for toxicity. She tolerated 21 days of treatment without incident. A second antifilaril antibody titer, which had been drawn two weeks prior to treatment, was positive at 1:1600.

●944 CLEARANCE OF HAEMOPHILUS INFLUENZAE TYPE b (Hib) BACTEREMIA REQUIRES C3 FIXATION BUT NOT LYSIS IN THE NON-IMMUNE HOST. Gary J. Noel, Steven Katz and Paul J. Edelson. Cornell U. Med. Coll., The New York Hospital, Depts. Pediatrics and Otorhinolaryngology, NY

We studied the role of the early components of complement (C') in determining clearance of Hib by assessing clearance of Hib in C5 deficient (C5D), in congenic C5 sufficient (C5S) and in cobra-venom treated, C' depleted (CoV) mice. Quantitative blood cultures were done at 10 min, 1hr, 3hr, 24hr and 48hr after iv inoculation of $1\text{-}5\times10^5$ organisms. C5D cleared Hib as well as C5S mice. However, CoV mice had impaired clearance of Hib as reflected by persistent high grade bacteremia.

Geometric mean Hib bacteremia (CFU/ml)

	CoV (n=11)	C5D (n=6)	C5S (n=4)
3 hr	1.9×10^3	2.8×10^2 (*)	4.0×10^2 (*)
24 hr	1.4×10^3	4.6×10^1 (*)	7.4×10^1
48 hr	1.3×10^3	4.3×10^1	3.0×10^1 (*)

* indicates $p \leq 0.05$ (compared to CoV) by rank sum test.

Mouse sera contained no antibody to Hib as assessed by an immunofluorescence assay (IFA) and were not bactericidal at concentrations up to 50% (10xACH50). Deposition of C3 was demonstrated by IFA with C5S and C5D sera but not with CoV sera and required Mg++ but not Ca++ implying a role for the alternative pathway (ACP). In this animal model that allows distinction of the opsonic and lytic roles of C', (1) Hib is cleared in the absence of serum bactericidal activity and (2) C3 fixation via the ACP is associated with improved clearance of Hib. C' mediated opsonization rather than lysis may be the important mechanism for defense against Hib in the non-immune host.

945 ORAL RIBAVIRIN THERAPY OF SUBACUTE SCLEROSING PANENCEPHALITIS (SSPE). John W. Ogle, Brian A. Lauer, W. Davis Parker, Philip Toltzis, Noberto Alvarez, Kenneth McIntosh, Myron J. Levin. Univ. of Colo. Sch. of Med., University Hosp., Dept. of Peds., Denver, and Harvard Med. Sch., Children's Hosp., Dept. of Peds., Boston.

SSPE is a persistent fatal measles virus infection of the central nervous system. Because ribavirin is active in vitro against measles and reportedly efficacious in naturally occurring measles, we treated 2 patients with SSPE with oral ribavirin. The patients were an 11 year old girl and an 18 year old boy ill for 2 and 8 years, respectively. The dose was 10 mg/kg tid for 3 days, then bid daily for 6 and 14 weeks, respectively. Serum and cerebrospinal fluid (CSF) ribavirin concentrations (courtesy of J. Connor, Univ. of Calif. San Diego) and measles antibody titers (Courtesy of V. Berardi, Mass. State Dept. of Health) were measured serially. Clinical response was evaluated by neurological examination and EEG, and toxicity was monitored by blood count, electrolytes, urinalysis, liver and renal function tests.

Ribavirin Concentration (uM) Patient #1 (Patient #2 pending)

Day	0	7	14	21	28	35	42
Serum	0	10.9	12.2	11.1	12.4	13.7	14.1
CSF	0	8.2	9.5	-	-	-	9.4

Neurological examination and EEGs were essentially unchanged during therapy. There was no decrease in antibody titers. Ribavirin was well tolerated except for mild hemolytic anemia in patient #1. CSF ribavirin levels were 75% of serum at 7 days, and remained above 66% for 6 weeks. Future therapeutic trials should consider prolonged treatment or higher doses of oral ribavirin early in the course of SSPE.

