

Guidelines for the Management of Patients on Anticoagulant and anti-thrombotic drugs undergoing endoscopic procedures

Guideline Responsibilities and Authorisation

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Guideline Review History

Version	Updated by	Date Updated	Description of Changes
1.1	K. Twyde	Aug 2017	Replaced diagrams in appendices (pgs 7-8)

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Management of Patients on Anticoagulant and anti-thrombotic drugs undergoing endoscopic procedures

1. Introduction

Before performing an endoscopic procedure on patients taking antithrombotic medications, one should consider the urgency of the procedure and the risks of: (1) bleeding related solely to antithrombotic therapy, (2) bleeding related to an endoscopic intervention performed in the setting of antithrombotic medication use, and (3) a thromboembolic event related to interruption of antithrombotic therapy. Alternative diagnostic studies for patient evaluation (e.g., video capsule endoscopy or radiologic studies) should also be considered as well as the use of resources for hospitalization, parenteral antithrombotic therapy, and laboratory tests used to monitor antithrombotic therapy.

When anticoagulation therapy is temporary, such as for DVT, elective procedures should be delayed, if possible, until anticoagulation is no longer indicated. The administration of vitamin K to reverse anticoagulation for elective procedures should be avoided because it delays therapeutic anticoagulation once anticoagulants are resumed.

The need is to decide whether the benefit from taking the anticoagulant is greater than the risk of bleeding.

Sometimes anticoagulants are continued through the peri-operative period, sometimes they are stopped altogether and sometimes a long acting anticoagulant is swapped for a shorter acting one so that it is working up until but not during surgery.

Aspirin is an Antiplatelet drug used in patients with angina, previous MI, cardiac stent or CABG, previous CVA or TIA's. It is also used prophylactically in patients at risk of IHD.

Dipyridamole (Persantin) is an antiplatelet drug used in patients with previous CVA's or TIA's.

Clopidogrel (Plavix) and Ticagrelor is a very potent antiplatelet drug used post cardiac stenting or post CABG. It is also used in patients for a short period post MI or in patients with IHD who cannot be revascularised and have ongoing angina despite aspirin and other anti-anginal drugs.

Warfarin inhibits vitamin K dependent coagulation factors and is used to prevent CVA's in patients with AF and mechanical heart valves. It is used for short time periods post DVT or PE and lifelong in patients with conditions predisposing to clot formation (e.g. Protein C or S deficiency, factor V leiden and antiphospholipid syndrome).

Dabigatran and Rivaroxaban is a newer anticoagulant (direct thrombin inhibitor) licensed for prevention of stroke in patients with non-valvular AF and short term post joint replacement to prevent VTE's. It may be preferred by patients to warfarin as it doesn't require blood testing to monitor levels (which warfarin does) however this inability to measure its effect can also be dangerous in some circumstances.

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2. Overview

2.1 Purpose and scope

This Guideline addresses the management of patients undergoing endoscopic procedures who are on anticoagulation therapy, aspirin or other non-steroidal anti-inflammatory drugs (NSAIDs). ** Please note this is a guideline only and is not a prescriptive regime. The prescriber makes the final decision for the patient on an individual basis.

Antithrombotic agents include anticoagulants (e.g., warfarin, heparin, and low molecular weight heparin) and antiplatelet agents (eg, aspirin, nonsteroidal anti-inflammatory drugs (NSAIDs), thienopyridines (e.g., clopidogrel and ticlopidine), and glycoprotein IIb/IIIa receptor inhibitors). Antithrombotic therapy is used to reduce the risk of thromboembolic events in patients with certain cardiovascular conditions (eg, atrial fibrillation and acute coronary syndrome), deep venous thrombosis (DVT), hypercoagulable states, and endoprostheses.

2.2 Definitions

CHADS2 SCORE TOOL:

CHAD S2 score:

Congestive heart failure = 1 Hypertension History = 1 Age ≥ 75 = 1 Diabetes = 1
 Stroke symptoms previously or TIA = 2

EUS: endoscopic ultrasound,
 ERCP: endoscopic retrograde cholangiopancreatography,
 EMR: endoscopic mucosal resection,
 PEG: percutaneous endoscopic gastrostomy,
 FNA: fine needle aspiration,
 INR: international normalised ratio,
 AF: atrial fibrillation,
 VTE: venous thromboembolism,
 LMWH: low molecular weight heparin,
 POCT: Point of Care Testing

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3. Clinical Management

3.1 Pre Procedure

1. Determine what procedure the patient is having
2. Check the medical history (clinical work station)
3. Use Chads 2 tool to determine the patients score
4. Follow the algorithm chart
5. Advise the patient as per the algorithm. If there are any concerns, check with the endoscopist performing the endoscopy.
6. If the patient requires LMWH ring the patients GP to organise a script and advise patient to go to their GP to collect the script prior to endoscopy
7. LMWH should be administered at 1800hrs the day prior to allow a 12hr break prior to endoscopy

3.2 Day of Endoscopy

1. Patients on Warfarin should not be placed first on the endoscopy list so there is sufficient time to receive the INR/POCT result on the morning of surgery
2. On arrival at the endoscopy unit nursing staff perform the POCT test to determine the INR level. If >1.3 notify the endoscopist.

