Background and importance Many medications have been implicated in prolonging the QT interval, and additional agents continue to be identified. Concomitant use of QT prolonging agents increases the risk of adverse events. Our hospital uses electronic medication records with a built-in drug-drug interaction (DDI) database that enables different analyses in prespecified populations. DDI analyses are part of a hospital/clinical pharmacist's work in our hospital.

Aim and objectives The aim of the study was to characterise QT prolonging DDIs in patients admitted to the cardiovascular department in the university hospital. Another objective was to compare DDI risk ratings in our built-in DDI database with two distinct DDI databases, to find possible differences and to further determine clinical significance.

Material and methods The study population consisted of patients hospitalised in the cardiovascular department who experienced at least one QT DDI during hospitalisation. Only DDIs with overall significance ratings of 5 or 6 on the 0–6 scale, with a QT prolonging mechanism, were included in the analysis. The cardiovascular department has 50 standard beds and 12 ICU beds. The study period was January to December 2019. DDI data were retrospectively extracted from electronic medication records. The respective electronic medical records were manually reviewed for additional information. The analyses were performed using descriptive statistics methods.

Results 3.7% of the patients admitted to the cardiovascular department (230/6250) experienced at least one QT DDI (study population). Single and multiple QT DDIs were more common in ICU patients than in standard unit patients. The most frequently involved agents were amiodarone, melperone, tiapride, citalopram, ciprofloxacin, tramadol, escitalopram, clarithromycin and sertraline. A maximum number of nine QT DDIs was found in one patient. Seven patients experienced drug associated long QT syndrome. DDI risk rating in our built-in database was considerably more stringent than in the comparator database (Lexi-Interact).

Conclusion and relevance The analysis revealed that QT DDIs were frequent among patients hospitalised in the cardiovascular department. The DDI database should be viewed as a guide, not an algorithm. Some QT DDIs rated as highly significant by our built-in DDI database seemed to have a low clinical impact in real world settings. It is useful to consult more sources or seek expert opinion, if in doubt. The role of the hospital/clinical pharmacist as a consultant seems essential.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest