

Non-Dialytic Management of Severe Ayahuasca-Induced Rhabdomyolysis with AKI

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Background and Purpose

Ayahuasca, a traditional hallucinogenic brew, is a rare but emerging cause of rhabdomyolysis-induced acute kidney injury (AKI). Unlike more common etiologies of rhabdomyolysis, such as cocaine use or statin therapy, these patients may present without positive toxicology or relevant medication history. This case provides clinical insight into how individualized fluid and diuretic management was used to prevent renal deterioration.

Case Description

A 38-year-old male with no significant past medical or family history presented with generalized weakness and muscle pain after ingesting ayahuasca and being assaulted during a retreat. He was brought to our ED via EMS due to worsening symptoms on his layover flight home to the U.S. He arrived with severe rhabdomyolysis (CPK 110,569U/L), acute kidney injury (initial Cr 6.8mg/dL), hyperkalemia, hyponatremia, transaminitis, and leukocytosis. He was admitted to the ICU for close monitoring and serial labs with an uptrending creatinine of 13.6 mg/dL by hospital day 7. By discharge day 11, his creatinine downgraded without renal replacement therapy. During his stay in the ICU, he received a full trauma workup, aggressive IV fluids (4-6 L/day isotonic saline), and diuretics (bumetanide, metolazone).

