

Mesenchymal stem cells in veterinary medicine of Ukraine: from experiment to clinic

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The results of conduct in nulesu studies in animals with experimentally simulated injured tissues after the application of stem cells. It is established that methyl stem cells in all cases cause the restoration of pathologically changed tissues. The recovery rate depends on the type and age of animals, type of mesila stem cells and their character(allogenic, xenogenic, differentiated, undifferentiated), the method of application and doses. In comparison with traditional methods of treatment of experimental animals with experimentally simulated pathological processes (skin damage, articular cartilage, tendons, experimental acute renal failure, chronic toxic hepatitis) stem cells showed the highest effect in each case. It is proved that halogen stem cells and autogenous, do not cause an immune response from the animal organism - recipit, while xenogeneic stem cells cause against himself immune response, resulting in a reduction of their biological activity. Found that cytogenetic uniformity of stem cells in the process of their cultivation is lost. The prospects for further research of stem cells in Nubip of Ukraine.

The unique ability of mesenchymal stem cells to the roaming, penetration into the site of the pathological process and to differentiate into specific cells of the process of the body, stimulate the interest of scientists to conduct research in relation to their positive influence on the activation of reparative processes in the pathologically changed tissues.

In clinics humane and veterinary medicine of many countries of the world the achievements of scientists for many years, being implemented in practice successful treatment of patients, even when virtually not curable diseases. In recent years, expanded stem cell research with the use of bioengineer them methods. The development of research in this area almost every day brings new discoveries that reveal the incredible features of stem cells in various pathological conditions of

both. medical and veterinary. For example review of a scientific conference. Held in 2015 in Denmark.

The theme of the conference indicates that "Stem cells and tissue engineering" represents the attention of contemporary researchers to study induced pluripotent stem cells, which open up vast prospects for the bioengineering of organs, treatment of some serious diseases, disease modeling in the experiment.

A group of scientists from Denmark, Switzerland and Germany presented the technology to create 3D models of pancreatic cancer for potential use in the treatment of diabetes. Data, yet modest, developments and has domestic industry humane medicine, which had been successfully implemented in clinical practice activities.

It is proved that depending on the cultivation conditions of the cytogenetic stability of stem cells can be broken, and then in cell culture increases the number of cells with mutations that exceeds the level of spontaneous mutagenesis in mammals. This phenomenon must be considered, using mesenchymal stem cells in clinical practice as humane and veterinary medicine.

From a clinical point of view it is impossible to overestimate the role of methods of cell therapy in the treatment of sick animals. The spread of these methods in domestic veterinary medicine will enable doctors to cope even with such animal diseases, which until that time was considered incurable. Also planned is the creation of nulesu educational - scientific - production center of cell regenerative veterinary medicine, which must exist Cryobank stem cells of animal origin.

Key word: biological activity of allogeneic, of xenogenic stem cells, diseased tissue, the activity of reparative processes, immune compatibility.