3.3 Urgent and Emergency Endoscopy

1. Check INR on admission.
2. Correct INR with FFP (10-15ml/kg), aiming for an INR <1.3 prior to endoscopy.
3. If the INR is >3.0, intravenous/oral Vitamin K (2.5 – 5.0mg) may be used.
4. Prothrombin (Prothrombinex) complex 25-50mcg/kg may also be considered for rapid reversal.
5. If the patient is actively bleeding refer to NZBS Warfarin Reversal Consensus Guidelines 2004.
Note: WDHB is undertaking a trial for 2015 therefore please follow the protocol of the trial – Clinical Guidelines Document RF2705
6. Further advice can be obtained from the NZBS Transfusion Medicine Specialist/Haematologist who may be contacted at Waikato Hospital via Switchboard.
7. Restart anticoagulation post-operatively as per the guidelines below.

4. Evidence Base

4.1 References

1. Kwok A, Faigel D. Management of Anticoagulation Before and After Gastrointestinal Endoscopy. Am J Gastroenterology 2009;104:3085-3097
2. BSG Guidelines. Gut 2008; 57: 1322-1329
3. Princess Alexandra Hospital Guidelines, Brisbane, Australia 2008
4. ASGE Guidelines. GIE 2005; 61(2) 189-194
5. Spyropoulos AC, Douketis JD. Blood 2012. 120:2954-2962
6. www.giejournal.org – gastrointestinal endoscopy Vol 70 No 6:2009 pages 1060 – 1070
7. Andrew M. Veitch et al. Endoscopy in patients... Endoscopy 2016; 48: 1-18

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Appendices

The information should be read in conjunction with Waikato document Clinical Guideline #1460, Service Specific General Medicine

A. Acute Gastrointestinal Haemorrhage in the Anticoagulated Patient

The most common site of significant bleeding in patients receiving oral anticoagulation therapy is the gastrointestinal tract. A history of prior gastrointestinal bleeding, but not a history of peptic ulcer disease alone, is associated with an increased risk of major gastrointestinal haemorrhage during warfarin therapy (30% at 3 years versus 5% in those with no prior bleeding history). The risk of gastrointestinal bleeding is also increased when the international normalized ratio (INR) is above the therapeutic range (see: “Condition Risks”) and by concomitant aspirin use. Gastrointestinal haemorrhage is likely to originate from an endoscopically identifiable bleeding site, most commonly a duodenal or gastric ulcer.³

B. Reversal of Anticoagulation in GI Bleeds

The decision to reverse anticoagulation, risking thromboembolic consequences, must be weighed against the risk of continued bleeding by maintaining the anticoagulated state. The degree of reversal of anticoagulation should be individualized. A supratherapeutic INR may be treated with fresh frozen plasma. In one series, correction of the INR to 1.5 to 2.5 allowed successful endoscopic diagnosis and therapy at rates comparable with those achieved in non-anticoagulated patients. In contrast to the use of fresh frozen plasma, the administration of vitamin K has a delayed onset of action, and prolongs the time required to re-establish therapeutic anticoagulation

After appropriate endoscopic management, it is generally safe to reinstitute warfarin therapy within a few days. In a series of 27 patients who developed gastrointestinal bleeding while on warfarin, there was one episode of thrombo-embolism after withdrawal of anticoagulation for a median of 4 days and no subsequent bleeding after reinstitution of anticoagulation. When rapid resumption of anticoagulation is desired, intravenous heparin should be used.

C. Elective Endoscopic Procedures in the Anticoagulated Patient

D. Procedure risks

Endoscopic procedures vary in their potential to produce significant or uncontrolled bleeding. Low-risk procedures include diagnostic OGD, flexible sigmoidoscopy and colonoscopy with or without biopsy, diagnostic endoscopic retrograde cholangiopancreatography (ERCP), and biliary stent insertion without endoscopic sphincterotomy, endosonography (EUS), and push enteroscopy. High-risk procedures include those associated with an increased risk of bleeding such as colonoscopic polypectomy (1%-2.5%), gastric polypectomy (4%), laser ablation and coagulation (less than 6%), endoscopic sphincterotomy (2.5%-5%), and those procedures with the potential to produce bleeding that is inaccessible or uncontrollable by endoscopic means such as pneumatic or bougie dilation of benign or malignant strictures, percutaneous endoscopic gastrostomy, and EUS-guided fine needle aspiration.

