Steroid-unresponsive Immune-mediated Hepatitis Induced by Durvalumab: A Case Report

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Introduction: Lung cancer is the leading cause of cancer death in the United States. Durvalumab is a monoclonal antibody against programmed cell death ligand (PD-L1) and CD80 used for the treatment of stage III non-small cell lung cancer. Immune-mediated hepatitis is a common side effect of durvalumab, which is reported in 12% of patients. However, most durvalumab-induced hepatitis is mild and progression to severe (grade 4) immune-mediated hepatitis is rare and seen in only 0.4% of patients. Of these patients, only 1.7% required corticosteroids, and mycophenolate was required in 0.1%. We report a case of grade 4 immune-mediated hepatitis induced by durvalumab, which was unresponsive to high-dose corticosteroids and needed treatment with mycophenolate.

Case Presentation: A 78-year-old female with a history of lung adenocarcinoma presented with abnormal liver function tests on routine screening after two cycles of durvalumab. The patient reported jaundice, pale stools, dark-colored urine, and pruritus. On admission, her vitals were normal. Initial labs revealed a significant elevation in total bilirubin, alkaline phosphatase, alanine aminotransferase, and aspartate aminotransferase. She was started on high-dose steroids for grade 4 immune-mediated hepatitis. Initially, she showed temporary improvement on steroids but declined on day 2 of admission with an increase in total bilirubin and alkaline phosphatase. Mycophenolate was added on day 4, and magnetic resonance cholangiopancreatography was done and ruled out obstruction. The administration of mycophenolate provided a gradual improvement of hepatitis. However, on day 6, a sharp decline in her pulmonary function prompted a transfer to the intensive care unit (ICU) for acute respiratory failure, which was likely secondary to immunotherapy. On day 9, the patient elected to withdraw her treatment and be admitted to hospice.

Conclusion: We describe a rare case of steroid-unresponsive severe immune-mediated hepatitis induced by durvalumab. As the use of durvalumab is rising following FDA approval, physician cognizance of immune-mediated hepatitis induced by durvalumab is important. This requires careful monitoring of liver function tests in cancer patients on immune checkpoint inhibitors such as durvalumab, and demonstration of acute liver injury should be evaluated and managed promptly.

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