

Reviewer #1: Dear Authors, I found this case interesting, but I think that some points deserve a more detailed description and discussion:

- What were the causes of rhabdomyolysis in this patient?

*The cause of the rhabdomyolysis was indeterminate. There was no history of trauma or muscular injury and his extremities were soft without tenderness.*

- The patient continued to be oliguric?

*Yes. He continued to be oliguric.*

- What were the levels of Na, Ca, Mg and Phosphate? A synoptic table reporting the time trend of K and other electrolytes, such as CK levels, together with data on dialysis, medical treatments and electrocardiogram changes, could be more informative for the readers.

*Thank you for suggestion. At the time of cardiac arrest, Na 138, K 6.9, Ca 5.1, Mg 2.8, Phos 10.1. Sevelamer three times daily was already initiated since hospital admission for hyperphosphatemia. Here are the tabulated treatments received and K levels. I will add the following in the case report.*

*"The potassium and creatine kinase level trends and the treatments patient received are summarized in Table 1.*

<i>Timeline</i>	<i>Potassium levels (mmol/L)</i>	<i>CK levels (U/L)</i>	<i>Treatments received</i>
<i>Day 0</i>	<i>6.7</i>	<i>40673</i>	<i>IV calcium gluconate 1g once Albuterol neb 10mg once IV furosemide 40mg once IV dextrose 50% 50g once IV regular insulin 5 units once IV sodium bicarbonate 50 mEq once IV sodium bicarbonate 8.4% continuous infusion was started.</i>
<i>Day 0 (2 hr after)</i>	<i>6.2</i>	<i>-</i>	<i>IV sodium bicarbonate drip started. Hemodialysis initiated.</i>
<i>Day 1</i>	<i>4.0, 4.2</i>	<i>37586</i>	<i>IV sodium bicarbonate drip continued. Daily intermittent hemodialysis continued.</i>
<i>Day 2</i>	<i>4.2, 4.7</i>	<i>206297</i>	<i>IV sodium bicarbonate drip continued. Daily intermittent hemodialysis continued.</i>
<i>Day 3, 4am</i>	<i>6.9</i>	<i>198294</i>	<i>IV calcium gluconate 1g once IV dextrose 50% 25g once IV regular insulin 5 units once PO sodium polystyrene 30g once</i>
<i>Day 3, 6am</i>	<i>7.4</i>	<i>-</i>	<i>Cardiac arrest before result was out. IV epinephrine 1mg x3 IV calcium chloride 1g x2 IV sodium bicarbonate 50 mEq x3 IV dextrose 50% 25g once IV regular insulin 10 units once CRRT initiated after resuscitation.</i>

**Table 1.** Potassium levels, creatine kinase levels and treatments received. (CK: creatine kinase; IV: intravenous; CRRT: continuous renal replacement therapy)"

- What kind of hemodialysis treatment was performed? How was hemodialysis set? (please provide specific parameters)

*The patient received intermittent hemodialysis via right internal jugular temporary hemodialysis catheter for 3 hours per day.*

*HD order: F160 dialyzer, blood flow rate: 300 mL/min, dialysate flow rate: 500 mL/min, run time: 3 hours, Na 145, K 3, CO2 35, Ca 2.5, Support BP with 25% albumin 100-200 cc, heparin 5000 units in each port at end of dialysis, mannitol 12.5 gm at start of dialysis and 1 hour into dialysis.*

- I think that the authors should discuss the management of hyperkalemia refractory to conventional therapies. In particular, they should report that it is well-known that intermittent hemodialysis is ineffective in sustaining a reduction in plasma CK levels, while in some cases of rhabdomyolysis continuous venovenous hemofiltration and hemodiafiltration was effective in reducing CK levels (see and cite, Esposito P et al. Rhabdomyolysis-Associated Acute Kidney Injury. Am J Kidney Dis. 2018 Jun;71(6): A12-A14)

