

**OP4 COVID-19  
VACCINATION-INDUCED  
RHABDOMYOLYSIS AND  
HYPONATREMIA: A RARE  
ADVERSE EVENT AND  
TREATMENT PARADOX**

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**Introduction:** COVID-19 vaccine-induced rhabdomyolysis is rare. The concurrent presentation of rhabdomyolysis and hyponatremia secondary to COVID-19 vaccine has never been reported. The objective of this case report is to highlight this rare adverse events and treatment dilemma in the context of fluid administration.

**Case description:** A 54-year-old gentleman with underlying hypertension who developed rhabdomyolysis two days after receiving his first dose of the AstraZeneca (ChAdOx1 nCoV-19) vaccine. He had a low grade fever, generalised body ache, and lethargic following immunization and became less responsive upon arrival to emergency department. His initial creatine kinase (CK) and sodium level were 12,588 U/L and 113 mmol/L, respectively. Diagnosis of rhabdomyolysis and severe euvolemic hyposmolar hyponatremia were made. He was treated with two-steps fluid management strategy. Initially, he received hypertonic saline, fluid restriction, and Desmopressin injection to slowly correct the plasma sodium. However, his CK levels escalated and developed acute kidney injury. Subsequently, he received aggressive fluid resuscitation. He responded well to this two-steps fluid management strategy. Despite treatment,

he had acute kidney injury, necessitating nephrology follow-up. He was cautioned against receiving a second dose of the AstraZeneca vaccine.

**Discussion:** There are three case reports have been published pertaining to COVID-19 vaccination-induced rhabdomyolysis. Many reports included confounding factors such as statin or fibrate use, metabolic deficiency, past COVID-19 infection, and illicit drug use. However, our patient had none of these recognized risk factors. The exact mechanisms of COVID-19 vaccination-induced rhabdomyolysis are unknown. The management for concurrent rhabdomyolysis and hyponatremia are on the opposing perspectives of the fluid management continuum. The cornerstone of rhabdomyolysis management is vigorous isotonic fluid hydration to avoid accumulation of myoglobin in the kidney and prevent acute kidney injury. In contrast, the appropriate treatment for hyponatremia depends on aetiology, severity of symptoms, onset of presentation, and clinical volume of patient. Overcorrection of chronic hyponatremia can develop osmotic demyelination syndrome.

**Conclusion:** Physicians should be aware of the risk of rhabdomyolysis following COVID-19 immunization, as early recognition and prompt treatment are crucial to prevent acute kidney injury. Continued surveillance of the vaccine adverse reactions is needed to determine the incidence of vaccine-induced rhabdomyolysis and hyponatremia.

**Keywords:** rhabdomyolysis, hyponatremia, COVID-19 vaccine