

A Report of Liver Injury after use of CDK 4/6 Inhibitor

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Introduction: Palbociclib is an oral selective inhibitor of CDK 4/6 (Cyclin D dependent kinase 4/6). The combination of palbociclib with letrozole results in improved progression-free survival rates in metastatic hormone receptor-positive, HER2-negative postmenopausal breast cancer patients who had not prior treatment for advanced disease. This report presents a clinical case of acute liver injury following administration of the CDK4/6 inhibitor.

Case report: A 65-year-old woman was diagnosed to stage IV hormone receptor-positive, HER2-negative breast invasive ductal carcinoma with multiple lung and brain metastasis. No liver lesion was seen on initial imaging, she started on letrozole 2.5mg daily and palbociclib 125mg for 21 days followed by 7 days rest at February 2020. However, when she had completed 2nd cycle, lab results showed an alanine aminotransferase (ALT) level of 464 IU/L (reference 10-33 IU/L) and aspartate aminotransferase (AST) level of 208 IU/L (reference 0-32 IU/L). Her total bilirubin and alkaline phosphatase levels remained within normal limits. She said she had not recently used antibiotics, alcohol, or other medications or supplements. Her treatment was held for a week and restarted with palbociclib 100mg for 3rd cycle when liver function tests was normalized. Her tumor response evaluation showed partial regression. However, she should take additional dose reduction of palbociclib 75mg on 6th cycle because her liver enzymes levels continued to increase during treatment. Nonetheless of additional reduction, her liver enzyme increased to AST 673 IU/L and ALT 217IU/L. So, she was seen by hepatologist for evaluation of acute hepatitis and was taken liver biopsy. The result was lobular hepatitis showing centrilobular confluent necrosis and portal and sinusoidal lymphocytic infiltration with eosinophils. Other etiologies for her elevated liver enzymes were ruled out, and she was diagnosed with a drug-induced liver injury from palbociclib. She was started on letrozole alone on July 13th 2020 and her liver function tests was normalized.

