

INTRODUCTION

TO A SPECIAL ISSUE OF THE JOURNAL "SIBERIAN RESEARCH": "SIX LECTURES ON THE PREVENTION OF ENCEPHALITIS EPIDEMICS IN SIBERIA".

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The Editorial Board received a letter from Professor Lev Goldfarb (Rockville, Maryland, USA) requesting to publish the manuscript "Six lectures on the prevention of encephalitis epidemics in Siberia" (the texts of reviews are attached in additional files of the online version of the journal). We decided to publish the materials in a special issue and devote the June 2020 issue of the journal to the elimination of the incidence of Viliuisk encephalomyelitis (VEM) in Eastern Siberia. The author of the lectures provides analysis of factors that led to the elimination of the incidence of VEM.

The disease became known to the world thanks to the work of R. K. Maak [1] who saw patients with this disease during an expedition to the Viliuisk district in 1853-1855. VEM may have existed long before Maak's trip. It probably began to spread in a remote part of the Viliuisk district from the middle or the end of the XVIII century. At that time, the inhabitants of the middle-Lena region ate exotic foods, which could contribute to the emergence of a new infectious disease of the Central nervous system. The origins of Viliuisk encephalomyelitis may be similar to those of the epidemics caused by ebolavirus Zaire (ZEBOV — Zaire ebolavirus) in West Africa in 2014 – 2015, and the current pandemic caused by the SARS Cov-2 virus. The appearance of the first of these epidemics is associated with bats (Chiroptera, Megachiroptera) that were consumed by the local population, and the appearance of SARS Cov-2 also with bats of a different species (Rhinolophus) [2].

The food habits of the Yakuts of the XVIII century were described by Academician of the St. Petersburg Imperial Academy of Sciences and Arts I.G. Georgi in 1777: "according to pagan law, they can eat everything... similarly, according to their life and habits, they eat the same food that their ancestors ate. ...In other things, they eat not only all kinds of clean animals, and so on, but also

horses, predatory animals, gophers, squirrels, swallows, herons, water and birds of prey, all fish, and in addition to the above three genera of animals, almost everything that lives" [3]. Ethnographic materials indicate that water voles (*Arvicola Terrestris*) were a delicacy of the local population, like pangolins in Southeast Asia [4]. It should be noted that this habit was eradicated only by the adoption of Christianity. Water voles may be a natural reservoir of the virus called Vilyuisk Human Encephalomyelitis Virus (VHEV). Professor L. Goldfarb expressed doubt about the scientific conclusions of a number of researchers who dispute the existence of the VHEV virus and its contaminant nature (see lectures).

One of the most severe, deadly human diseases that raged on the territory of Eastern Siberia for more than 200 years is now defeated. It's gone quietly, unnoticed, as if nothing had happened during these long two centuries. The struggle started in 1951 by Dr. P. A. Petrov and lasted for more than 60 years. The work was accomplished by a huge army of medical professionals: health organizers, doctors, nurses, scientists of the Yakut State University and from all over Russia and many foreign countries. These efforts were not in vain, it became possible to prevent the spread of the disease beyond its primary focus. The Editorial Board notes the outstanding contribution of Professor L. G. Goldfarb in this work. A huge contribution to eliminating the incidence of Viliuisk encephalomyelitis was made by the members of the Editorial Board, F.A. Platonov, MD, and V.A. Vladimirtsev, PhD. In the lectures, the author described in detail all the subtleties and nuances of this struggle. The elimination of morbidity does not mean complete victory, though. The causes of the disease remain unsolved. Studies on contaminant nature of the VHEV virus isolated from patients with Viliuisk encephalomyelitis did not include a search for its natural

reservoirs. Meanwhile, the alleged reservoir of this virus, *Arvicola Terrestris*, mysteriously disappeared from the territory of Yakutia in the 1990s. We wrote about this on the pages of this magazine [5]. According to the biological data of our time, individual specimens of this prolific rodent re-appear on the territory of Yakutia.

But research on this subject is suspended, the Health Research Institute is closed, and the funding rejected. The origin and etiopathogenesis of VEM are unsolved problems of fundamental medicine that requires continued research to prevent the emergence of new human diseases such as the COVID-19 pandemic.

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