Snapshot of prescribing practice for clopidogrel and esomeprazole co-prescription and cost evaluation of guidelines application

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Introduction

Through CYP2C19, the antiplatelet clopidogrel and the proton-pump inhibitor esomeprazole demonstrate a pharmacokinetic interaction that could translate into clinical inefficacy of clopidogrel.

No medical consensus has been reached to date and therefore different guidelines are available.

We aimed to evaluate the prescribing practices in the University Hospitals of Geneva (HUG) by measuring if the co-prescription was staggered as suggested by experts.

We also measured Omeprazole-Clopidogrel-Aspirin (OCLA) study impact on clopidogrel use in our hospital.

Methods

Patient’s medical orders and nurse’s drug administration schedules were analysed from January 2013 to April 2014 and the hospital pharmacy database from January 2000 to April 2014.

To measure the “extra costs” of the implementation of different guidelines we built scenarios assuming clopidogrel or esomeprazole replacement with prasugrel or ticagrelor and pantoprazole or ranitidine, respectively.

Results

Fifty seven percent of patients under clopidogrel had a co-prescription of esomeprazole during the study period (N=914; mean age in years (SD)=75 (13); 391 women (43%).

Among them 11% (99/914) had a medical order staggering the co-prescription (more than 10 hours apart), 13% a concomitant prescription and 77% no clear information.

Surprisingly we found a higher rate of patients having a nurse’s schedule of more than 10 hours (31%, 281/914).

A statistical significant decrease in trend of clopidogrel use was observed after the OCLA study publication.

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<th>N total of 914 patients</th>
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Medical orders given by doctors and established drug administration regimens by nurses (patients)

Switching drugs would lead to increased annual costs for HUG of

- €38’210 for prasugrel,
- €34’800 for ticagrelor,
- €9’590 for pantoprazole,
- €5’205 for ranitidine.

Conclusion

The medical order’s information time frame should be mandatory in order to improve the transmission throughout the whole information system and allow a clear staggering of clopidogrel-esomeprazole co-prescription avoiding drug-drug interactions when possible.

Sometimes nurses take the initiative to stagger the co-prescription when these are not clearly defined by medical orders.