

Drug-induced rhabdomyolysis: the clinical significance of combined rosuvastatin and ticagrelor therapy and myoglobin clearance via Cytosorb® - A case report

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Introduction

Rhabdomyolysis is a clinical syndrome characterized by the release of intracellular contents -particularly myoglobin- into the bloodstream, which can lead to acute kidney injury (AKI). Drugs such as rosuvastatin, especially when combined with antiplatelet agents like ticagrelor, are a common cause of iatrogenic rhabdomyolysis. In this setting, Cytosorb®, the only cartridge certified for the removal of cytokines, bilirubin, myoglobin, ticagrelor, and rivaroxaban, has shown efficacy in reducing myoglobin burden and attenuating renal tubular damage.

Methods

A 78-year-old man with a history of hypertension, dyslipidemia, ischemic-hypokinetic-valvular heart disease and stage 3A chronic kidney disease (CKD) presented to the ED with vomiting, fatigue, diffuse myalgia, and oliguria. He was on treatment with rosuvastatin, ezetimibe, and ticagrelor.

Laboratory tests revealed stage 3 AKI, severe rhabdomyolysis (myoglobin 16,000 ng/mL, CK 6117 U/L), and marked hepatic cytolysis.

A diagnosis of statin-induced rhabdomyolysis was made, prompting immediate discontinuation of both rosuvastatin and ezetimibe. As the clinical condition persisted, the patient underwent IVVHD, followed by CVVHD using a high cut-off filter.

After 10 days of CVVHD, laboratory values showed only minimal improvement, suggesting a persistent toxic burden. Consequently, Cytosorb® therapy was initiated in combination with CRRT.

Results

Within 72 hours (3 cartridges), myoglobin levels decreased from 20,000 ng/mL to 10,000 ng/mL, and CK levels dropped from 7,500 U/L to 3,900 U/L, showing a consistent downward trend (Figure 1).

The patient continued on CRRT alone for an additional 12 days until discharge from the ICU.

Conclusion

This case highlights the importance of careful evaluation in patients with chronic kidney disease receiving potentially interacting drugs such as rosuvastatin and ticagrelor.

The persistence of elevated myoglobin levels despite CVVHD, suggested inadequate clearance through standard CRRT therapy. The addition of Cytosorb® represented a rational therapeutic choice, supported by biological evidence, to reduce the toxic burden and mitigate renal injury.

