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Sommario/riassunto

Vascular diseases are the leading cause of death worldwide. Distinguished clinical and surgical approaches have attempted to overcome its morbidity and mortality; still 17.9 million people die every year due to vascular affections. Stem cell therapy has emerged as a promising therapeutic strategy. Stem cells synthesize and secrete cytokines that promote cell recruitment, immunomodulation, extracellular matrix remodeling, angiogenesis, and neuroregeneration, all of which promote regeneration. Besides that, stem cells are also capable of differentiating in various cell types, being employed in tissue engineering. Preclinical and clinical investigations have reported efficacy of stem cell therapy for various vascular diseases. Even though results are encouraging, the studies demonstrate variation in stem cell type and origin, route and protocol for administration, and concomitant use of other treatment strategies, impairing easy interpretation of results and clinical application. The purpose of this book is to compile and comprise the current state of the evidence regarding stem cell therapy for each vascular disease, elucidating possible clinical applications. More than an objective guide for readers on the use of this novel treatment strategy, this publication will advocate for stem cell therapy use and development and will be of significant interest to physicians in a wide range of disciplines as well as researchers.