the medical product in the pathological process area in the required therapeutic concentration, to reduce the adverse effects on the body of toxic compounds, which can extend the life of existing drugs, and more fully realize their potential.

Currently, work is underway on the construction and improvement of artificial vectors, which main problem is the lack of focus, not investigated biocompatibility, the labor intensiveness, high cost of production and consequently expensiveness drugs. By focusing on this complex process, we forget about the existence of biological containers – exosomes.

Exosomes – natural microvesicles consisting of a lipid shell by diameter of 30-100 nm secreted into the extracellular space by the various cells of the body, which fundamental function is intercellular communication [1, 4].

Compounds, included in the exosomes (micro-RNA, proteins, lipids annexins, and other) is determine their properties. Exosomes are able to protect the medical product from degradation, implement its directed transporting, protect the organism from the effects of highly toxic medical product, penetrate through all kinds of barriers, opening the possibility for the treatment of previously inaccessible pathological centers, they are not captured by cells of the reticuloendothelial system, and remain invisible to the immune system cells [2, 3].

To achieve the pointness there is necessary to attach specific ligand to the surface of exosomes for which there is a specific receptor or other object to be linked. Under the influence of annexin there occurs endocytosis of exosomes with a cell, and under the action of intracellular enzymes drug is release, which modifies the functions of the target molecules.

A potential problem of using exosomes as vectors may be the presence of the major histocompatibility complex on their surface, but the solution to this problem, as well as the source of the mass production of exosomes may serve as mesenchymal cells with suppressed synthesis of major histocompatibility complex [5].

Getting exosomes does not require complicated methodics and the availability of expensive equipment. Why use a time-consuming and expensive production of drugs, where there is the possibility of an alternative use of natural biological delivery system that does not require global costs?

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ETIOLOGY OF FEBRILE SEIZURES AT CHILDREN

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In recent years, we see increasing attention of pediatricians, neurologists, epileptology problem attracted febrile seizures (FS). Febrile seizures are paroxysms different duration, including other forms of tonic or tonic-clonic seizures in infants, young and school-age children with body temperature of at least 38 °C (except convulsions in neuroinfection). FS can be transformed into afebrile seizures and epilepsy. FS are not epilepsy, but may be the cause of epilepsy and forming a stable intellectual and neurological deficit. To date, there is no clear understanding of the causes of FS, but as an opportunity to consider several factors. It is assumed that any infection can trigger the development of attack. In the structure of infectious diseases in children are leading acute respiratory infections (ARI).

Purpose – the study of FS etiology in children aged from 3 till 36 months (3 years old) with ARI.

Methods and patients. We observed 58 patients with FS on the background of ARI in the Krasnoyarsk Inter-District Children's Hospital №1 (October 2013 – February 2014). In order to decipher the underlying disease etiologic research was conducted from nasal swabs in the reaction immunofluorescence antigen detection of respiratory viruses, identification markers herpesvirus (HSV types 1 and 2, HHV-5 (CMV), HHV-6) in serum by enzyme immunoassay with the definition of the index of antibody avidity. We study determination of DNA viruses in blood lymphocytes, nasopharyngeal mucus and urine by PCR.

Results. The average age of the patients was 24,6 months: 56,9 % of boys (33 pers.), 43,1 % girls (25 pers.). Among the children surveyed we have found the following etiological structure FS: antigens of influenza A virus (H3N2) – 15,5 % (9 people); respiratory syncytial virus, adenovirus and parainfluenza virus type 1 accounted from 7 % till 9 % of FS cases. Along with the respiratory virus group, one of the leading agents in subjects herpes viruses were the 5th and 6th type. Determined by

enzyme immunoassay Ig G titers to HHV-6 type at 22.4% (13 pers.) In the study of blood serum enzyme immunoassay were detected CMV Ig G antibodies in 25.9% (15 people.) Observed patients have antibodies CMV Ig M and Ig G were detected in 1 child. At 5.2% (3 pers.) enzyme immunoassay surveyed registered a high titer of Ig G HSV types 1 and 2 (1:3200). Among all surveyed virus viral mixed infections (ARI + infections caused by herpesviruses 1st, 5th and 6th type or combinations thereof) are installed in 36,2% (21 pers.)

Conclusion. The results of the study confirm the diversity of etiological structure of ARI, as well as high herpesvirus infection of children with FS development. FS are actual problem of modern pediatrics. For proper diagnosis, choice of causal treatment and dispensary observation of this group of patients is necessary to continue research in this area.

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