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CO-ADMINISTRATION OF RIBOCICLIB/PALBOCICLIB AND PROTON PUMP INHIBITORS (PPI): A REAL-WORLD ANALYSIS IN AN ITALIAN ONCOLOGY CENTER

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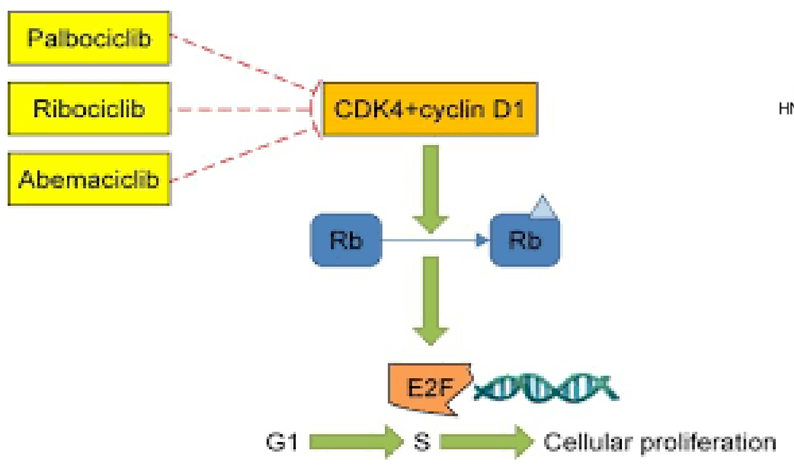
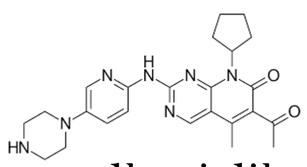
BACKGROUND

Ribociclib and palbociclib, CDK4/6 inhibitors, are often prescribed with aromatase inhibitors or fulvestrant to treat advanced/metastatic ER+ and HER2- breast cancer. Many patients concurrently take proton pump inhibitors (PPIs, ATC=A02BC) and/or antacids (ATC=A02A). PPIs can impact the absorption of drugs affected by pH, including ribociclib and palbociclib, both weak bases. Ribociclib, a CYP3A4 inhibitor and substrate, shares a metabolic pathway with omeprazole, a PPI also metabolized by CYP3A4. Additionally, ribociclib can prolong the QT interval, a risk potentially exacerbated by PPI use, especially in women.

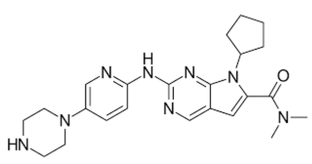
AIMS

This study aims to analyze the prescription patterns of ribociclib/palbociclib and PPIs/antacids among patients treated in an Italian oncology center, focusing on potential drug interactions.





palbociclib



Ribociclib

MATERIALS AND METHODS

Prescription data for ribociclib, palbociclib, PPIs and antiacids were collected from:

- Prescription Software
- Patient medical records
- Interviews with patients at the in hospital pharmacy

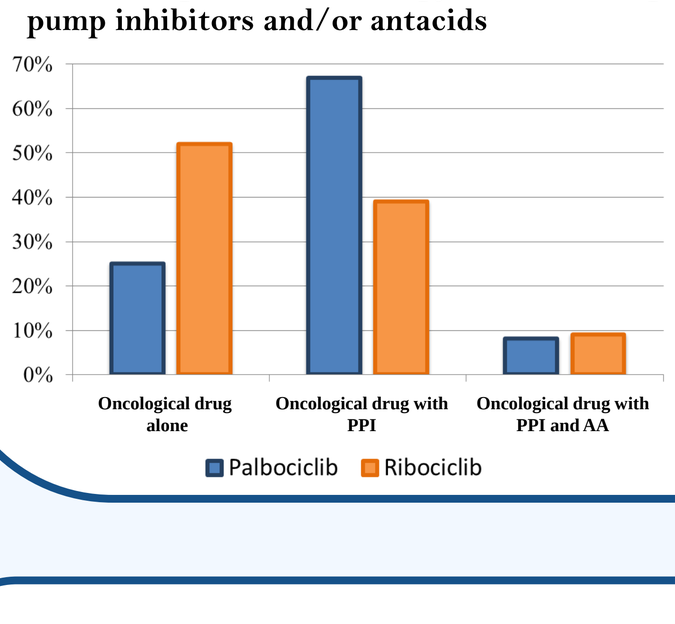
Drug interaction were assessed using:

