**CARDIAC CELL THERAPY: CUMULATIVE DATA AND NEW CONCEPTS**

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Despite significant promise in early clinical trials, cell therapy for heart repair remains controversial. The early trials included relatively small numbers of patients and injected widely variable numbers of cells using different routes at various time-points after myocardial infarction (MI). Understandably, the outcomes of BMC therapy in these trials have been disparate. Because of significant inter-study variability in observations, pooled data from these studies have been subjected to numerous meta-analyses over the past several years. Although these meta-analyses included variable combinations of trials and patients, the results generally indicate that BMC therapy in patients with acute MI and chronic IHD produces modest improvements in left ventricular function and structure. Cell therapy also appears to be safe. Moreover, these analyses identify significant improvements in important clinical outcomes during follow-up of BMC-treated patients. Nonetheless, a number of significant challenges remain to be overcome in order to realize the full potential of BMC therapy in clinical practice. The purpose of this talk is to summarize the emerging clinical evidence regarding the efficacy and safety of therapeutic cardiac repair with adult BMCs, and to discuss insights from meta-analyses on this topic.