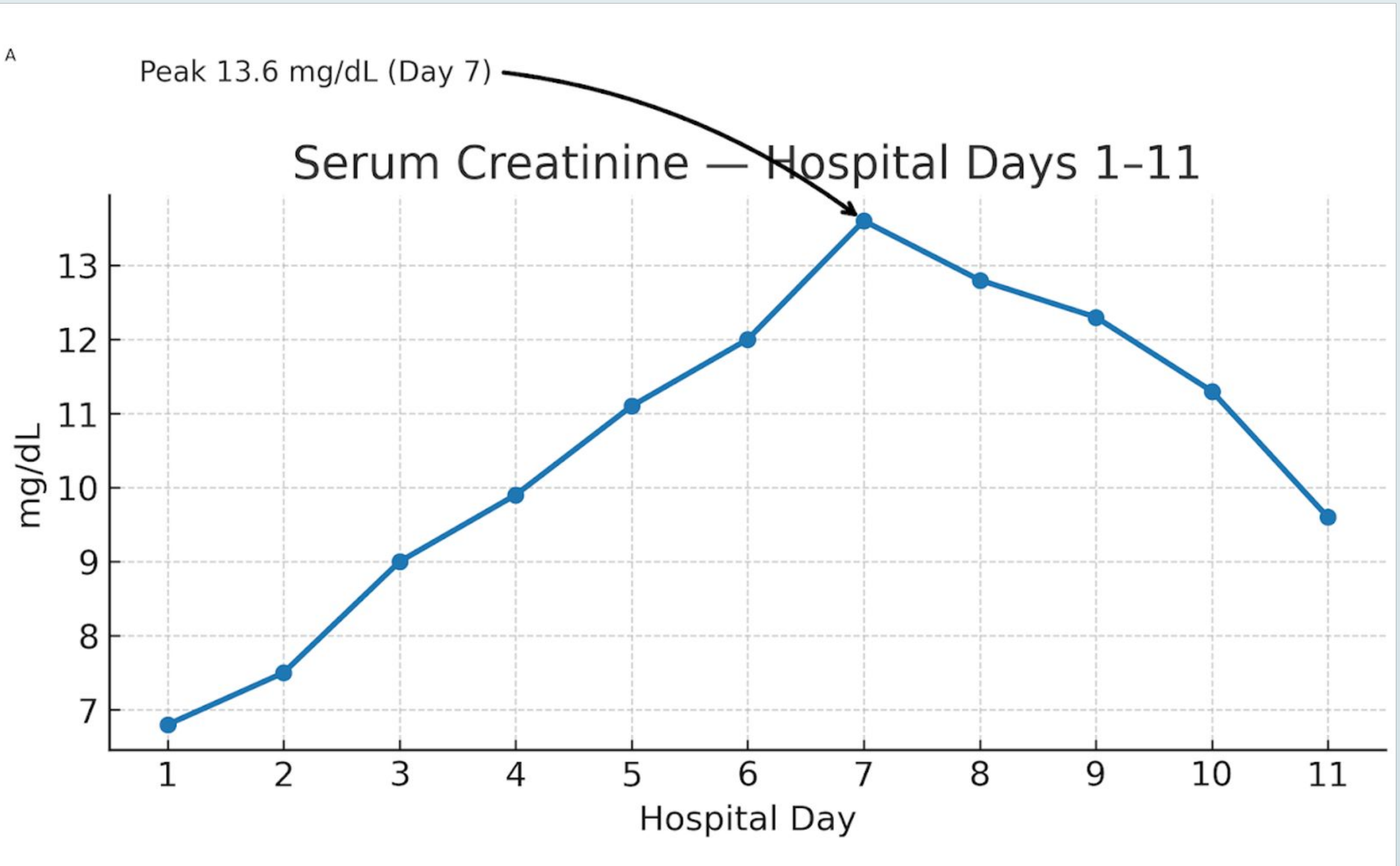


Figure 1: Serum creatinine (mg/dL) trend during hospitalization

Hospital Course

Day	Management & Findings
1	•Generalized lacerations/abrasions •Stable vitals and within normal limits •Chest X-ray (CXR) showed clear lung fields •Pan-scan was negative except for acute, minimally displaced left nasal bone fracture
2	•Cr rose from 7.5 to 8.8mg/dL; CK down-trending 56,432U/L •Renal ultrasound: increased bilateral echogenicity, no evidence of obstruction
3	•Nephrology diuretic challenge: Bumetanide+Metolazone
4	•Physical exam: mild pitting edema of hands/feet •CXR: minimal perihilar haze
5	•Orthopedic consult for bilateral upper extremity swelling •Bilateral hand edema, 2+ pitting •no compartment syndrome
6	•Aggressive Diuresis and Orthopedic Follow-up
7	•Physical exam: pitting edema significantly improved •Limbs soft, neurovascularly intact •Peak Serum Creatinine (Cr 13.6mg/dL)
8	•Serum Cr Downtrending (Cr 12.8mg/dL) •Polyuric Phase & Fluid Taper
9	•Euvolemia Targeted (Discontinued Bumetanide) •Physical exam: No edema; extremities soft
10	•Final Wean & Recovery Phase
11	•Cr 9.6mg/dL, electrolytes normalized •Discontinued IVF/Diuretics •Transitioned to oral renal diet •Orthopedics: confirmed no residual edema at discharge

Table 1: Patient responses to medication modification.

