A Retrospective Observational Study Of The Use of Gastroprotection For Patients on Dual Antiplatelet Therapy In An Acute Trust In England

E.W Wong, L. Bastian and M. Wilcock

Royal Cornwall Hospital NHS Trust

Introduction

- Dual antiplatelet therapy (DAPT), a combination of aspirin and either clopidogrel, prasugrel or ticagrelor is recommended for secondary prevention of ischaemic events in people with coronary artery disease.
- Patients taking DAPT may be at high gastrointestinal (GI) bleed risk if other factors are present and should be considered for gastroprotection e.g. a Proton Pump Inhibitor (PPI) or H2 receptor antagonist.
- Patients are at high risk of GI adverse effects with antiplatelet treatment if the following risk factors are present[1]:
  - -High dose of aspirin (300mg once daily)
  - -Older age, especially aged over 70 years.
  - -History of gastroduodenal ulcer, GI bleeding, or gastroduodenal perforation.
  - -Helicobacter pylori infection.
  - -Concomitant use of medicines that are known to increase the risk of GI bleeds such as anticoagulants.

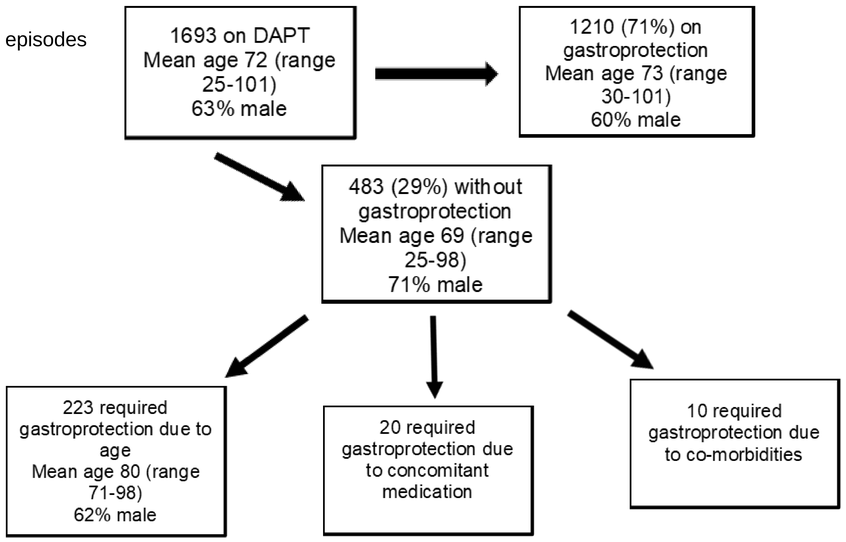
Aim: To assess whether gastroprotection was prescribed for inpatients taking DAPT in a 750-bed acute hospital in England.

Methods

- This was a retrospective analysis of existing data.
- Patient episodes involving prescription of DAPT upon discharge between April 2020 and April 2021 were extracted from the e-prescribing system.
- Electronic records of the identified patient episodes were searched for co-prescription of either PPI or H2 antagonist.
- Other risk factors such as age older than 71 and concomitant drugs that can increase bleeding risk were also checked to ascertain if patients on DAPT should have received gastroprotection.
- Ethics approval was not required for this study.

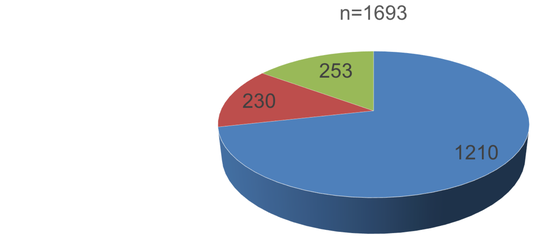
Results

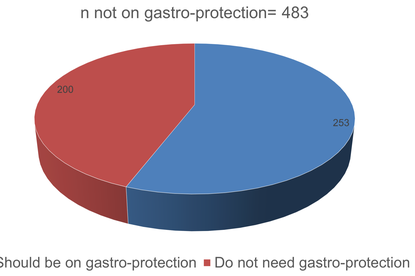
Figure 1: Flow of patient episodes



Discussion

- There was a total of 1693 patient episodes on DAPT, 29% did not receive gastroprotection. 15% of these patients should be on gastroprotection due to their age (>70) and other high risk indicators such as being on concomitant medications that can increase bleeding risk and co-morbidities.
- Of the 1210 patient episodes receiving gastroprotection, a PPI was prescribed in 1171 (564 omeprazole, 10 esomeprazole and 10 rabeprazole), and an H2 antagonist was prescribed in 39 (28 famotidine and 11 ranitidine).





Limitations

- It was conducted in a single centre in England; this might restrict the generalisability of our findings.
- Retrospective nature of this study may introduce bias or other uncertainties.
- We did not check the indication for DAPT nor if patients came in on these drugs as opposed to being started during their admission.
- The risk factors for gastroprotection other than age and selected concomitantly prescribed drugs were not checked.
- Significant contraindications other than electrolytes abnormalities for those not prescribed gastroprotection were not checked.

Conclusion

- Gastroprotection was potentially missing in 242 (14%) of the total DAPT patient episodes.
- Other studies have also reported that gastroprotection has been missed in the at risk group.[2]
- When considering newly initiated gastroprotection, various factors are considered, e.g. any possible interaction with a PPI if one of the antiplatelets is clopidogrel. Also, PPIs have adverse effects such as low sodium/ magnesium, and this may be a reason for consideration of a H2 antagonist.
- Further work is required to make our prescribers and pharmacy team aware of the importance of considering gastroprotection for this patient cohort.

References:
1. CKS, NICE., 2021. *Scenario: Secondary prevention of CVD | Management | Antiplatelet treatment | CKS | NICE*. [online] Cks.nice.org.uk. Available at: <https://cks.nice.org.uk/topics/antiplatelet-treatment/management/secondary-prevention-of-cvd/> [Accessed 30 May 2021].
2. Badar A, Scaife J, Yan AT, et al. Provision of gastroprotective medication and bleeding risk following acute coronary syndrome. J Invasive Cardiol 2013:25:397-401.