

## Effect of pre-treatment with hypertonic saline on IL-10/IL-6 ratio in CABG patient

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**Background and Aims:** Coronary artery bypass surgery (CABG) with cardiopulmonary bypass (CPB) have been followed by many aggressive factors such as blood contact with artificial surfaces of the extracorporeal circuit and ischemia-reperfusion injury, may lead to systemic inflammatory response syndrome (SIRS). Hypertonic saline (HS) have been recently investigated as a fluid in order to decrease inflammatory response and cytokines release in patients undergo cardiac operations. This study was designed to explore the effect of HS 5% infusion versus normal saline (NS) on serum IL-10 as an anti-inflammatory biomarker to serum IL-6 as an inflammatory biomarker ratio in CABG patients.

**Methods:** The present randomized double-blinded clinical trial study was performed with 40 patients <70 years undergoing CABG operation. Patients were randomized to receive HS 5% or NS infusion before surgery. Blood samples were obtained after receiving HS or NS, just before operation, 24 and 48 hours post-operatively. Plasma levels of IL-6 and IL-10 were measured by Enzyme-Linked Immunosorbent Assay (ELISA) technique.

**Results:** Serum IL-10/IL-6 ratio in HS group were higher compared with NS group within 48 hours after cardiac surgery, however these differences were not statistically significant.

**Conclusions:** These findings confirm that small volume hypertonic saline 5% infusion before CABG operation can evoke patient anti-inflammatory cytokines.

**Keywords:** CABG; CPB; Hypertonic saline 5%; Inflammation