●947 COMBINATION ANTIVIRAL CHEMOTHERAPY IN A MURINE MODEL OF NEONTAL HERPES. James C. Overall, Jr., Peggy E. Vogt, and Earl R. Kern, Univ. of Utah School of Medicine, Dept. of Pediatrics, Salt Lake City.

Although therapy with arabinoside (Ara-A) or acyclovir (ACV) has improved outcome in human neonatal herpes, appreciable mortality and morbidity still occur in treated infants. In 3 week old mice inoculated intranasally with herpes simplex virus type 2 (HSV-2), we compared mortality rates from treatment with a combination of two drugs vs each drug alone by using the combination index (CI) equation. In a representative experiment, the dose of ACV beginning 48 hr after viral challenge which reduced mortality 50% from that of placebo-treated animals (protective dose - 50 or PD-50) was 60 mg/kg/da divided twice daily for 7 days. The PD-50 for recombinant interferon (rIFN) - alpha A/D (a human hybrid active in mouse cells) was over 50,000 units/mouse/da. Using a high, middle, and low dose of ACV (120, 40, and 14 mg/kg/da) in combination with a high, middle and low dose of rIFN (50,000; 10,000; and 2,000 u/mouse/da), the PD-50 for ACV was reduced to 0.02 to 0.3 mg/kg/da with the high and mid IFN doses, and the PD-50 for IFN decreased to 600 to 5,000 u/mouse/da with all 3 doses of ACV. The CI value calculated from these data indicated synergism. Using a similar experimental design, the combination of ara-A and ACV appeared to be synergistic with the mid and low doses of the 2 drugs, but indifferent with the high doses. These results indicate that the combination of two antiviral drugs active in experimental HSV infections can have synergistic therapeutic activity and suggest that this approach should be pursued in the treatment of human HSV disease.

†948 POLYRIBOSYLPHOSPHATE (PRP) REVACCINATION TO PREVENT INVASIVE HAEMOPHILUS INFLUENZAE B (HIB) IN CHILDREN FIRST IMMUNIZED AT 18-20 MOS OF AGE. Michael E. Pichichero, Andrea Bracikowski, Richard Sullivan, Porter Anderson. U Rochester, Dept. Peds, Rochester, NY (Spon. by Richard Insel)

PRP vaccination (vax) of 18 mo old children at high risk for contracting invasive Hib disease is recommended by the ACIP. The timing of revax of such children has not been studied. Thus far, 30 children have been stratified according to their postvax anti-PRP antibody (Ab) level (determined by radioantigen binding assay) following PRP vax at 18-20 mo then sequentially assigned to 3 groups with comparable distribution of Ab levels to receive revax at 24, 30 or 36 mo of age; each group had children who had failed to respond to primary vax with PRP (<30% rise in Ab titer). The geometric mean titer +/- the standard deviation, the % responding to revax (>30% rise in Ab titer), and the % with presumed protective postvax Ab level (defined as >1.0 µg/ml) for each vaccine group were as follows:

	Revaccinated (Booster) at:		
	24-27 mos old	30-33 mos old	36-39 mos old
Pre Booster	1.2 (0.4-3.4)	0.6 (0.3-1.3)	I.P.
Post Booster	2.7 (0.7-9.6)	3.5 (0.8-15.9)	I.P.
% Responders	60%*	100%*	I.P.
% >1.0 µg/ml	80%	78%	I.P.

I.P.=in progress; *Sig. diff, p=0.05 by Fishers Exact Test

GMT's rose in both the 24-27 mo and the 30-33 mo groups; proportional rises were, as expected, more frequent in the latter. Adequate responses to revax were seen in some children who initially appeared to be "intrinsically" unresponsive to PRP vax.