

Prospect of using cord blood mononuclear cells for treatment patients with lesions of the peripheral vascular bed of lower limbs

Salyutin Ruslan, Palianytsia S. S, Martynenko S. I, Sokolov M. F and Dombrowski D. B
Institute of Cell Therapy, Ukraine

Efficiency of transplantation of cord blood mononuclear cells (CB-MNCs) for the treatment of patients with chronic ischemia of the lower limbs due to peripheral arterial lesions was studied. The clinical group was consisted from 28 patients (all men, average age 49.4±5.7 years) with chronic lower limb ischemia II B-III degree according to Fontaine, who had no anatomical and functional possibility to applying reconstructive and restorative interference.

The cell transplantation performed by local injection of CB-MNCs matched according to the system AB0 (subfacial, ischemic leg muscles and / or thighs, along obliterovanyh vessels). The average number of CB-MNCs, which was transplanted 96.8±6.2×10⁶ mL cells which has nucleus.

The condition of patients after transplantation was evaluated according to angiography, duplex scanning of vessels, laser Doppler fluorometry data and questionnaires (TransAtlantic Inter-Society Consensus (TASC) on Management of Peripheral Arterial Disease (PAD)).

Results of transplantation CB-MNCs were the formation of noncapillary branched vascular network an improving tissue microcirculation. Decreasing of ischemia level, increasing distance and rate of walking without pain, increasing quality life indexes after 2-3 months were recorded for 82% of patients. Positive clinical results due to the using of CB-MNCs lasted average of 14.2±1.2 months.

The results suggest that transplantation of CB-MNCs is a promising method "indirect" revascularization, the implementation of which into clinical practice will improve the treatment of patients with chronic ischemia of the lower limbs, facilitate early rehabilitation and reduce the number of disabling surgery.

Biography

Salyutin Ruslan is Doctor of Medical science, Director of the Coordinating Centre of transplantation organs, tissues and cells. Has author of 120 scientific papers and is the manager of department of the Ministry of Healthcare of Ukraine, which coordinates national activities related to the transplantation of organs, tissues and stem cells.

r.salyutin@mail.ru