

Efficacy of Hemoadsorption Therapy in post-heart transplant hyperbilirubinemia following end-stage non-obstructive hypertrophic cardiomyopathy: a case series

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Introduction

Heart transplantation represents the definitive treatment for end-stage non-obstructive hypertrophic cardiomyopathy. However, the postoperative period is often complicated by hepatic dysfunction and metabolic alterations, including hyperbilirubinemia (up to 10%), which is associated with an in-hospital mortality rate exceeding 25% in recipients. The possible causes of hyperbilirubinemia include hepatic injury due to hypoperfusion, venous congestion due to graft dysfunction or sepsis as well as systemic inflammatory reactions triggered by the surgical procedure itself (e.g. cardiopulmonary bypass).

The timely adoption of extracorporeal supportive therapies such as continuous renal replacement therapy (CRRT) combined with Cytosorb can lead to a marked improvement in clinical parameters.

Methods

Two patients diagnosed with end-stage non-obstructive hypertrophic cardiomyopathy underwent orthotopic heart transplantation. In the postoperative period, both developed a significant increase in total and direct bilirubin levels, suggesting transient hepatic impairment caused by right heart graft transient dysfunction. To counteract this condition, Cytosorb was applied for 48 hours using two consecutive cartridges.

Results

The use of Cytosorb resulted in a significant reduction in total and direct bilirubin levels. An additional observed benefit was the reduction in creatine phosphokinase levels (CPK), suggesting an improvement in liver function and more efficient toxin elimination. The stabilization of hepatic parameters enabled more effective postoperative management, progressive organ function recovery, CRRT discontinuation, and patient discharge.

Conclusion

These two cases highlight the potential benefits of Cytosorb in managing post-heart transplant hyperbilirubinemia. The use of Cytosorb in these patients (Figure 1: patient 1 and 2) demonstrated efficacy not only in bilirubin reduction but also in lowering CPK levels, suggesting a positive effect on hepatic metabolism. The device's ability to remove bilirubin and both pro- and anti-inflammatory cytokines from the bloodstream may represent an effective therapeutic option to improve liver function and reduce the risk of post-transplant complications.

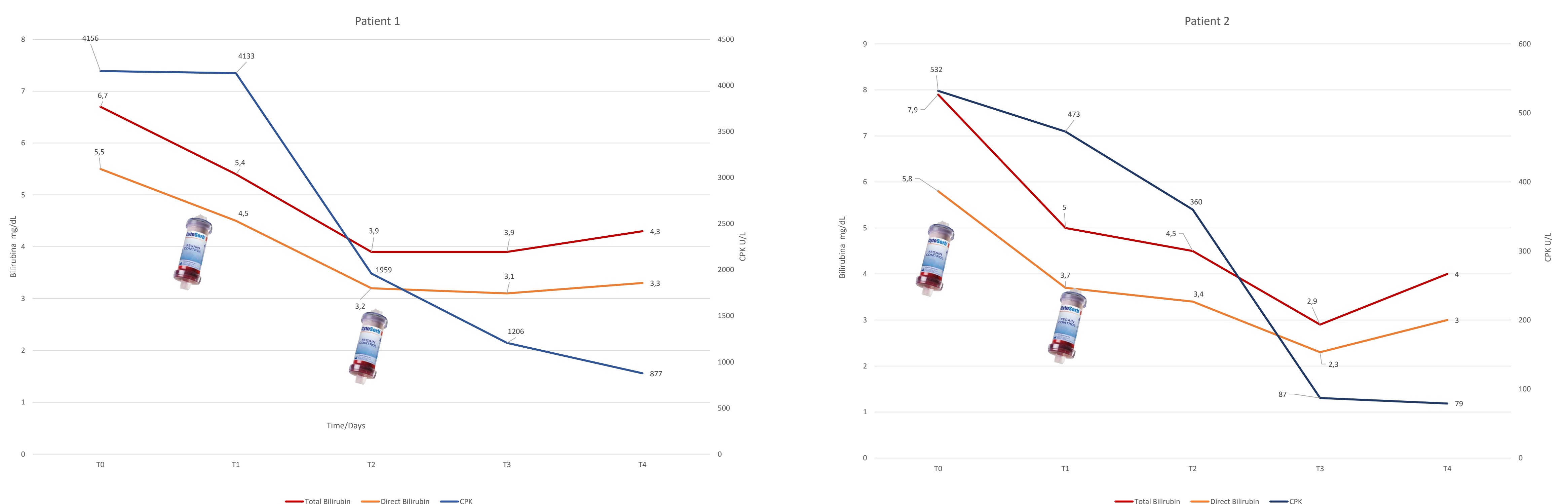


Figure 1