**Title page**

# Title: Comment on “Fluid overload and acute kidney injury in children with tumor lysis syndrome”

# Article type: Letter to the editor

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To the Editor,

We avidly read the article "Fluid overload and acute kidney injury in children with tumor lysis syndrome" by F Kayla et al.1 It was enlightening to read the compendiously written study, and we congratulate the authors for their profound efforts. The ultimate message of the article is that fluid overload, and acute kidney injury are common albeit unrecognized complications of TLS in children and are associated with increased illness.

As established by diverse research on this morbidity,2 we agree that close monitoring of fluid balances and preventive measures should be adopted early in patients to curtail the damage caused by such complications, thus minimizing progression to severe or chronic forms of injury. However, we deem it essential to mention additional noteworthy points that we feel would strengthen the quality of this article and add to the existing knowledge of this acute illness.

Firstly, as evidenced by the fact that in severe cases of sepsis, disseminated extra-pulmonary tuberculosis can present with features of tumor lysis syndrome in the setting of acute kidney injury.3 As the diagnosis of disseminated tuberculosis remains a challenge due to non-specific presentations, the authors should have mentioned specific tests such as a gastric aspirate smear for AFB. Moreover, a frequent association has been established between tuberculosis and myelofibrosis with direct bone marrow involvement.3 Thus, appropriate measures should have been taken to rule out such a cause.

Secondly, we discerned that critical evaluation and diagnostic workup were missing from the study. Clinical manifestations of TLS include cardiac rhythm abnormalities leading to heart failure2, thus the authors should have included electrocardiography as part of the assessment. Causes of obstructive uropathy, which could result in severe damage to the kidneys, should have also been ruled out by scans such as renal ultrasonography.2 Hematologic parameters including hemoglobin levels, iron profile, and platelet count should have been checked to eliminate confounding variables and consider differential diagnosis for other hematological malignancies. The immunohistological panel should have been ordered to classify patients based on precursor-B cell leukemia and precursor T-cell leukemia.4 Studies have shown that in specific sub-groups of leukemia patients, such as precursor-B lymphoblastic leukemia, tumor lysis syndrome is as high as 25%.2 Results of these tests could further add to the study's findings by bringing to light unexplored etiological factors and clinical signs.

Additionally, the authors placed little to no emphasis on the importance of prevention rather than treatment for AKI in the setting of the tumor lysis syndrome. Stratifying patients based on the risk is essential for selecting appropriate prevention treatments. Early intervention using renal replacement therapies (RRTs) is recommended as most AKI survivors retain independent kidney function.2

Finally, multi-centered approaches should be adopted to enhance investigations and treatments. An example would be an inspection of erythropoietin levels to assess kidney dysfunction. Novel therapies should be augmented to yield alternate treatment options.

**References:**

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