### **Targeted Use of CytoSorb in Septic Shock Linked to Reduced Mortality and Vasopressor Need - new meta-analysis**

A newly published meta-analysis by Steindl et al. in J Clin Med (2025;14:2285) presents compelling evidence for the effectiveness of CytoSorb hemoadsorption therapy in patients with **septic shock**—a patient group not yet targeted specifically in prior meta-analyses.

#### **Why This Meta-Analysis Stands Out**

Unlike earlier meta-analyses, which often produced neutral or negative results, this study **focuses exclusively on patients with septic shock**, a particularly severe form of sepsis marked by profound systemic inflammation and circulatory collapse. Previous research commonly pooled data from heterogeneous patient populations with varying sepsis severity, organ dysfunction, and inflammatory responses—factors that may have diluted potential benefits in more severely ill subgroups.

By narrowing the scope to this critically ill cohort, the authors could **more accurately assess the efficacy of CytoSorb**, highlighting the importance of **targeted patient selection**.

#### **Key Findings: Improved Survival and Hemodynamic Stability**

The analysis, which investigated randomized controlled trials and observational studies on CytoSorb use in septic shock populations from 2019–2024, demonstrates that CytoSorb therapy is associated with:

* **Significant reductions in hospital and 28–30-day mortality**, compared to standard care.
* **Improved hemodynamic parameters**, most notably reduced vasopressor requirements, signaling better circulatory stabilization.

Importantly, **every of the included studies that reported a survival benefit also showed hemodynamic improvements**, further reinforcing the link between cytokine modulation as CytoSorb`s mode of action and clinical outcomes.

#### **Implications for Clinical Practice**

These findings not only reinforce CytoSorbents' guidance for **targeted patient selection** in critical care settings but also underline a broader principle: **Personalized application matters.** As the field of sepsis therapy continues to evolve, **standardized approaches to identifying high-inflammatory burden patients** could enhance both the consistency and effectiveness of hemoadsorption strategies.

#### **Looking Ahead**

This meta-analysis contributes important clarity to a previously mixed body of evidence and emphasizes the need for **targeted individualized treatment and research approaches** in sepsis. By focusing on appropriately selected patient populations, clinicians can unlock the full therapeutic potential of interventions like CytoSorb—and ultimately improve outcomes in one of the most challenging areas of critical care.