

Stem cell therapy in the type 2 diabetes mellitus.

Harabari Ștefan*, Ojovanu Vitalie¹

¹ Chair of Philosophy and Bioethics, *Nicolae Testemitanu* SUMPh, Chisinau, Moldova.

Introduction. In 2021 it was estimated that there are 537 million adults with diabetes, which is approximately 1 in 10 adults worldwide. There are many arguments in favor of stem cell therapy in type 2 diabetes (T2DM). The purpose of this study was to evaluate the scientific publications in order to elucidate the results of this therapy in patients with T2DM.

Material and methods. A systematic review of the literature on stem cell therapy in type 2 diabetes mellitus has been performed, using NCBI database.

Results. Stem cell therapy in type 2 diabetes results in improved glycemic control and decreased glycated hemoglobin levels. These are associated with clinical improvement and decreased chronic complications of diabetes. It also led to improvement of insulin sensitivity with decreased Peptide level C in patients with T2DM. 20 types of adverse reactions were observed in this therapy, the most common was fever, observed in 0.14% of patients. Also, muscle strain, contusion, viral gastroenteritis, hematuria, and folliculitis complications were the lowest reported adverse effects, with an incidence rate of 0.02%. Stem cell therapy is also possible to use to relieve diabetes complications. Most often it is used for vascular complications such as diabetic nephropathy, diabetic retinopathy. In both cases there are promising studies showing clinical and subjective improvement in these patients.

Conclusions. Stem cells have the ability to be self-renew and differentiate into a variety of cells, including blood, heart, nervous and cartilage cells. Diabetes is one of the areas where the effectiveness of this treatment can be of the maximum/greatest importance, with significant improvement of clinical parameters and the quality of life of these patients.

Key words. Stem cell, diabetes mellitus, T2DM.