

Congress Abstract

Combined HA-330 Hemoadsorption and Hemodiafiltration in a Kidney Transplant Recipient with Catheter-Related Bloodstream Sepsis and Intracardiac Thrombosis: A Case Report

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ABSTRACT

Introduction: Catheter-related bloodstream infections remain a major cause of morbidity in patients receiving maintenance dialysis. Management becomes particularly challenging in kidney transplant recipients with failed allografts because of persistent immunosuppression, severe systemic inflammation, and a high risk of thrombotic complications. Hemoadsorption has emerged as a promising adjunctive extracorporeal therapy for sepsis by reducing circulating inflammatory mediators. We present a case of successful integration of HA-330 hemoadsorption into the treatment of severe catheter-related sepsis in a patient with end-stage kidney disease.

Case Presentation: A 28-year-old woman with kidney failure secondary to glomerular disease underwent living-donor kidney transplantation in 2014. Following allograft rejection in 2024, she resumed maintenance hemodialysis. She was admitted with fever, weakness, chest pain, and signs of systemic infection. Blood cultures obtained from peripheral blood and the dialysis catheter grew *Staphylococcus haemolyticus*. Diagnostic evaluation revealed catheter-related sepsis, a fixed right atrial thrombus, bilateral pneumonia, severe anemia, and end-stage kidney disease requiring renal replacement therapy.

The patient received broad-spectrum antimicrobial treatment, anticoagulation, blood transfusions, and extracorporeal support. Two sessions of HA-330 hemoadsorption were performed in combination with hemodiafiltration

A marked reduction in inflammatory biomarkers was observed during treatment. C-reactive protein decreased from 335.1 to 28.7 mg/L (91% reduction), procalcitonin from 98.2 to 1.48 ng/mL (98.5% reduction). Leukocyte count decreased from $18.4 \times 10^9/L$ to $8.6 \times 10^9/L$ (Table №1). Follow-up echocardiography demonstrated a reduction of the right atrial thrombus from 30×14 mm to 16×11 mm. Repeat blood cultures were sterile, and the patient showed significant clinical improvement with resolution of systemic inflammatory manifestations.

The patient was discharged in stable condition for continuation of maintenance hemodialysis.

Conclusion: This case demonstrates the potential value of HA-330 hemoadsorption as an adjunct to standard therapy in severe catheter-related sepsis among dialysis patients with failed kidney transplants. Combined hemoadsorption and hemodiafiltration may contribute to clinical stabilization and recovery in complex septic conditions, warranting further investigation in larger patient cohorts.

Keywords: Sepsis; Hemoadsorption; HA330; Hemodiafiltration; CRBSI

Table 1.

Parameter	On Admission	Start (before 1st procedure)	After 1st procedure	Start (before 2nd procedure)	After 2nd procedure	At Discharge	Reduction Rate, % (if applicable)
	27.08.24	02.09.24	03.09.24	04.09.24	05.09.24	15.09.24	
Leukocytes, $\times 10^9/L$	6,2	18,4	13,7	13,2	12,2	8,6	53%
Hemoglobin, g/L	61	80	74	69	96	92	-15%
Platelets	83	135	127	160	163	327	-142%
C-Reactive Protein, mg/mL	335,1	302,3	not collected	not collected	92,3	28,7	91%
Procalcitonin, ng/mL	98,2	44,1	not collected	not collected	not collected	1,48	98,5%
D-dimer, $\mu g/mL$	not collected	not collected	not collected	2,643	not collected	not collected	
ALT, IU/L	48	6	4	7	8	10	79%
AST, IU/L	37	19	9	13	15	20	46%
Urea, mmol/L	25,4	5,1	4	4	3,1	6,1	76%
Creatinine, $\mu mol/L$	693	177	168	168	163	266	62%
Tacrolimus, ng/mL				0,8			
Echocardiography, thrombus size, mm	30x14 mm			16*11 mm			
Bacteriological examination – CVC tip			Staphylococcus haemolyticus 10/5 CFU/mL				
Bacteriological examination – blood from catheter			Staphylococcus haemolyticus			Blood is sterile. No microbial growth detected.	
Bacteriological examination – blood from vein			Staphylococcus haemolyticus				