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LYPOPOLYSACHARIDE INHIBITS REPRODUCTION OF AMYOTROPHIC LEUCOSPONGIOSIS AGENT IN VITRO

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Amyotrophic leucospongiosis (AL) is a slow neurodegenerative disease of people caused by "unconventional viruses". The reproduction AL agent, strain AL-D (infectious titre 5,6 lg LD_{50}/ml) in monolayer cultures of man's astrocytes is accompanied by a complex of specific cytophatic alterations in 8-12% cells (an extensive vacuolization of cytoplasm, destruction of cell organelles), by reactivation and hypertrophy of some cells and by breaking of their adhesious properties.For the 10th-12th day of the infection the titre of agent in culture reaches 2,8-3,5 lg LD_{50}/ml. The mitotic activity of cells is increased by the processing of astrocytes by lypopolysacharide (LPS) from E. coli (Sigma) during 24 hours in the dose of 0.5-1 mkg/ml (the index of proliferation stimulation was 1,5-1,8 on the third day after the treatment; this index was estimated on the level of ^3H-DNA synthesis). The introduction of LPS before the infection of astrocytes leads to the inhibition of reproduction of AL agent on 2-3 lg. The total preservation of the adhesious properties and the prevention of the development of cytodestructive changes in the cells are marked during this process. The revealed phenomenon is apparently connected with the change of sensitivity of the LPS-stimulated astrocytes to AL agent at the expense of reconstruction of the cells receptor apparatus and/or at the expense of the cytokine output. Therefore, influencing on astrocytes by mitogens one can induce unspecific resistance of these cells chaning the course of the infectious process.

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Organ Distribution of a Conjugate of Adenine Arabinoside Monophosphate with Lactosaminated Albumin in Rat.

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We have studied the organ distribution in rat of the hepatotropic antiviral conjugate of lactosaminated serum albumin with adenine arabinoside monophosphate (LSA-ara-AMP). Two radioactive conjugates were used: one labeled in the protein and the other in the drug moiety. In animals injected with the protein labeled conjugate, the radioactivity in liver was 92, 23 and 5 times higher than in intestine spleen and kidney, respectively. In liver the conjugate penetrated into both parenchymal and sinusoidal cells. Conjugate was composed of the monomer as well as of polymers of L-SA; distribution of the monomer in liver parenchymal and sinusoidal cells was very similar to that of polymers. When set free from the conjugate within the cells, ara-AMP (and ara-A) was partly released into the bloodstream. However the concentration of the drug remained higher in liver compared to other organs; in fact after administration of the conjugate labeled in the ara-AMP moiety, when drug redistribution was completed, radioactivity in liver was 6, 7 and 3 times higher than in intestine, spleen and kidney, respectively. On the contrary in animals injected with free ara[^{3}H]AMP radioactivity was equally distributed in liver, spleen and intestine with higher values in kidney. The amount of radioactivity in liver was higher in rats injected with coupled ara-[^{3}H]AMP at the dose of only 1.5 mg/kg than in animals administered with free ara-[^{3}H]AMP at the dose of 5 or even 10 mg/kg.