SOHO ANNUAL MEETING 2024

An unusual case of Renal infiltration in Chronic Lymphocytic Leukemia

Authors- S. Peshin[1], **S. Modi[2],** S. Kolagatla[3], N. Moka[3]

1. Norton Community Hospital, Virginia
2. Jefferson Health, Einstein Healthcare Network, Philadelphia
3. Appalachian Regional Healthcare, Kentucky

INTRODUCTION

Chronic lymphocytic leukemia (CLL) is the most prevalent leukemia in adults, characterized by the monoclonal proliferation of mature B cells in the blood, bone marrow, and lymphoid tissues. While CLL primarily affects hematopoietic system, lymph nodes, extra-nodal involvement is rare. Particularly renal involvement is very rare and poses diagnostic and therapeutic challenges. Several differentials for renal failure in a CLL patient include Sepsis, dehydration, Tumor lysis syndrome (TLS), extrinsic compression of the ureter by lymph node enlargement, side effects of the cancer therapy, most uncommon being renal involvement of the CLL. We report a case of CLL with renal infiltration leading to florid renal failure, discussing its clinical presentation, diagnostic workup, and management.

CASE PRESENTATION

A 67-year-old woman diagnosed with CLL in 2012, characterized by Trisomy 12, unmutated IGVH, and positive markers Zap 70 and CD38, remained asymptomatic until 2019. Treatment with Ibrutinib and Rituximab was administered from 2019 to 2022 when she developed acute kidney injury. Renal biopsy confirmed extensive diffuse lymphoid infiltration consistent with CLL. She switched to Venetoclax and Obinutuzumab in June 2022, completing six cycles of Obinutuzumab by November 2022, and continuing Venetoclax until August 2023. Renal function significantly improved to creatinine level of 1.6. Currently asymptomatic, she undergoes surveillance with Hematology and Nephrology, off Venetoclax per guidelines, with monthly labs and quarterly Flow cytometry monitoring, alongside avoidance of nephrotoxic medications and ensuring hydration. Resumption of therapy is considered if renal function deteriorates post-venetoclax discontinuation.

CONCLUSION

In CLL, renal failure can be a consequence of tumor infiltration, glomerular diseases, electrolyte imbalances, and treatment-related toxicities. With the advent of more targeted therapies for CLL, the risk of TLS becomes a crucial consideration, requiring proactive preventive measures. In clinical practice, both hematologists and nephrologists must be well-versed with various differentials leading to suboptimal renal function in patients with CLL, although uncommon renal infiltration of CLL is worth working up for in cases of inconclusive non-interventional workup as it might indicate disease recurrence/progression prompting the treatment change or resumption and with the advent of advanced cancer therapies it can be reversible if caught early and treated cautiously.