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Case report: sinusoidal obstruction syndrome post-treatment with trastuzumab emtansine in breast cancer

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Objective: Trastuzumab emtansine (T-DM1) is an anti-HER2 antibody-drug conjugate indicated for the treatment of HER2-positive breast cancer. One of the most severe adverse events reported with T-DM1 is hepatotoxicity. More recently, some cases of noncirrhotic portal hypertension have been described in patients with long-term T-DM1. The underlying liver condition is usually sinusoidal obstruction syndrome. **Methodology:** Here, we present the case of a patient with early-stage HER2-positive breast cancer who received adjuvant T-DM1 and developed hepatotoxicity due to this condition. **Results:** We report a case of a 46-year-old woman with early-stage (stage III) HER2-positive breast cancer who started adjuvant T-DM1 therapy for residual disease after HER2-directed therapy. After 3 cycles of T-DM1, the patient started a new-onset elevation of liver tests and there was focal hepatic steatosis on abdominal CT. A reduction in platelet count was also apparent during the T-DM1 therapy. Liver elastography was performed and showed signs of moderate liver fibrosis. The patient underwent a liver biopsy which revealed sinusoidal obstruction, and so T-DM1 has been suspended. Thereafter, the patient had normalization of liver tests and platelet count. After discussion with a Hepatologist, we opted to definitively suspend T-DM1 therapy due to the risk of progression to noncirrhotic portal hypertension. **Conclusion:** We presented a rare case of sinusoidal obstruction syndrome induced by T-DM1 in a patient with breast cancer. Hepatotoxicity is one of the main adverse events of T-DM1. A high index of suspicion for liver injury must be maintained for patients who develop liver test abnormalities and/or signs of portal hypertension during treatment with T-DM1. This shows the usual complexity in treating patients with new drugs for breast cancer and the importance of multidisciplinary monitoring.

Keywords: trastuzumab emtansine; sinusoidal obstruction syndrome; breast cancer.