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From the above results, the induction of cellular DNA synthesis and the increasing affinity between nuclear membrane and DNA in the cells infected with ICHV were confirmed, and the role of the nuclear membrane in the synthesis of viral and cellular DNA in the ICHV-infected DKC was concluded.

CLINICAL AND HEMATOLOGICAL OBSERVATIONS ON EXPERIMENTAL REPEATED BLOOD TRANSFUSIONS IN HORSES

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The blood transfusion was carried out on 4 normal horses at the rate of 2 ml per kg from different 4 normal horses every day, every other day, or 6~8 days apart and the resulting physical conditions were examined clinically and hematologically. These are summarized as follows.

1) Transfusion reactions with hemoglobinuria, such as icteric coloration of the visible mucous membrane, accelerated breathing, increase of pulse rate, accelerated peristalsis, pyrexia, sweating, and lying down, were obvious after an average of 52 days (8~72 days); that is, at the 16th (the 6~20th) transfusion on the average. Such reactions disappeared within 24 hours after the transfusions.

2) The fluctuations in the red blood cell count, Zschokke's value, the hematocrit reading and the hemoglobin value were closely related. At the beginning of the experiment, these values increased, but after the initial increment they decreased to those of before transfusion.

3) There were no significant changes related to the transfusions in either the total or the differential leukocyte count or in erythrocyte fragility throughout the entire experiment.

4) Sideroleukocytes began to appear after 19 days (6~30 days) on the average, that is, at the 9th (4~13th) transfusion on the average, and then constantly increased with each blood transfusion.

5) Erythrophages were observed in the middle and terminal stages of the experiment for all recipients.

6) Icterus index and serum bilirubin value constantly increased. However, their changes were not abnormal.

7) The values of SGOT, SGPT and blood urea-nitrogen remained at normal

levels throughout the experiment.

8) Hemolysin titer began to rise after 50 days (6~72 days) on the average for all recipients, however, the agglutinin titer rose after 7 days for only one of the recipients.

9) The agar-gel-immunodiffusion test of sera obtained at the end of the observations and the histo-pathological examinations of the liver tissues after autopsy revealed non-equine infectious anemia for all recipients.

HELPER DEPENDENT REPLICATION OF ADENO-ASSOCIATED SATELLITE VIRUS IN DOGS

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Adeno-associated satellite virus (ASV) has been known to replicate *in vitro* in dependence of adenovirus. However, whether it is also dependent on adenovirus *in vivo* remains unknown. To solve this problem, ASV strain M of canine origin, was inoculated into dogs. Dogs have been considered to be one of the natural hosts of ASV.

Sixteen mongrel puppies, 2 to 7-days old, from 5 litters, were fed before inoculation for about 3 weeks in isolated kennels. In each experiment, puppies from the same litter were used for experimental infection and for control. Recovery of the ASV was done by inoculating various organs and tissues of the puppies, and two blind successive passages, in the culture of dog kidney cell (DKC) preinfected for 1 hour with ICHV (strain FD), and by examining the DKC by the indirect fluorescent antibody technique using anti-ASV strain M serum.

Three puppies were inoculated, through the catheter into the stomach, intramuscularly, and intravenously, respectively. No recovery of the ASV and no antibody against ASV by complement fixation tests were found in the dogs inoculated with the ASV alone.

Two puppies were inoculated with the ASV into the stomach through the catheter, then with ICHV (strain Woc-4) subcutaneously. Three puppies were inoculated subcutaneously with the ASV and ICHV simultaneously. The ASV was recovered from the blood, liver, and other organs of a puppy that had died 4 days after the simultaneous inoculation. This puppy manifested the symptoms of infectious canine hepatitis, and from its blood and other organs ICHV was