Antiplatelets in cardiac patients with suspected GI bleeding

Acute GI bleeding is a common major medical emergency. In the 2007 UK-wide audit, overall mortality of patients admitted with acute GI bleeding was 7%. However, mortality of hospitalised patients who bled was 26%. (SIGN 95)

Coronary artery disease is the leading UK cause of death with **120,000** deaths in 2001. There are **146,000** myocardial infarctions in the UK each year. **73,692** coronary stents were inserted in 2006.

In patients with both pathologies, achieving the optimal balance of thrombotic risk with bleeding is challenging, and addressed by this guideline.

For these purposes, definitions of GI bleeding and ischaemic heart disease are assumed to be identical to the trust guidance for these conditions individually. This guidance only relates to the coexistence of both pathologies.

Dual antiplatelet (DAP) treatment refers to aspirin and any of clopidogrel/ticagrelor, dipyridamole, prasugrel, ticagrelor co administration or an anti-platelet plus anti-coagulant (warfarin, dabigatran, rivaroxiban etc.). Note some patients in research studies may also be on newer agents.

Part 1: Prevention

The following risk factors invoke a greater risk of GI bleeding and co-prescription of PPI should be considered with antiplatelet therapy:

Risk Factor
Prior UGI bleed or peptic ulcer
Older Age >65yo
Anticoagulation (warfarin & NOACs)
Corticosteroid use
High-dose/multiple NSAIDs NSAID + low dose aspirin
Helicobacter infection
Bleeding disorders
Alcohol excess or substance abuse

Rationale: *data from ACCF/ACG Consensus statement (2010 update)*

Part 2: Specific Circumstances

NB: these guidelines cannot be comprehensive. Each case must be assessed individually with an assessment of (i) the coronary risk and (ii) the bleeding risk. The aim should be early diagnosis of the bleeding lesion by gastroscopy and then joint decision-making by a senior cardiologist and gastroenterologist. The following is guidance for some common scenarios.

All patients with suspected GI bleeding should be triaged and receive appropriate resuscitation

regardless of the potential cause. The following applies only once resuscitation has been implemented.

2.1 A patient started on ACS management (usually aspirin and clopidogrel/ticagrelor +/- Fondaparinux) develops overt acute GI bleeding

BEFORE OGD

- Stop dual antiplatelet therapy
- Stop LMWH
- Request urgent inpatient OGD placing the request form in the box in EAU before 0730 and indicating "ACS high priority" on the card.

Rationale: *The presence of even one co-morbidity doubles mortality in UGI bleed, therefore cardiac patients are higher risk by definition (SIGN 105). The CURE study found dual antiplatelet administration was associated with 2-3x increased risk of significant GI bleeding (Foley et al) compared to aspirin alone. Endoscopy allows a full Rockall score to be calculated which is predictive of mortality, and allows for endotherapy, which also reduces rebleeding and mortality rates (SIGN 105). In a case-controlled study UGI endoscopy post MI had mortality 1%, complication 7%.*

AFTER OGD

- **If normal:**
  - No evidence of active bleeding – restart ACS treatment
  - Normal but evidence of bleeding, i.e fall in haemoglobin level, melaena or hypotension, consider colonoscopy or small bowel investigation.

- **If abnormal:** treat as appropriate, then reinstate aspirin with high dose PPI cover. Gastro team will give indication of bleeding risk.

Rationale: *Lower GI bleeding is less likely to be life threatening and early intervention does not have a proven mortality benefit. Colonoscopy also causes more cardiorespiratory strain; therefore it is reasonable to delay for 6 weeks (SIGN 105). In a study of 156 patients with aspirin-induced bleeding ulcer treated by endotherapy , the group given PPI and resumption of aspirin had significantly lower 60 day mortality than PPI + placebo without significantly increased rebleeding rates (Sung 2010).*

GI Bleeding in the following circumstances should entail a joint discussion at SpR or consultant level between cardiology and gastroenterology teams

- STEMI
- Cardiogenic shock
- Pulmonary oedema
- Ongoing chest pain/ ECG changes
- Arrhythmia (including AF)

2.2 Overt GI Bleeding in the context of a recently placed coronary artery stent

- Initial management is as above
- Ensure OGD within 24 hours (contact consultant gastroenterologist if any delay)
- Stop aspirin until OGD (maximum 3-5 days)
- Stop clopidogrel/ticagrelor until initial investigations complete

➔ **Urgent IP OGD (if stent is <30 days book as "emergency")**

- **If normal and no haemodynamic signs of bleeding:** restart DAP and to discuss with Gastro team regarding need for colonoscopy or small bowel investigation.

