Is stem cell therapy less effective in older patients with chronic diseases?

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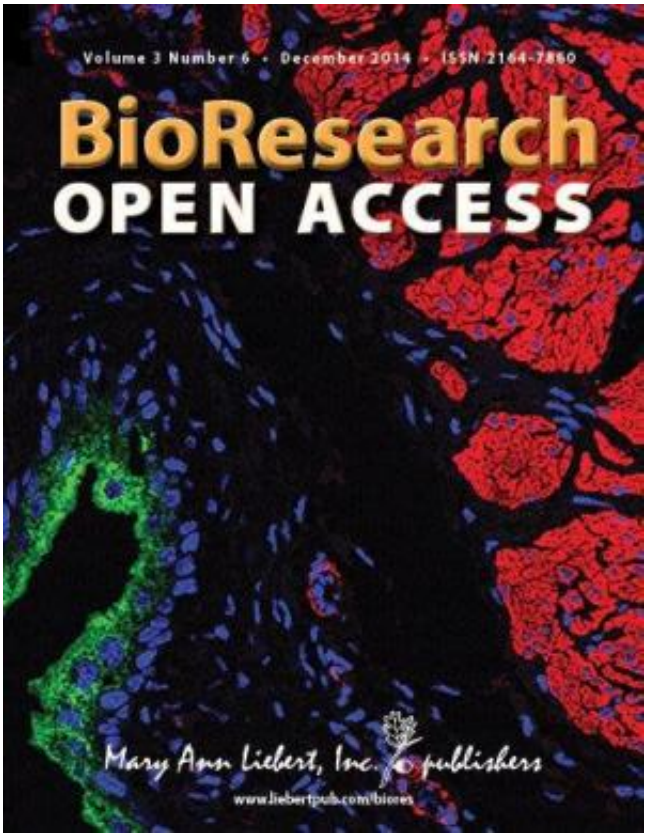

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A promising new therapeutic approach to treat a variety of diseases involves taking a patient's own cells, turning them into stem cells, and then deriving targeted cell types such as muscle or nerve cells to return to the patient to repair damaged tissues and organs. But the clinical

effectiveness of these stem cells has only been modest, which may be due to the advanced age of the patients or the effects of chronic diseases such as diabetes and cardiovascular disease, according to a probing Review article published in *BioResearch Open Access*.

Anastasia Yu. Efimenko, TN Kochegura, ZA Akopyan, and YV Parfyonova, Moscow State University (Russia), analyze how aging and chronic diseases might affect the regenerative potential of autologous stem cells and explain the differences between the promising results reported in preclinical studies using stem cells derived from healthy young donors and the more modest success of clinical studies in aged patients. The authors propose strategies to test for and enhance to regenerative properties and therapeutic potential of stem cells in the article "Autologous Stem Cell Therapy: How Aging and Chronic Diseases Affect Stem and Progenitor Cells".

"This review discusses a very important issue in regenerative medicine, how aging and chronic pathologies such as cardiovascular diseases and metabolic disorders affect adult stem/progenitor cells," says *BioResearch Open Access* Editor Jane Taylor, PhD, MRC Centre for Regenerative Medicine, University of Edinburgh, Scotland. "Future therapies are discussed by the authors in terms of overcoming or correcting the limitations of these cells in order to enhance their therapeutic potential."

More information: The article is available on the *BioResearch Open Access* website.

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