*I agree. Suggestion appreciated. References added from Zimmerman et al. article. The following section will be added in discussion.*

*"There is not enough evidence to suggest that continuous renal replacement therapy (CRRT) is superior to intermittent hemodialysis in management of rhabdomyolysis but CRRT has been found to remove myoglobin more effectively and is more practical in the setting of hypotension." Ref: Zimmerman JL, Shen MC. Rhabdomyolysis. Chest. 2013 Sep;144(3):1058-1065. doi: 10.1378/chest.12-2016. PMID: 24008958.*

- Regarding the use of the new K-binder, it should be considered that there also data suggesting that sodium zirconium cyclosilicate may provide an incremental benefit in the emergency treatment of hyperkalemia (see and cite, Peacock, W.F. et al. Emergency Potassium Normalization Treatment Including Sodium Zirconium Cyclosilicate: A Phase II, Randomized, Double-blind, Placebo-controlled Study (ENERGIZE). Acad. Emerg. Med. 2020, 27, 475–486) Finally, I think that the title should be changed from "Life Threatening Hyperkalemia" to "fatal Hyperkalemia"

*Agree. Sodium Zirconium is not available at our institution. I will add this literature as reference. Thank you for the suggestion. We agree that the title "fatal hyperkalemia" is better. We will request the editors to adjust the title.*

Reviewer #2: The authors present an interesting study describing a case of acute rhabdomyolysis and renal failure that a patient who experienced cardiac arrest with moderate hyperkalemia despite medical treatment and hemodialysis. There are a few major issues that should be addressed by the authors before consideration for publication:

1. You claimed that early deterioration can occur during a hyperkalemia state. you need a more comprehensive literature review regarding the suggested time between these issues. Furthermore, you should mention the recommended approach in these patients as well as introducing yours.

*Thank you for suggestion. We performed literature research and there is surprisingly little written that describes how soon the electrocardiographic changes and clinical decompensation are expected once hyperkalemia is diagnosed from a lab result. Regrettably, as a result we felt uncomfortable commenting on this specifically, Physiologically one might expect the ECG changes should occur immediately or soon after onset of hyperkalemia, and the timing of clinical deterioration would depend upon the severity of the hyperkalemia and the presence of membrane-stabilizers such as calcium.*

*I added the following paragraphs in the discussion regarding the recommended approach.*

*"In addition to the above medical intervention, it is warranted to initiate renal replacement therapy in the setting of hyperkalemic emergency with rhabdomyolysis. Our patient, however, was already on daily*

*hemodialysis with potassium level under control for two days. Nevertheless, his rebound hyperkalemia should have been managed aggressively with immediate hemodialysis rather than medical management expecting for a response and another two hour delay.*

*After the medical management, potassium level should be repeated one to two hour after treatment. In our patient, it was scheduled to be repeated two hour after treatment which was reasonable. More aggressive approach to repeat the potassium at one hour or earlier might have shown worsening hyperkalemia which would have prompted more intervention."*

2. The authors should explain how their findings make a difference for cardiologists around the world and the readers of the World Journal of Cardiology. In other words, what action do you think could have prevented his death that should be considered in further cases?

*Thank you for suggestion. Please refer to the previous answer where I briefly described the actions that might have prevented his death.*

More minor issues that should be addressed include:

1. Page 2, line 10, there is a pronoun problem here. Please change "occurred" to "that occurred".

*Changed. Thanks for suggestion.*

2. Page 3, line 6, the verb "are" doesn't agree with the subject. Consider changing it to "is".

*Changed. Thanks for suggestion.*

3. Page 4, line 18, the past participle verb "taken" has been used without an auxiliary verb. Consider adding using "took" or "has taken" instead.

*Changed to "... the repeat potassium level which was taken just before..... ". Thanks for suggestion.*

4. Page 9, line 2, the singular verb "is" doesn't appear to agree with the plural subject "electrocardiograms". Consider changing it to "are" instead.

*Changed to "are". Thanks for pointing it out.*