Drug-drug interactions and potentially related adverse clinical events in patients with cardiovascular diseases

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BACKGROUND AND IMPORTANCE:
Several study estimated that about 60% of patients presents at least one potential Drug-drug interaction (DDI) at discharge. Considering that DDIs are predictable issues, a review of DDIs conducted by pharmacist and physician would be ideal.

AIM AND OBJECTIVES:
The aim of this analysis was to measure the frequency and nature of DDIs in a cardiovascular units and investigate whether any adverse events after discharge could be associated to these DDIs.

MATERIALS AND METHOD:
This was an observational retrospective study, involving patients discharged between December 2016 and December 2017. The discharge medication list within the electronic medical record was used to determine the presence of Moderate or Severe DDIs at discharge. To check if any adverse events were associated with DDIs, we reviewed the causes of each hospitalization or access to the emergency department (ED) within 3 months after discharge.

RESULTS:
Among 2114 patients screened, 624 (29.5%) were exposed to at least one potential DDI. A total of 1108 DDIs were recorded, 834 (75.3%) were classified as moderate and 274 (24.7%) as severe. The median number of DDIs per patient was 1.8 (range 1-11).

Of the 624 patients with at least one DDI, follow-up data were available for 593 (95.0%). Among them, 144 (24.3%) had at least one adverse clinical events within 3 months after discharge. A total of 212 events were recorded (hospitalizations= 179; ED accesses= 33). For approximately 15% of these events, the cause of hospitalization or ED access was potentially associated to a DDI.

CONCLUSION AND RELEVANCE:
From this analysis it emerged that a remarkable amount of patients has been discharged with at least one DDI and a considerable portion of the included patients might have experienced an adverse event due to these DDIs. The next step will be the involvement of a clinical pharmacist within a multidisciplinary team to highlight to the physician any potential DDIs before discharge and minimize the occurrence of their related risk.