

BACKGROUND

- 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

METHODS

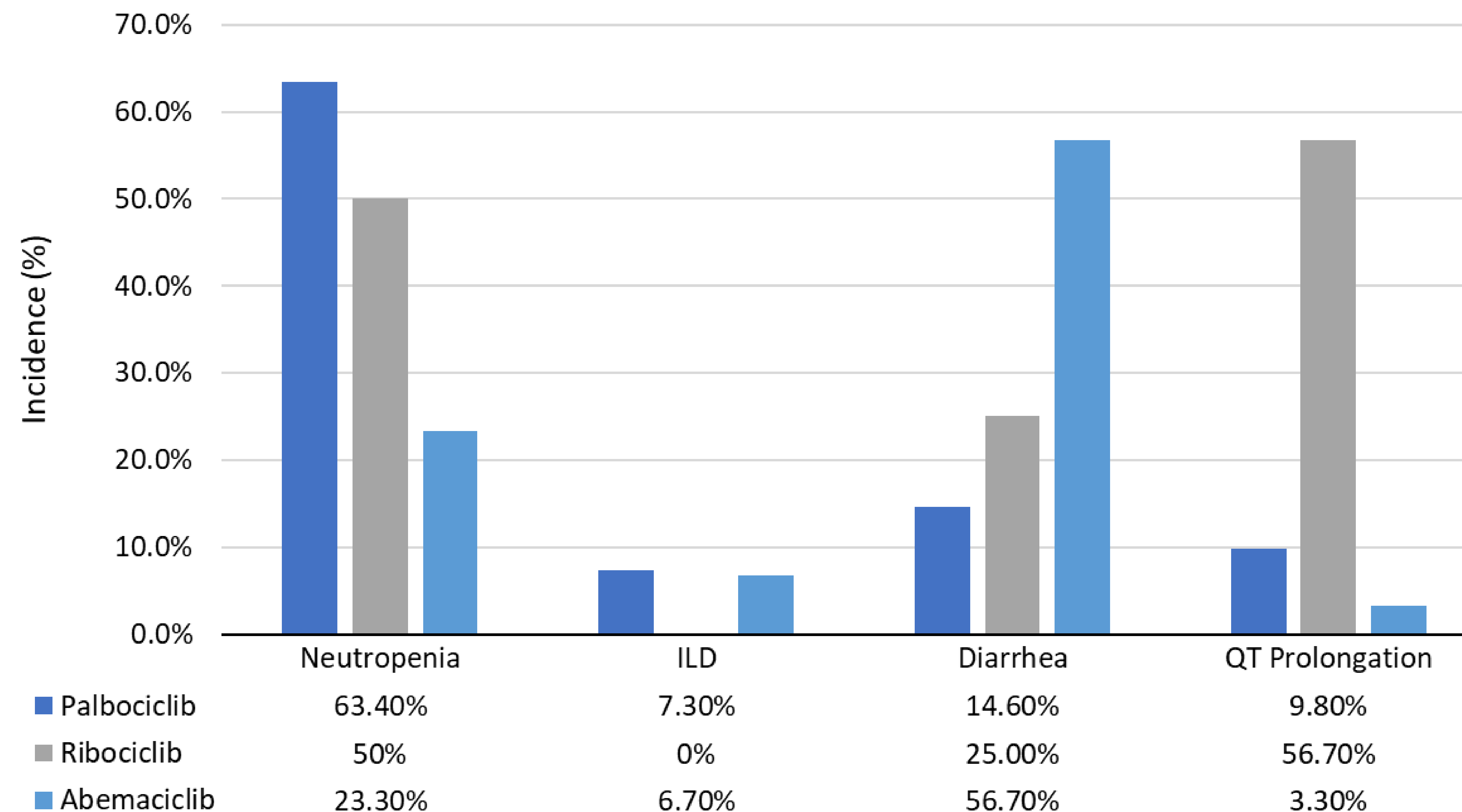
- This study was approved by the institution’s investigational review board
- Data collected as a retrospective chart review through the institution’s electronic health record, EPIC
- Inclusion Criteria: ≥ 18 years diagnosed with HR (+)/HER-2 (-) advanced breast cancer and have received palbociclib, 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

RESULTS

Table 1: Baseline Characteristics at CDK 4/6 Inhibitor Initiation

	Eligible Patients Enrolled	Mean Age in Years (SD)	Mean Absolute Neutrophil Count (SD)	% Concurrent Endocrine Therapy	
				Fulvestrant	Aromatase Inhibitor
Palbociclib	38	66 (12.71)	4.61 (3.02)	47.4%	52.6%
Ribociclib	6	62 (10.71)	4.39 (1.21)	50%	50%
Abemaciclib	27	55 (12.20)	3.68 (2.18)	11.1%	88.9%

Figure 1: Incidence of Documented Adverse Effects



- N = 71 patients
- Neutropenia and diarrhea were the adverse effects with the greatest incidence of occurrence amongst all agents
- 78.9% of patients in the study were Caucasian
- 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

CONCLUSION

- Palbociclib had the largest group of participants and the greatest number of documented 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