

“HEMOADOSRBTION TO TREATH NEONATAL AND PEDIATRIC SEPTIC SHOCK AND SEPSI: LET’ S GIVE IT A CHANCE”

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ABSTRACT

Blood purification technique are very quickly taking place in septic shock and sepsis treatment. The application of these techniques to neonates and paediatric patients is still very difficult for many reasons: the absence of a dedicated device, the difficult stability of cardio-circulatory function, the difficult management of fluid volumes, the not complete organ development, a not adequate and specific inflammatory response. The increased incidence of complications related to a prolonged duration of blood purification treatment has to be overtaken.

Different blood purification techniques as CRRT - CVVH-D, CVVHD, plasmapheresis are used in sepsis and MOF treatment but the timing of cytokines removal is prolonged and the recirculation of the not removed products delays the cut off of inflammatory response. This is due to the structures of the removal filters that permits a recirculation of cytokines.

A new concept was needed to reduce the timing of permanence of cytokines sin blood and to avoid the recirculation of mediators in the blood during treatment. We found an optimal option in Cytosorb® device: promising extracorporeal device for cytokine adsorption. We describe the use of CytoSorb® in combination with standard therapy, Continuous Renal Replacement Therapy (CRRT) and plasmapheresis in ten severely ill paediatric patients with multiple organ failures of various aetiologies;

The present case series is the first documentation of a set of paediatric and neonatal patients in which a combined therapeutic approach of hemoadsorption and renal replacement therapy showed promising results with regard to hemodynamic stabilization, control of the inflammatory response, improvement in organ functions as well as safety and feasibility.

In our experience Cytosorb® allows to eliminate both problems because is structured as a on line direct resinous patch that captures and definitively removes cytokines from blood. Further prospective randomized controlled studies in the paediatric field are necessary to elucidate the full potential of hemoadsorption in this set of patients.

References

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BIOGRAPHY

Dr MILELLA L. – Milella has completed his study in Italy and Glasgow in the field of neonatal and paediatric cardiac surgery. He is the chief department of Anesthesia and Intensive Care Unit (General and Post Cardiac Surgery) , [Paediatric Hospital Giovanni XXIII – Bari, Italy].

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