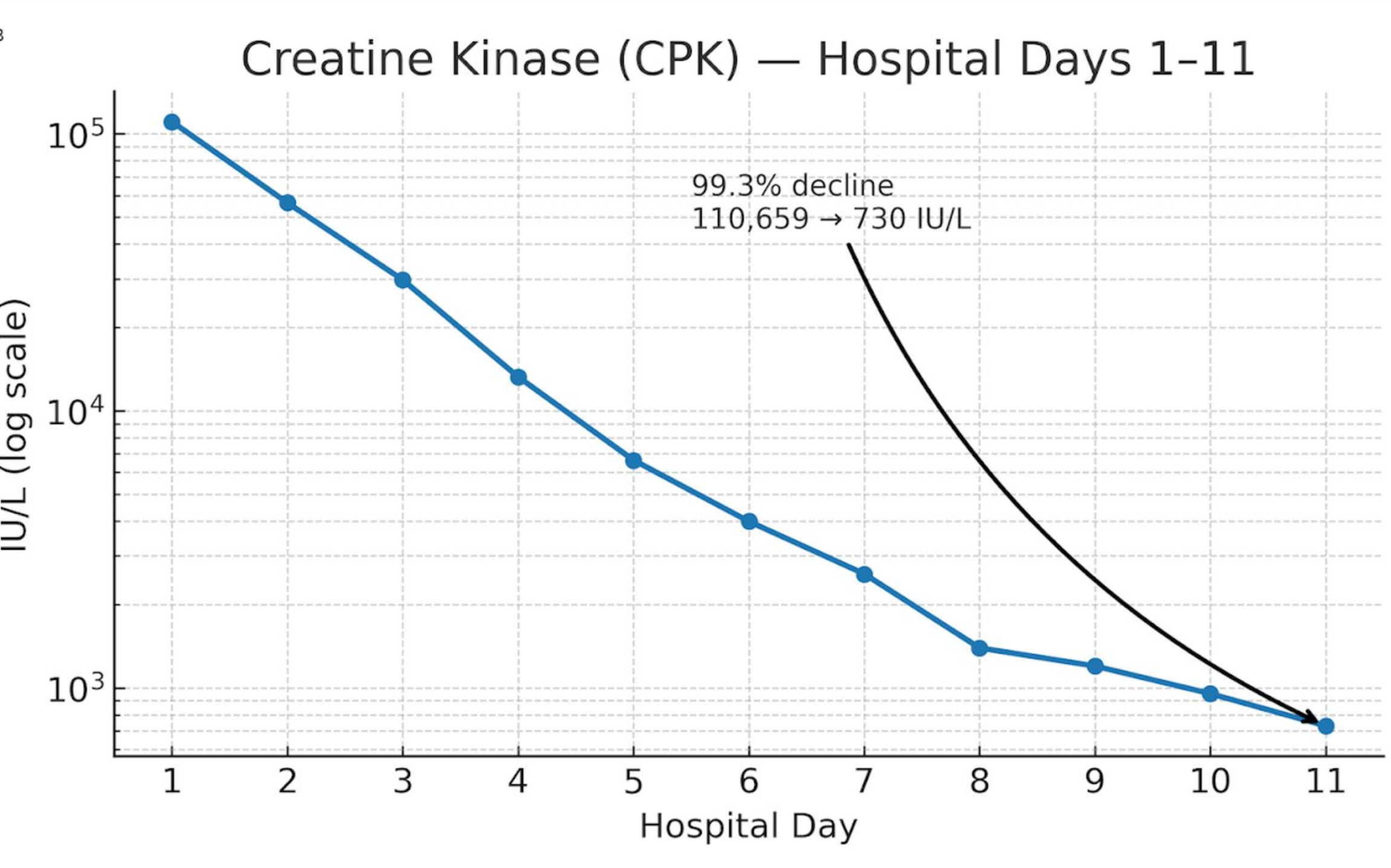


Figure 2: Decline of creatine kinase (IU/L, log scale) from days 1-11

Interventions

Day	Medication or Therapy	Reason
1	• Lactated Ringers 1 L IV @ 100 mL/hr • Sodium bicarbonate 150 mEq +D5W 1 L IV @ 100 mL/hr • Heparin 5,000 U SC TID • Ethanol topical BD • Bacitracin topical Q6H	Severe rhabdomyolysis (CPK 110 K), AKI (Scr 6.8), hyperkalemia; y/n UOP on arrival. Initial ICU admission.
2	• Added folic acid 1 mg PO daily • Added gabapentin 300 mg PO daily • Added thiamine 100 mg PO daily • Added mupirocin topical TID	Standard micronutrient support; skin/abrasion care.
3	• Bumetanide 4 mg IV TID • Metolazone 5 mg PO × 1 dose	Rising Scr 9.0 mg/dL; patient now in extension/maintenance phase of AKI; signs of volume overload beginning.
4	• Switched maintenance IV fluid to Isolyte S 1 L @ 150 mL/hr (replaced LR/NaHCO₃) • Added azithromycin 500 mg PO daily • Bumetanide 1 mg/4 mL IV Q6H (bolus regimen) • Metolazone 10 mg PO × 1 dose	Persistent AKI (Scr 9.9 mg/dL); prophylaxis for possible pneumonia; need for more aggressive diuresis.
5	• Continued Bumex infusion (gtt @ 1 mg/hr)	AKI phase ongoing; nonoliguric, trending CPK down; supportive care.
6	• Bumex infusion increased @ 1.5 mg/hr • Order: Bumetanide 4 mg IV × 1 dose • Order: Metolazone 10 mg PO × 1 dose • Order: Acetazolamide 1 g IV × 1 dose • Started Aluminum-OH/diphenhyd/ lidocaine/ MgOH/simeth topical • Switched IV fluid back to LR (800 mL IV)	Persistent volume overload (POD 05): UOP improving but still needs forced diuresis; mild hyponatremia; treating metabolic alkalosis risk.
7	• Continued metabolic/renal diet ("Renal 70 g protein, 2 g Na, 2 g K+")	UOP 2.1 L/24 h; AKI improving, Scr peaked 13.6 on 04/05 @ 03:43.
8	• Adjusted Bumex infusion @ 1 mg/hr	UOP 4 L/24 h; Scr trending down from 13.6 → 12.8; risk of over-diuresis.
9	• Continued Bumex infusion @ 1 mg/hr • Discontinued IV midazolam (no longer on NaHCO₃ drip)	AKI in recovery phase; Scr 12.3.
10	• Switched IV fluid to LR @ 1,168 mL total (tube feed/H2O mixture)	Oliguria resolved; UOP 3.85 L; Scr trending down to 11.3.
11	• Switched IV fluid to ½ NS @ 150 mL/hr	Last day of ICU stay; Scr improving (9.6); almost euvolemic; preparing for discharge.

