



Congress Abstract

Prevention and Management of Intradialytic Hypotension in a Patient with Stage 5 Chronic Kidney Disease: A Case Report

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ABSTRACT

Background: Intradialytic hypotension (IDH) is one of the most common complications of hemodialysis and may manifest as weakness, dizziness, syncope, and poor tolerance of treatment. The risk is increased in elderly patients and those with diabetes mellitus or cardiovascular disease. A key mechanism is an imbalance between ultrafiltration rate and plasma refilling of the intravascular compartment. We present a case of recurrent IDH in a high-risk patient with stage 5 chronic kidney disease (CKD), type 2 diabetes mellitus, and hypertensive heart and kidney disease. Case Presentation

A female patient, born in 1952, had stage 5 CKD (N18.5), extracorporeal dialysis (Z49.1), anemia in chronic disease (D63.8), type 2 diabetes mellitus (E11), and hypertensive heart and kidney disease (I13). Diabetes mellitus had been diagnosed in 2010, with longstanding arterial hypertension.

On December 15, 2022, following a fall and osteosynthesis of the right femur, serum creatinine was 481 $\mu\text{mol/L}$ and blood urea 29.1 mmol/L. Repeat testing showed creatinine 505 $\mu\text{mol/L}$ and urea 32 mmol/L. A double-lumen catheter was placed and renal replacement therapy initiated. On February 27, 2023, an arteriovenous fistula was created. The patient subsequently continued maintenance hemodialysis at Fresenius Medical Care Kazakhstan LLP, Talgar.

Baseline blood pressure was 160/90 mmHg. During every hemodialysis session, approximately 30 minutes after initiation, blood pressure decreased to 80/50 mmHg without adjustment of dialysis parameters.

Management included individualized dialysis prescription. Dry weight was assessed by bioimpedance spectroscopy (BCM), with adjustment of ultrafiltration volume and rate. Dialysate temperature was reduced to 35.5–36.5°C. Dialysate sodium, potassium, and calcium concentrations were 138, 3, and 1.5 mmol/L, respectively. Ultrafiltration profiling was used when fluid overload exceeded 3% of body weight. During hypotensive episodes, the patient was placed in the Trendelenburg position with elevated lower extremities, and ultrafiltration and dialysis parameters were adjusted. AF81 dialysate was used.

Following optimization, intradialytic blood pressure remained approximately 100/60–120/70 mmHg without significant hypotensive episodes. Post-dialysis blood pressure was 130/80 mmHg. Treatment tolerance improved, with clinical observations indicating improved quality of life.

Conclusion: Individualized hemodialysis prescription, including accurate dry-weight assessment, optimized ultrafiltration, reduced dialysate temperature, appropriate dialysate composition, ultrafiltration profiling, timely Trendelenburg positioning, and regular blood pressure monitoring, contributed to improved hemodynamic stability and reduced IDH severity in this high-risk patient.

	Keywords: Intradialytic Hypotension; Hemodialysis; Chronic Kidney Disease Stage 5; Ultrafiltration; Dry Weight; Bioimpedance Spectroscopy; Dialysate Temperature; Ultrafiltration Profiling; Hemodynamic Stability; Diabetes Mellitus
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