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EDITORIAL

Secretory (IgA) antibodies against viruses are generally believed to play an important role in specific resistance against reinfection through the respiratory or intestinal mucosae. In the respiratory system some of the secretory antibody seems to be tightly associated with epithelial cells. In the first paper of this issue Angelova and Angelov describe such epithelial cell-associated antibody angainst influenza virus in patients, convalescents and vaccinated volunteers.

This issue carries two contributions on the new antiherpes compound, acyclovir. Allaudeen et al. have examined to what extent the inhibitory effect on different herpetoviridae is correlated with the action of the triphosphate on the respective polymerases of the viruses. Especially in the case of Epstein–Barr virus the correlation was found not to hold up, suggesting that in this case the mode of action of acyclovir may be different. In a second paper on acyclovir, Hill et al. describe a prophylactic effect of tropical treatment on recurrence of herpes in mice.

In a study on volunteers infected with influenza virus, Hayden et al. have compared the therapeutic and antiviral effects of aerosolized rimantadine hydrochloride with the effects of the orally administered drug. Their study suggests that topical treatment may be as effective as systemic administration.

This issue of Antiviral Research also carries three contributions on interferon. Mouse interferon obtained from virus-infected L cells was the first to be purified to homogeneity (i.e. free from all non-interferon contaminants). This pure interferon was composed of several molecular variants, as obvious from gel electrophoresis analyses. Independently from this, the analysis of human interferons led to the discovery of three distinct molecular types, α, β and γ. For some time it remained unclear which of the molecular variants of mouse interferon were the analogues of the human α and β. In this issue of Antiviral Research Kawade et al. present serological evidence to support former claims of analogy between the individual murine and human interferon types. The biological effects of interferon on cells require interaction with the cell membrane. This interaction is at present not fully understood. Clycolipids and glycoproteins of the cell membrane may act as receptors. In this context Fuse et al. have examined a number of glycolipids and glycoproteins for their competitive action with the antiviral effect of interferon. The mechanism of action of interferon on retrovirus replication differs in a number of aspects from that on other viruses. In this context Huleihel and Aboud have examined whether analysis of a heterologous system – mouse interferon in rat cells – might contribute to better understanding of the mechanism of action of interferon on retroviruses.

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