Review of: "Advancements in the Detection and Treatment of Rare ALK Fusion Mutations in Hepatocellular Carcinoma: A Case Report and Literature Review"

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Potential competing interests: No potential competing interests to declare.

The article under review presents a particular case study of a 51-year-old female patient with hepatocellular carcinoma (HCC) harboring a rare COX7A2L-ALK fusion mutation. Through meticulous diagnostic workup, including various imaging modalities, bronchoscopy, and molecular analyses like Next-Generation Sequencing (NGS), the authors provide a detailed examination of the patient's condition, enriching our understanding of the disease's genetic landscape and potential treatment avenues.

Strengths of the study lie in its comprehensive literature review, which not only contextualizes the case but also provides essential supporting evidence for the rarity and significance of the reported mutation. By conducting an exhaustive review of comparable cases, the study underscores the importance of documenting rare instances to broaden our comprehension of disease manifestations and underlying genetic mechanisms.

However, the study faces challenges due to the limited number of comparable cases and the absence of comparative analyses with alternative treatment modalities or patient cohorts. These limitations may hinder the generalizability of findings and impede definitive conclusions regarding treatment efficacy and outcomes. Additionally, the discussion on the clinical significance of the COX7A2L-ALK fusion mutation remains speculative, lacking sufficient elucidation on its functional consequences and oncogenic potential.

In summary, while the article provides valuable insights into a rare case of HCC and underscores the significance of precision medicine, its limitations, particularly the lack of comparative analyses and unclear clinical significance of the reported mutation, diminish its overall impact and applicability in clinical practice. Addressing these limitations through further research and collaborative efforts will be essential for advancing our understanding of rare ALK fusion-positive HCC cases and optimizing treatment strategies in precision oncology.