

Rosuvastatin-Ticagrelor Induced Rhabdomyolysis A case report on the role of Cytosorb® haemoadsorption

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Introduction:

Drug interactions between rosuvastatin and ticagrelor can lead to clinically significant rhabdomyolysis. This risk is amplified by factors like drug-drug interactions (especially with medications metabolized by the cytochrome P450 system), genetic predispositions, and advanced age, common in acute coronary syndrome patients. Ticagrelor, a P2Y12 inhibitor, is known to interact with statins. This case report specifically explores how ticagrelor and rosuvastatin can cause rhabdomyolysis and subsequent Acute Kidney Injury (AKI).

Case report:

We present the case of a 71-year-old woman affected by cardiovascular history (in 2019, primary percutaneous transluminal angioplasty (PTA) with drug-eluting stent placement for an anterior STEMI, continuing dual antiplatelet therapy with ASA and ticagrelor due to subsequent in-stent restenosis); in addition, her lipid-lowering therapy was optimized by replacing atorvastatin with rosuvastatin. Six months prior to her current admission, her kidney function was normal. She was admitted to the ER, with significant bilateral lower limb weakness, myalgia, difficulty walking, appetite loss, diarrhea, and fever; AKI was diagnosed, with severe alterations of renal function (serum creatinine 11.03 mg/dL, serum urea 406 mg/dL) and metabolic acidosis. Moreover, significant elevations in CPK (84711 U/L) and Myoglobin (25406 ng/mL) were documented. She received fluid therapy and a Continuous Renal Replacement Therapy (CRRT) in CVVHDF modality coupled with Cytosorb®, was initiated early after the nephrology admission. Cytosorb® cartridges were sorbent replaced every 24 hours with a significant reduction in CPK and myoglobin in the following 72h (Figure 1) and a significant improvement of kidney function, leading to CRRT discontinuation (Figure 2). Her medications were adjusted to clopidogrel and alirocumab, and she gradually returned to her baseline kidney function within a month.

Conclusions:

The interaction between rosuvastatin and ticagrelor appears multifactorial. Hemoadsorption with CytoSorb® is effective in adsorbing myoglobin and removing ticagrelor, representing therefore an important therapeutic option for ticagrelor-rosuvastatin induced rhabdomyolysis.

