Palbociclib, abemaciclib, and ribociclib are FDA-approved Cyclin-Dependent Kinase (CDK) 4/6 Inhibitors used for hormone receptor (HR) positive/human epidermal growth factor receptor 2 (HER-2) negative breast cancer treatment.

All of these agents have an increased risk for neutropenia, interstitial lung disease (ILD), and hepatotoxicity.

The objective of this study is to assess the safety outcomes of CDK 4/6 inhibitors prescribed in breast cancer at a community teaching hospital.

This study was approved by the institution’s investigational review board.

Data collected as a retrospective chart review through the institution’s electronic health record, EPIC.

Inclusion Criteria: ≥ 18 years diagnosed with HR (+)/HER-2 (-) advanced breast cancer and have received palbociclib, abemaciclib, or ribociclib between 8/2021-8/2023.

Primary Objective: Describe the incidence of documented adverse effects in patients receiving CDK 4/6 inhibitors for the treatment of HR (+)/HER-2 (-) advanced breast cancer.

Secondary Objectives: Evaluate patient comorbidities and concurrent medications that may affect outcomes and assess dose modifications and discontinuations due to adverse effects.

Ribociclib was prescribed the least out of all the agents.

Diarrhea was the most common adverse effect documented in abemaciclib.

Majority of discontinuations of the agents were due to disease progression/ineffective therapy.

Previous hormonal therapy regimens were commonly prescribed before initiating a CDK 4/6 inhibitor.

Palbociclib had the largest group of participants and the greatest number of documented adverse effects.

Letrozole was prescribed the most for concurrent use with a CDK 4/6 inhibitor out of all aromatase inhibitors.

Abemaciclib reported to have the greatest incidence of diarrhea compared to all agents.

50% of the patients taking ribociclib discontinued the medication due to intolerance/adverse effects.

Comorbidity of significant heart disease was present in 57.14% of QT prolongation adverse effects and 100% of VTE adverse effects documented.