Review of: "Case Report: Urinary Proteomic Analysis of Exercise-Induced Rhabdomyolysis with Acute Kidney Injury"

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Potential competing interests: No potential competing interests to declare.

The case report "Urinary Proteomic Analysis of Exercise-Induced Rhabdomyolysis with Acute Kidney Injury" offers a thorough and perceptive examination of a serious illness brought on by vigorous exercise. One notable strategy that represents a major advancement in non-invasive diagnostic techniques is the combination of sophisticated urinary proteome analysis and clinical evaluation. The main findings and suggestions are listed below:

- Potential variations in the urine proteome brought on by dietary changes, hydration levels, or baseline metabolic variations unrelated to ER or AKI are not taken into consideration in this investigation. These variables may affect urine protein quantity, which could result in inaccurate biomarker detection.
- The study finds several urine biomarkers (including CKM, MB, and CA1), but it doesn't explain how sensitive or specific they are for ER or AKI diagnosis in comparison to more conventional biomarkers (such as plasma CK levels).
- The patient was only monitored for three months, which is not long enough to evaluate chronic renal disease or other late-onset AKI sequelae.
- In order to validate results, the study primarily uses proteomics without incorporating additional diagnostic techniques like imaging or plasma biomarker analysis.
- Genetic polymorphisms (such as ACTN3 XX and ACE II) are mentioned in the paper; however, it makes no mention of how these results may be incorporated into standard risk assessments or preventative measures. Describe the potential impact of genetic predisposition results on clinical management.
- Without precise definitions or standards for biomarker qualification, the phrases "proteomic biomarkers" and "urinary proteins" are used interchangeably. This discrepancy has the potential to confuse readers and compromise the study's scientific integrity.