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**Angiogenesis  
in Scar Tissue  
after Introduction  
of Autological  
Mesenchymal Stem  
Cells of Bone Marrow  
Origin**

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Results of injection of autologous bone marrow mesenchymal stem cells (MSC) with transfected GFP gene into the rat uterine horn cicatrix were studied by light microscopy. Large groups of blood vessels with blood cells inside were seen after injection of MSC into the cicatrix on the right horn, formed 2 months after its ligation; no groups of vessels of this kind were found in the cicatrix in the contralateral horn. Examination of unstained sections in reflected UV light showed sufficiently bright fluorescence in the endothelium and outer vascular membrane in the uterine horn cicatrix only on the side of injection. Hence, after introduction into uterine scar of MSC the increase of number of vessels due to the processes of neoangiogenesis was detected. In this case the MSC do not migrate and were not destroyed in the site of introduction, but formed the blood vessels due to differentiation into endotheliocytes and pericytes. In 1 week in rats after introduction of MSC the vessels formed from these cells are already fully functional, consist of all the structural walls and contain blood cells. The expression of GFP gene not only in the vascular endothelium, but also in vascular outer membranes indicated that autologous mesenchymal stem cells differentiated in the endothelial and pericytic directions.

**Biography**

Igor V. Mayborodin, Date of Birth: November 19, 1962. 1991 - Defended a thesis for Ph.D. degree in Medical Sciences. 1998 - Defended a thesis for D.Sc. degree (highest scientific degree in Russia) in Medical Sciences. 2000 - Assignment of an academic status of the Professor (Human Anatomy). He is the Leading Research Scientist, Laboratory of Stem Cell, Institute of Chemical Biology and Fundamental Medicine. He has published more than 100 papers in reputed journals and serving as an editorial board member of journal "Surgical Science".