MULTIPOTENT MESENCHYMAL STROMAL CELLS OF BONE MARROW IN THERAPY OF CHRONIC INFLAMMATION OF THE MURINE OVARIIES

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The research aim was to investigate the influence and localization of cryopreserved bone
marrow-derived multipotent mesenchymal stromal cells when intravenously administered into the animals with chronic ovary inflammation. The results of histological examination showed a reparative activation with a tendency to morphology normalization of ovarian tissue on the background of inflammatory manifestation extinction in the experimental animals under condition of cell therapy. To the 21st day in the control group with physiological solution administration, total number of follicles relative to intact animals (18.3 ± 4.52%) was reduced (7.4 ± 2.18%), and 85.3 ± 5.2% oocytes had the signs of apoptosis (Annexin+). In the experimental group the number of follicles was significantly increased to the amount of 15.3 ± 1.8%, and the one of apoptotic oocytes declined (5.7 ± 0.8%) versus the control. Fluorescent microscopy of cryostatic ovary slices of the animals treated with PKH-26 labeled cells showed the presence of diffuse distribution of luminescent objects which were of small cell conglomerates shape. Cryopreserved bone marrow-derived multipotent mesenchymal stromal cells under condition of intravenous administration in the animals with chronic ovary inflammation were established to cause a modulating effect on inflammation course, induce the folliculogenesis recovery and being revealed in the ovaries of experimental animals to the 10th and 21st days of therapy.

Key words: chronic inflammation of ovaries, bone marrow multipotent mesenchymal stromal cells, cell therapy

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