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In considering the formal pathogenesis of the adenoid or adenomatoid structures, edematous processes (disturbances of water metabolism) in the lamina propria were especially taken seriously. The epithelium was desquamated frequently on account of the accumulation of edema fluids just beneath the epithelium. These edematous processes were considered due to microvascular alteration (edematous loosening and swelling of the wall of the small blood vessels). The degree of the adenoid alveolus formation had no relation to the existence of chronic cystitis or chronic interstitial nephritis.

Under the edematous tissue condition resulting from the microvascular alteration, the foamation of the adenoid or adenomatoid structures was regarded as "an epithelial regeneration in an abnormal way" (simplification of faculty of cell-division, conversion of direction of cell-division, inconstancy of velocity of cell-division, etc.), namely, a metaplasia (adenoid or adenomatoid metaplasia).

THE KINETIC AND LYTIC INFECTION OF HAMSTER CELLS BY INFECTIOUS CANINE HEPATITIS VIRUS

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In the first part of this paper, the multiplication of ICHV in the hamster cells was studied using 2 strains, FD and Woc-4, and 4 types of cells - whole hamster embryo cells, baby hamster kidney cells, adult hamster kidney cells and the cells established from ICHV-induced hamster tumors. Fairly good multiplication was observed when hamster cells were infected with strain FD, and the maximum infective titers obtained were sometimes as much as those obtained from dog kidney cells (DKC). In contrast, the multiplication of strain Woc-4 in hamster cells was smaller than that of strain FD. In particular, no multiplication of strain Woc-4 was observed in BHK 21 (W-12) cells established from the baby hamster kidney cells, nor in HT-7 and HT-8 cells which were established from the ICHV-induced hamster tumors.

The second part dealt with *in vitro* transformation of hamster cells by ICHV. Transformed foci were found in the cultures inoculated with 9 virus strains out of 11 used. The foci appeared about 37 days after virus inoculation and, as reported in oncogenic human adenovirus type 12 - hamster cell system, were observed as colonies of small epithelioid cells against the background of normal cell sheets chiefly consisting of fibroblastic cells. By the fluorescent antibody technique,

the presence of a tumor (T) antigen specific for ICHV was demonstrated in the cells of the foci. The transformed cells produced by 4 of the 9 strains were confirmed to have tumorigenicity for hamsters. The tumor bearing hamsters were found to have antibodies in their sera reactive with ICHV-T antigen.

In hamster cells, as described in the above result, strain FD showed only lytic infection, whereas strain Woc-4 showed not only lytic but also kinetic infection. The kinetic infection could be attained only by using a small dose of virus inoculum per cell and frequent changes of media after the virus inoculation. The fact that in vitro transformation of hamster cells was made possible by using cultural conditions of the infected cells which were different from those used in lytic infection suggests that the Woc-4 - hamster cell system offers a prominent system for analyzing the mechanism of tumor induction by virus.

STUDIES ON THE COLLECTIONS OF THE LEUKOCYTES FROM BOVINE AND OVINE PERIPHERAL BLOOD BY THE USE OF WATER AND AMMONIUM CHLORIDE SOLUTION

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A large number of leukocytes without red cells were collected from bovine and ovine peripheral blood by the use of water and ammonium chloride solution and they were examined cytologically.

1) In the water method, a ratio of 1 to 1.5, blood to water, and restoration of isotonicity after 20 seconds were most favorable in both bovine and ovine blood.

2) In the ammonium chloride method, a ratio of 1 to 2, blood to the 0.83% solution, and 3 minutes mixing were most favorable in both types of blood.

3) In the leukocytes collected by the water method, some influences by the method were observed in morphology, viability, phagocytic activity, fine structure and differential count in both types of blood.

4) In the leukocytes collected by the ammonium chloride method, some influences by the method were observed in morphology, viability, phagocytic activity, fine structure and differential count in both types of blood.

5) For the differential count, the leukocytes collected by these two methods do not seem to be suitable, but they may be useful for the detection of abnormal cells in the blood, blood cell culture and making blocks in electron microscopy.