- **If abnormal:** resume aspirin monotherapy with PPI cover and discuss with both consultant gastroenterologist and interventional cardiologist regarding second antiplatelet treatment

Rationale: *50-70% coronary stents used in the UK are DES. DES Stent thrombosis <30 days has a high reported mortality and is associated with premature cessation of antiplatelets (Lakovou). In this risk-balance analysis the weight is placed on early investigation and as brief a cessation of antiplatelets as possible. The available evidence is limited, but given the apparent mortality benefit (and no significant increased GI bleeding) of aspirin+PPI after a GI bleeding (Sung) this seems the logical course.*

2.3. A patient presents with ACS, but has occult iron deficiency anaemia

Treat ACS: there is **NO** contraindication to starting DAP

- Confirm iron deficiency (ensure haematinics are sent **PRE** transfusion)
- Transfuse as appropriate
- Start iron replacement

Take a full history for concerning features:

- Recently placed coronary stent
- Recent overt GI bleeding
- Non-GI blood loss
- Dyspepsia – new onset
- Dysphagia
- Change of bowel habit
- Weight loss

  If present: book for **target** OGD and Colonoscopy

  If absent: book for **routine** OGD and Colonoscopy

OGD and colonoscopy normal: Continue DAP and iron replacement.

Further GI investigation is indicated only if refractory anaemia despite iron replacement (refer to gastroenterology)

OGD and colonoscopy abnormal: joint discussion at SpR or consultant level between cardiology and gastroenterology teams

Rationale: *Presence of alert signs as listed may herald underlying malignancy and must be investigated accordingly. In the context of occult GI bleeding the risk of precipitating life threatening bleeding is much lower and the priority should be managing the presenting complaint. Anaemia is an independent risk factor for mortality in ACS (ACUITY study) so it is important it is investigated and corrected.*

References:

- SIGN Guidance 105 Management of Upper and Lower GI Bleeding 2008 www.SIGN.ac.uk

- Abraham et al. ACCF/ACG/AHA 2010 Expert Consensus Document on the Concomitant Use of Proton Pump Inhibitors and Thienopyridines *J. Am. Coll. Cardiol.* 2010;56;2051-2066

- Foley et al. Clinical review: gastrointestinal bleeding after percutaneous coronary intervention: a deadly combination Q J Med 2008; 101:425–433

- SIGN Guidance 93 Acute Coronary Syndromes 2010 update www.SIGN.ac.uk

- Sung et al. Continuation of low-dose aspirin therapy in peptic ulcer bleeding. A randomized trial. Ann Intern Med. 2010;152:1-9

- Lakovou et al. Incidence, Predictors, and Outcome of Thrombosis After Successful Implantation of Drug-Eluting Stents. JAMA 2005; 293(17)

- Nikolsky et al. Gastrointestinal Bleeding in Patients with ACS: Incidence, Predictors, and Clinical Implications. JACC 2009; 54 (14): 1293

Management of GI Bleeding in Cardiac Patients

Patient on ACS drugs

Acute Overt GI Bleed

- Resuscitate
- Stop aspirin, clopidogrel/ ticagrelor , LMWH
- Request OGD (place card in EAU box before 0730)

OGD normal:
- Restart ACS drugs
- May need further GI investigation

OGD abnormal:
- Management depends on bleeding lesion
- Generally restart aspirin with PPI
- Other treatment after discussion between cardiologist and gastroenterologist

Recently placed coronary stent

Acute Overt GI Bleed

- Resuscitate
- Stop aspirin and clopidogrel/ ticagrelor
- OGD within24 hours, if any delay call consultant gastroenterologist

OGD normal:
- Restart aspirin **and** clopidogrel/ ticagrelor
- May need further GI investigation

OGD abnormal:
- Management depends on bleeding lesion
- Generally restart aspirin with PPI and clopidogrel/ ticagrelor unless bleeding lesion very high risk.
- Needs discussion between cardiologist and gastroenterologist

Patient presents with ACS

Iron Deficiency Anaemia

- Treat ACS as normal
- Confirm iron deficiency pre treatment
- Iron replacement
- Transfusion only for symptomatic anaemia

If:
- Recent coronary stent
- Overt GI bleeding
- Dysphagia
- Change in bowel habit
- Weight loss
- Recent-onset dyspepsia

Then request target OGD & colonoscopy as outpatient

If above features absent request routine OGD & colonoscopy as outpatient

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