Table 2: Major treatment adjustments during the patient's 11-day ICU stay for ayahuasca-induced rhabdomyolysis and acute kidney injury.

Discussion

The decision to pursue conservative management in this patient provides valuable guidance, especially for centers without specialty services. The patient's non-oliguric status after diuretic challenge with clear urine output was somewhat reassuring, however, renal function could still deteriorate [1]; which further exemplifies the complexity of managing a case like this. Guidelines emphasize the importance of fluid resuscitation and diuretics for the kidneys during the maintenance phase of AKI [2]. This method helped keep fluid balance and contributed to renal recovery without the need for RRT, which may be necessary for refractory hyperkalemia, severe acidosis, or volume overload [3]. With the increasing popularity of recreational ayahuasca use, further research is essential to optimize management strategies for ayahuasca-induced rhabdomyolysis and its long-term effects.

Conclusion

This case of severe rhabdomyolysis and kidney injury involved the combined effects of ayahuasca ingestion and a degree of trauma. Ayahuasca, which contains N,N-dimethyltryptamine and β-carboline alkaloid, can increase sympathetic tone and vasoconstriction, impairing renal perfusion. The association of ayahuasca with severe rhabdomyolysis and AKI appears to be unique in the literature.

Clinicians should maintain ayahuasca and other serotonergic hallucinogens when assessing rhabdomyolysis, anticipate renal complications, and institute early aggressive fluid resuscitation and nephrotoxic avoidance. While rhabdomyolysis is recognized with other hallucinogens, this case suggests ayahuasca may carry similar or synergistic effects.

Acknowledgements

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[2] Sparrow, H. G., Swan, J. T., Moore, L. W., Gaber, A. O., & Suki, W. N. (2019). Disparate outcomes observed within kidney disease: Improving global outcomes (KDIGO) acute kidney injury stage 1. Kidney International, 95(4), 905–913. <https://doi.org/10.1016/j.kint.2018.11.030>

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