

# COMBINED TREATMENT WITH IGM ENRICHED IMMUNOGLOBULIN AND CYTOSORB IN INFECTIVE ENDOCARDITIS: CASE SERIES



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## INTRODUCTION

Infective endocarditis is a serious disease condition. Depending on the causative Microorganism and clinical symptoms, cardiac surgery and valve replacement may be needed, posing additional risks to patients who may simultaneously suffer from septic shock. The combination of surgery bacterial spread out and artificial cardiopulmonary bypass (CPB) surfaces results in a release of key inflammatory mediators leading to an overshooting systemic hyperinflammatory state frequently associated with compromised hemodynamic and organ function. Combined use of hemoadsorption and IgM enriched Immunoglobulin might represent a potential approach to control the hyperinflammatory systemic reaction associated with the procedure itself and subsequent clinical conditions by reducing a broad range of immuno-regulatory mediators and endotoxemia.

## METHODS

We describe retrospectively 8 cardiac surgery patients with proven acute infective endocarditis obtaining valve replacement with CPB surgery in combination with intra e postoperative CytoSorb hemoadsorption and intravenous administration of IgM enriched Immunoglobulin (Pentaglobin®) 5 ml/kg die. for three consecutive days

## RESULTS

Combined treatment of hemoadsorption and IgM enriched Immunoglobulin was associated with a mitigated postoperative response of key cytokines with a significative reduction of IL-6 and Endotoxemia an increase of IL10; an improvement of clinical metabolic parameters (WBC and SOFA score). Moreover, patients showed hemodynamic stability which possibly could be attributed to the additional combined treatment. Intraoperative hemoperfusion and Pentaglobin administration were well tolerated and safe without the occurrence of any related adverse event.

## CONCLUSIONS

This approach may open up potentially promising therapeutic options for infective endocarditis, with pro and anti-inflammatory modulation, improved hemodynamic stability and organ function as seen in our experience.