- Terap®
- Micromedex®
- Informations from the drug leaflet

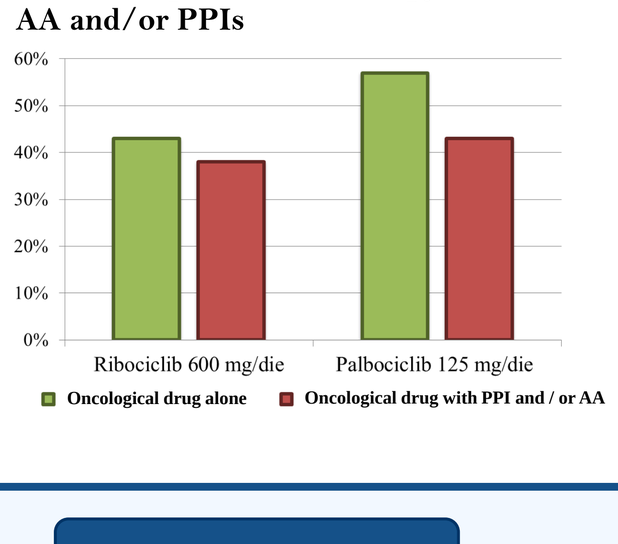
RESULTS

Data were analyzed from 88 ribociclib patients (all females) and 12 palbociclib patients (2 males), with median ages of 66 and 63, respectively. Among ribociclib patients, 26 (39%) used PPIs concurrently, and 8 (9%) also with antacids. In the palbociclib cohort, 9 (67%) were on PPIs, with 1 also using an antacid. Regarding specific PPI use, 44% (11/26) of ribociclib patients used omeprazole and 35% (9/26) pantoprazole. In the palbociclib group, 42% (5/12) used pantoprazole and 17% (2/12) omeprazole.
Among ribociclib patients not using PPIs/antacids, 43% received a standard dose, compared to 38% of those on PPIs/antacids.
One patient stopped ribociclib and omeprazole due to QT prolongation.

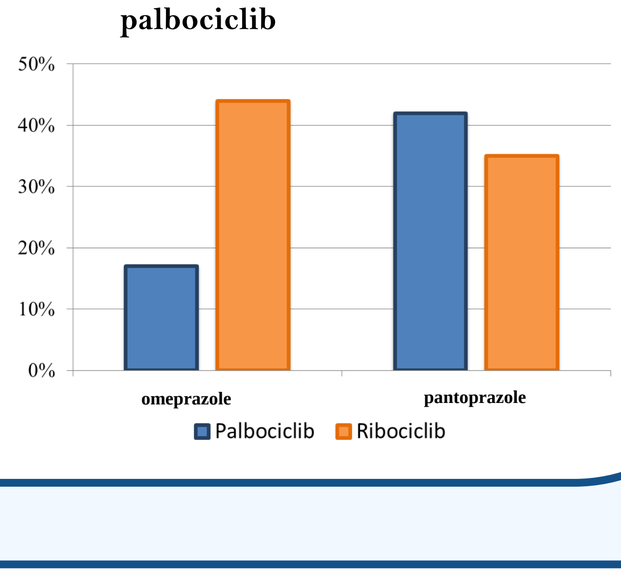
Comparison between patients on ribociclib/palbociclib therapy and those on proton pump inhibitors and/or antacids



Comparison between patients on ribociclib/palbociclib therapy and those on AA and/or PPIs



Type of PPI in patients treated with ribociclib or palbociclib



CONCLUSIONS

This analysis underscores the need for clinician awareness of drug interactions in polytherapy, particularly for patients treated with CDK4/6 inhibitors and PPIs,. Competition for CYP enzymes can impact drug efficacy or toxicity risk.
The intervention of hospital pharmacists was twofold: **interviewing patients** starting CDK4/6 therapy to identify potential drug interactions with their chronic therapy drugs (including medications not disclosed to their physician) which could interfere with efficacy and provide toxicity of the antitumor treatment and providing physician **education** on these possible interactions .
Real-world data stress the importance of medication reconciliation done by hospital pharmacists to optimize patient care.