

SIGNIFICANCE STATEMENT

AKI is a major complication of cardiac surgery. Although effective preventive strategies remain elusive, cell-based therapies may influence functional recovery. We conducted a phase 2 multicenter clinical trial of 156 cardiac surgery subjects with early postoperative AKI to determine whether mesenchymal stem cells (MSCs) enhance functional kidney recovery after cardiac surgery. We found no difference in time to kidney recovery, rate of dialysis, 30-day mortality, or adverse events. These results contrast with the beneficial effects associated with MSCs in preclinical studies of AKI and raise questions regarding their clinical utility to facilitate recovery of AKI in the setting of cardiac surgery.