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1108 – A hidden survivorship challenge: non-cirrhotic portal hypertension after adjuvant t-dm1 in breast cancer

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Introduction: Trastuzumab emtansine (T-DM1), an antibody–drug conjugate, demonstrated significant benefits in the treatment of human epidermal growth factor receptor 2 (HER2)-positive (+) breast cancer. Hepatotoxicity is a recognized concern, ranging from asymptomatic enzyme elevations to acute liver failure and, rarely, non-cirrhotic portal hypertension (NCPH). Most NCPH cases occur after prolonged exposure in the metastatic setting. Reports after adjuvant treatment are scarce. This report describes a case of NCPH following adjuvant T-DM1, emphasizing the risk of delayed hepatotoxicity and emerging challenges for long-term survivors.

Case report: A 33-year-old woman was diagnosed with hormone receptor-positive and HER2-positive breast invasive ductal carcinoma, cT2N0. She underwent neoadjuvant chemotherapy with dual HER2 blockade. Residual disease was identified after mastectomy. Adjuvant treatment included radiotherapy, endocrine therapy (goserelin and anastrozole) and T-DM1. New-onset thrombocytopenia (103,000/ μ L) required T-DM1 dose reduction and persisted after completion of the 14-cycle regimen (75,000/ μ L). Over the next year, liver enzymes progressively increased, while viral hepatitis and other differential diagnoses were ruled out. Abdominal ultrasound showed signs of chronic liver disease, whereas elastography was normal. Magnetic resonance imaging demonstrated splenomegaly, collateral vessels, and hepatic nodules (regenerative changes). Esophagogastroduodenoscopy revealed esophageal varices, indicating portal hypertension. Prophylactic band ligation was performed. Liver biopsy confirmed idiopathic NCPH. Currently, the patient remains clinically stable, with no additional hepatic decompensation or evidence of breast cancer.

Discussion: NCPH pathophysiology involves heterogeneous hepatic blood flow distribution leading to ischemia, hepatocyte atrophy, and compensatory hyperplasia with regenerative nodules. Symptoms mimic advanced cirrhosis and appear after months or years of T-DM1 exposure. This case report demonstrates that even short adjuvant courses may result in long-term hepatic toxicity. This is particularly relevant for young patients receiving curative-intent treatments and prolonged survivorship. Chronic toxicities may impact quality of life. This case report contributes to early recognition of a rare toxicity and may help inform future treatment and surveillance strategies.

Ethics: Research Ethics Committee Approval (CAAE 89411325.4.0000.0227).

Keywords: breast neoplasm; liver diseases; non-cirrhotic portal hypertension; trastuzumab emtansine; cancer survivors.