



Use of CytoSorb in the Management of Hyperbilirubinemia in a Patient with Suspected Hemophagocytic Syndrome and Autoimmune Cholestatic Hepatitis



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Introduction

CytoSorb has been shown to effectively reduce bilirubin and bile acid levels in patients with liver dysfunction. This approach may also aid in the management of hyperbilirubinemia in patients with hemophagocytic syndrome and autoimmune cholestatic hepatitis, providing supportive therapy alongside immunosuppressive and surgical interventions.

Methods

A 67-year-old male presented to the emergency department with acute respiratory failure, pulmonary infiltrates, jaundice, and pancytopenia. Initial investigations revealed acute liver dysfunction with markedly elevated total bilirubin (TB: 20.8 mg/dL). Serology showed minimal Epstein-Barr virus (EBV) reactivation, deemed unrelated to the clinical picture. A hemophagocytic lymphohistiocytosis/macrophage activation syndrome (HLH/MAS) was suspected. Liver biopsy was compatible with post-acute cholestatic hepatitis of autoimmune etiology, and high-dose corticosteroid therapy was initiated.

Results

Due to the severity of hyperbilirubinemia and risk of worsening liver failure, the patient underwent a 24-hour CytoSorb hemoadsorption session, resulting in a rapid reduction of bilirubin levels. The following day, the patient underwent splenectomy to address persistent pancytopenia and suspected hemophagocytic activity. However, three days postoperatively, a significant rebound in bilirubin and liver enzymes (ALT, AST, GGT, LDH, ALP) was observed. A second CytoSorb session, lasting 16 hours, was initiated with favorable results: bilirubin levels dropped progressively, reaching 1.95 mg/dL, and liver function parameters stabilized or improved (see figure 1). The patient's liver profile remained stable through hospital day 29, at which point he was discharged in good clinical condition.

Conclusion

This case highlights the potential role of CytoSorb hemoadsorption therapy as an adjunctive treatment for severe hyperbilirubinemia in the setting of acute liver dysfunction and suspected HLH. The therapy was effective in rapidly reducing bilirubin levels and improving liver function parameters, both pre- and post-splenectomy. Further studies are warranted to evaluate the broader application of hemoadsorption in immune-mediated liver pathologies and HLH-like syndromes.

Figure 1: liver function parameters over treatment period

