A309 - Cyclosporine does not affect cytokine release in response to extracorporeal circulation in coronary artery bypass grafting

EG Grins ¹ ; SJ Jovinge ²
¹Skåne University Hospital, Lund, Department of Cardiothoracic Surgery, Anesthesia and Intensive Care, Lund, Sweden, ²Fredrik Meijer Heart and Vascular Institute, Spectrum Health, Fredrik Meijer Heart and Vascular Institute, Grand Rapids, Michigan, United States

Introduction:
Acute kidney injury (AKI) due to ischemia-reperfusion affects one-third of the patients in cardiac surgery. We investigated the potential role of Cyclosporine (CsA) to prevent postoperative AKI and mitigate inflammatory response to extracorporeal circulation (ECC).

Methods:
Double-blind, randomized, placebo-controlled single-center study. Patients (n=67) scheduled for elective cardiac surgery were randomized to 2.5 mg/kg CsA or placebo before the surgery. The primary objective was to assess the role of CsA to reduce the incidence of postoperative AKI. The secondary objective was to study CsA induced changes in the inflammatory response to ECC.

Results:
All enrolled patients were analyzed. Postoperative AKI was more pronounced in the Cyclosporine group compared to placebo. OR=5.03 (1.76-15.74), 95% CI. The cytokine production in response to ECC was not affected by Cyclosporine.

Conclusion:
In patients undergoing cardiac surgery, a single preoperative dose of CsA does not prevent the postoperative decrease in renal function. CsA does not alter cytokine release in response to extracorporeal circulation. Elevated post-ECC levels of pro-inflammatory cytokine IL-6 are associated with kidney dysfunction and may be predictive.

Image :
Differences in cytokine concentration before and after extracorporeal circulation and AKI. AKI defined as a 30% increase of preoperative Cystatine C.