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E. Venous thromboembolism (DVT/PE)

- The risk of recurrent venous thrombo-embolism in a patient who is not Anticoagulated is approximately 15% per year. Warfarin therapy reduces this risk to 0.5-5%.
- The risk of recurrence is highest within 3 months of a thromboembolic event.
 - Surgery within 3 months should be avoided if possible.
- Surgery increases the risk of VTE approximately 100 times.
- The risk of venous thromboembolism is also increased by hypercoagulable states such as malignancy.

F. Heart valve replacement

- The risk of systemic arterial embolism (CVA/TIA) from heart valve replacement depends on the type and position of the valve.
- Patients with mechanical heart valves who are not anticoagulated have a risk of embolism of 4 – 8% per year. The risk for mitral valves is twice that of aortic, and is even higher when both are replaced.
- Modern mechanical valves (St. Jude) are less thrombogenic than earlier mechanical valves (Starr-Edwards caged ball valve)
- The risk of embolism is reduced to 2.5% per year with Aspirin and 1% per year with warfarin.
 - Tissue heart valves are virtually free of thromboembolic complications except during the first 3 months after replacement.

G. Atrial fibrillation

- Patients with AF who do not receive anticoagulant therapy have an average risk of systemic arterial embolism (CVA / TIA) of 4 – 5% per year. This risk is higher (12% per year) if the patient has had previous embolic events.
- Anticoagulation reduces the risk of arterial embolism to 1 - 4%.

H. Bleeding risk

- There is a 3% risk of bleeding post-operatively when heparin is given. 3% of post-operative bleeds are fatal.

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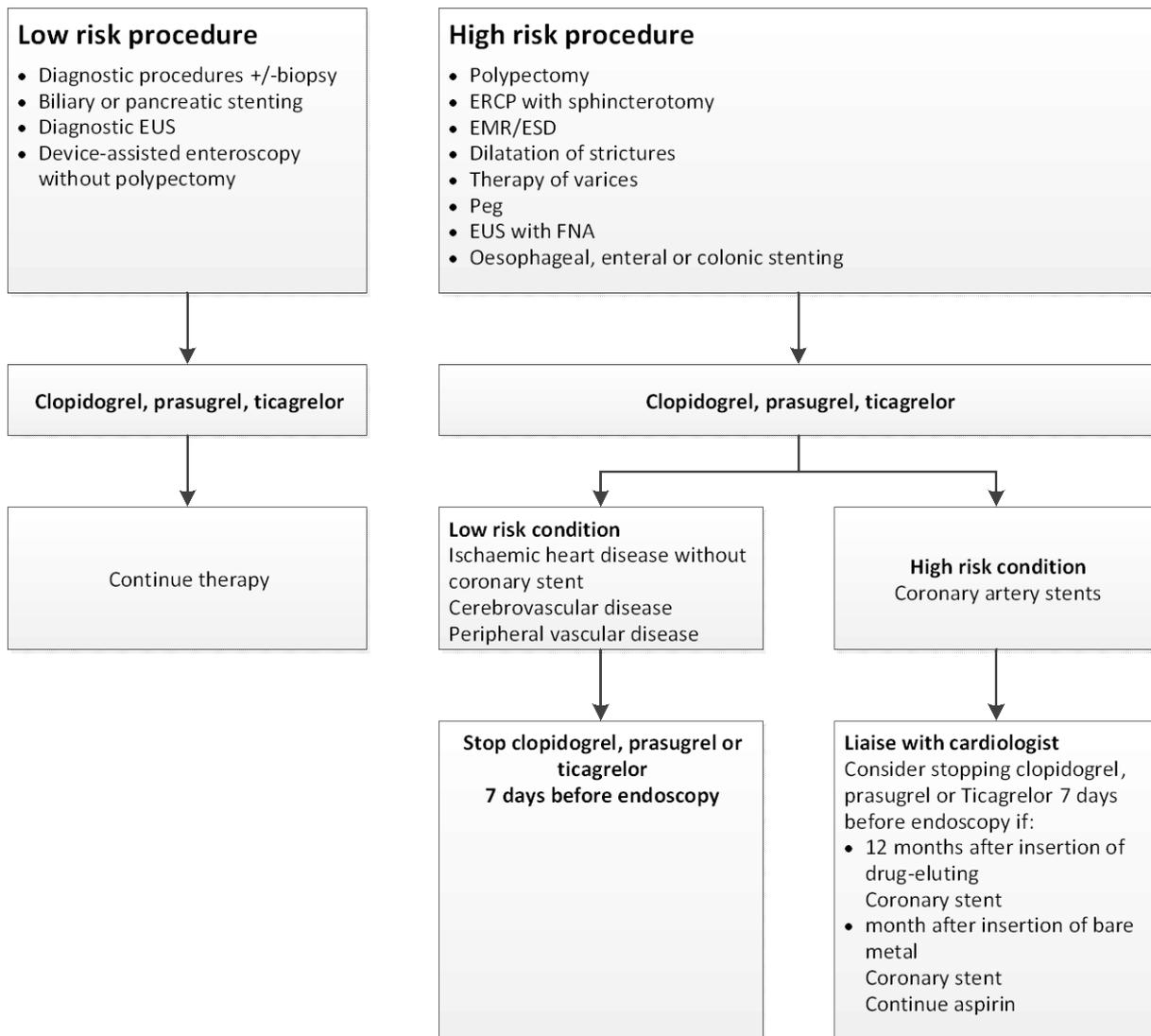