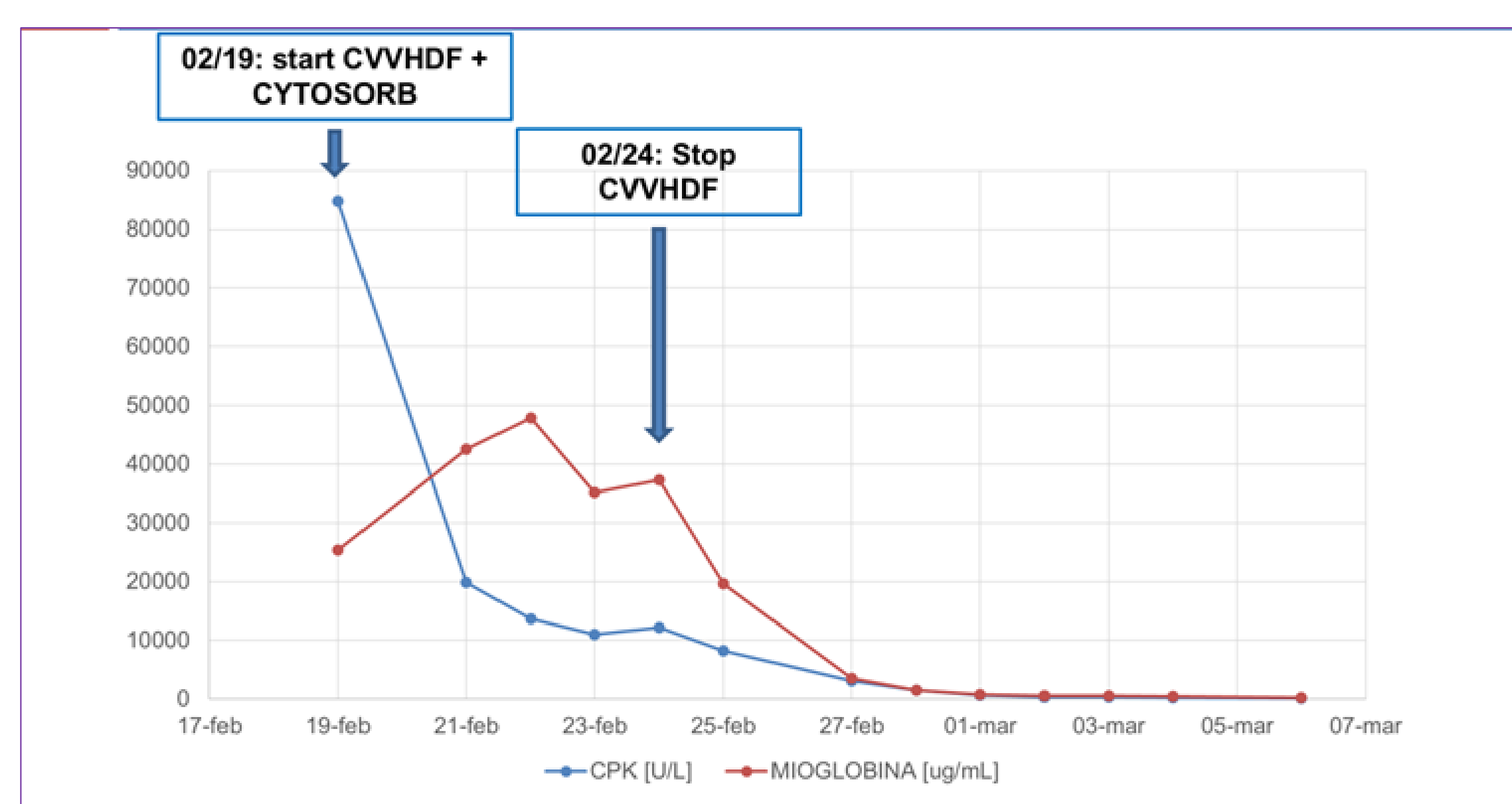


Figure 1: CPK and myoglobin trends

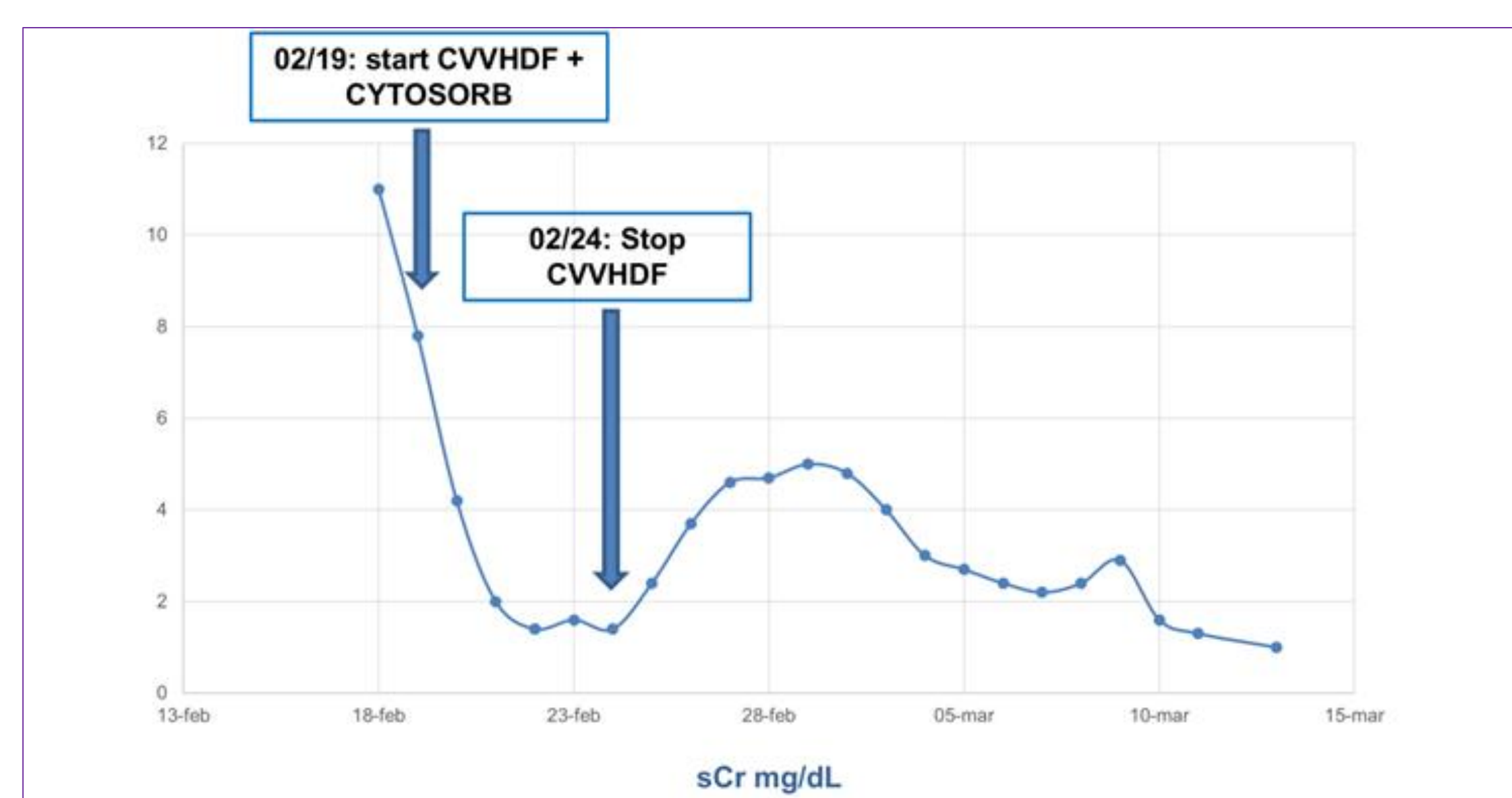


Figure 2: Creatinine trend