Incidence of drug-drug interactions of QT-prolonging drugs in an onco-hematological outpatient


Catalan Institute of Oncology, Barcelona, Spain

Funding Acknowledgement: Type of funding sources: None.

Background: Oral anticancer therapy is increasingly integrated into the care of patients (pts) with cancer. Recognition and management of pharmacodynamic drug-drug interactions is critical to provide efficacious and safe anticancer treatment.

Purpose: We aimed to gain insight into the real-world prevalence of potentially significant drug-drug interactions of QT-prolonging with oral antineoplastic agents used in an Oncohematological Hospital.

Methods: We performed a prospective observational study in an oncohematological hospital between October 2020 and June 2021. Consecutive pts diagnosed with an oncohematological neoplasia and who were evaluated before start treatment with an oral anticancer drug or support treatment (antibiotics, antivirals) were included. Cancer treatment data were obtained from our prescription software System. Demographic data and concomitant medication were obtained from our electronic medical record software. Micromedex was used to find potential QT-prolonging interactions between anticancer drugs and chronic medication, and were classified as major or moderate.

Results: Oncohematological treatment was started in 1,217 pts during the study period. A total of 266 potential drug-drug interactions were detected in 171 patients (14.5%). A total of 46 drug-drug interactions of QT-prolonging (17.3%) were detected in 37 pts (21.6%), 22 men and 15 women, with a median age of 66.6 (range 40.9–87.3). Twenty-one (45.7%) and 25 (56.3%) drug interactions of QT-prolonging were classified as major and moderate, respectively, with a median interaction per pts 1.24 (1–3). The 3 most common cancers were: Renal carcinoma in 12 pts (32.4%), non-small cell lung carcinoma in 9 pts (24.7%) and prostate carcinoma in 4 pts (10.8%). The most commonly detected interacting drugs were sunitinib 12 pts (26.1%), osimertinib 10 pts (21.7%), and cabozantinib 5 pts (10.9%) among oncohematological drugs, and citalopram 8 (17.4%), quetiapine 6 (13%) and tramadol 5 (10.8%) among concomitant drugs.

Conclusion: Drug-drug interactions can play a significant role in drugs’ cardiac safety in oncohematological pts, specially in renal, lung and prostate cancers, with more than one potential interacting drug or at least one major interaction. Cardiac monitorization should be considered when potential drug-drug interaction is detected.