Fig.1 Guidelines for the management of patients on P2Y12 receptor antagonist antiplatelet agents undergoing procedures.

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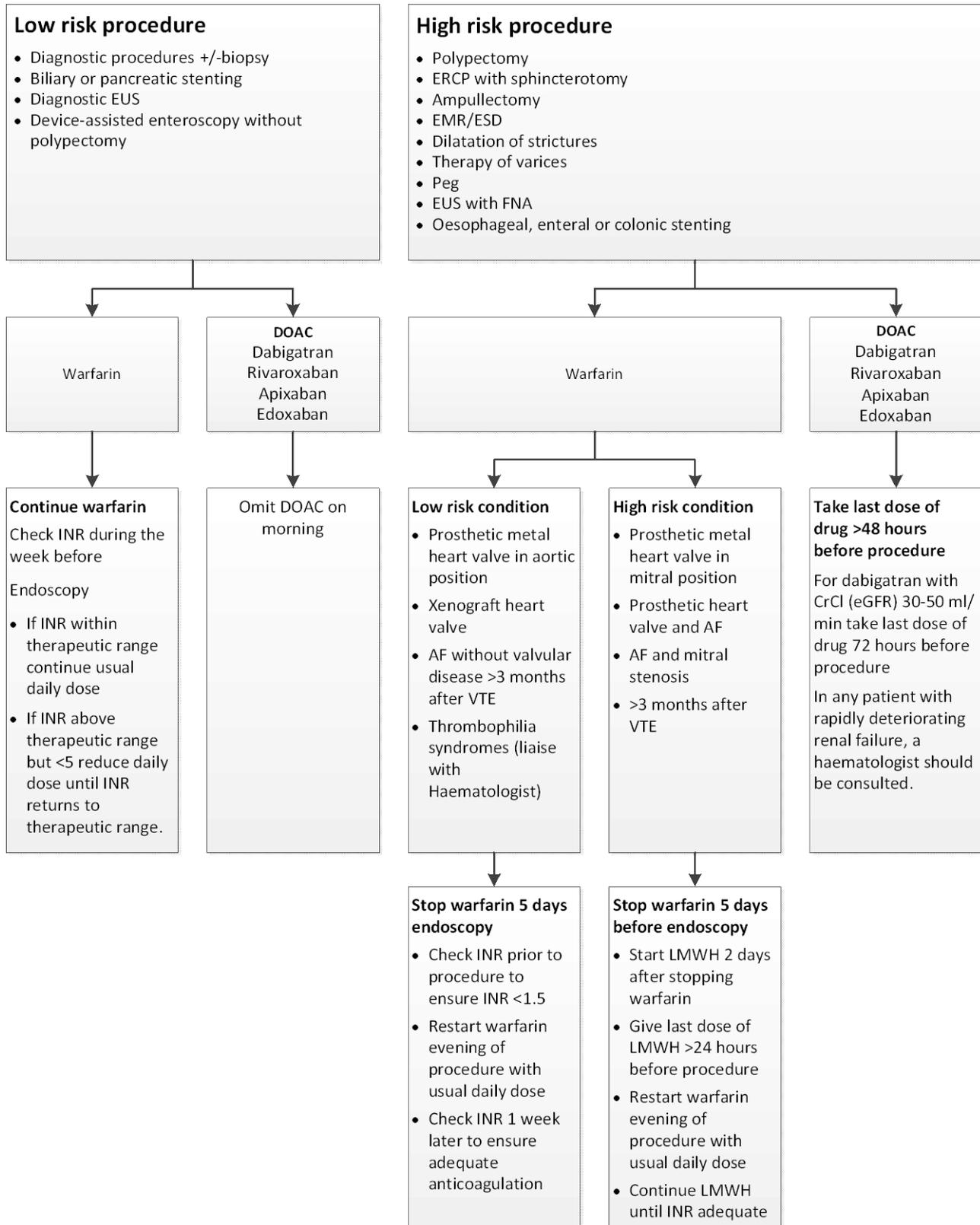


Fig.2 Guidelines for the management of patients on warfarin or direct oral