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Use of Passive Antibody (Ab) to Modify Congenital Guinea Pig CMV Infection. N.Bourne, D.F.Bratcher, F.J Bravo, M. Slaoui, M.G. Myers and D.I.Bernstein.Childrens Hospital Research Foundation, J.N. Gamble Institute of Medical Research, Cincinnati OH USA and SmithKline Biologicals, Rixensart, Belgium.

The guinea pig (gp) provides the only small animal model for testing prevention and treatment strategies for congenital cytomegalovirus (CMV) infection. We used this model to evaluate the effects of passive Ab on pregnant dams and their pups. Third trimester pregnant gps received 3 doses of high-titer anti-gpCMV Ab, or control sera, IP begun either prior to (pre-inoculation) or after (post-inoculation) challenge with a highly virulent pool of gpCMV. A fatal infection developed in 3/5 controls, 4/5 post-inoculation, but only 1/6 pre-inoculation mothers. Only 3/22 control and 0/28 post-inoculation pups survived compared to 22/42 pre-inoculation pups ($p=0.03$). Virus was however isolated from 86-91% of pups in each group. Using a 1:10 dilution of the viral inoculum, all mothers survived to delivery. Pup survival remained low in controls (3/14) but was again significantly ($p<0.001$) increased in the pre-inoculation group (15/18). Interestingly survival among pre-inoculation pups using the diluted viral challenge (84%) was higher than the initial experiment (52%). Passive antibody given pre-inoculation improved disease outcome but failed to prevent vertical transmission of virus. Treatment initiated post-viral inoculation was ineffective.

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New Acycloguanosine Analogue - Furavir. O.T.Andreeva, S.N.Nikolaeva, E.I.Boreko, V.I.Votjakov, R.A.Zhuk. Byelorussian Research Institute for Epidemiology & Microbiology, Minsk, Republic of Byelarus

Furavir differs from a well-known antiherpetic drug - acyclovir by the enhanced solubility in water (60 times) and by physiologic level of pH solution. In perspective it may be used for the development of more effective antiherpetic drugs, and especially for the application as injection. In comparative experiments the difference between furavir and ACV in their activity on the reproduction of the initial and defective HSV strains type I were not detected in cell cultures of chicken embryo fibroblasts. Both agents didn't influence upon the ACVr strain, but they inhibited the reproduction of PAAr strain by 6.0-1.25 lg PFU/ml in 800.0-0.5 mkg/ml concentration. In mice with HSV I meningoencephalitis the mortality was reduced when furavir was administered orally in doses 200.0-0.1 mg/kg by 69.1-55.8% and ACV - 62.3-41.6%. The tendency to the increasing of furavir activity as compared with ACV in concentration more than 100 mg/kg was detected. When infected intracerebrally, the mortality of animals, treated with furavir in dose 200 mg/kg, was reduced by 70.9%, and in animals, treated with ACV - 26.2%, only. The antiviral activity of furavir was confirmed by inhibition of reproductive features of HSV no less than LD_{50} 2.5 lg in brain of treated animals.