8.1 Ischaemic heart disease and coronary artery stents

Patients with ischaemic heart disease are generally treated with antiplatelet therapy rather than anticoagulant therapy. Those who have not undergone revascularisation therapy will tend to be taking aspirin alone although if they have had an episode of unstable angina with a troponin release they may require clopidogrel in addition. Clopidogrel in combination with aspirin improves outcomes in acute coronary syndromes without ST elevation, but with an increased risk of haemorrhage. If patients develop ischaemia on low-dose aspirin, or in any patient at risk from gastrointestinal bleeding co-prescription of a proton pump inhibitor (PPI) should be considered initially. Failing that, as recommended by the cardiologist, the patient taking aspirin alone could be given clopidogrel instead.

Coronary artery stenting has increasingly become the dominant therapy for treating patients with coronary artery disease. Coronary stents may invoke a scar tissue response in 15% of patients necessitating a repeat interventional procedure in about 70% of these (~12%). Some patients are at particular risk of within-stent scarring (such as those with long coronary lesions >15 mm, small vessel diameters <5 mm because there is greater impact of the scarring on the lumen of the stented vessel, or in diabetics). In such patients drug-eluting stents may be used. These agents, which are loaded onto the stent, are released locally and may reduce the need for a repeat procedure from 20% to 5% in randomised controlled trials. All stents require a minimum of 1 month combination dual antiplatelet therapy (aspirin and clopidogrel 75 mg once daily of each). With bare metal stents the risk of stent thrombosis is present throughout the re-endothelialisation process (after 1 month). Until that time the risk of interruption of antiplatelet therapy needs to be balanced with the risk of stent thrombosis and a 50% risk of acute myocardial infarction or death. With drug eluting stents re-endothelialisation takes up to 6 months, and for this reason during cases of late stent thrombosis in patients with drug-eluting stents, the Food and Drug Administration in the United States and the British Cardiovascular Intervention Society now recommend dual antiplatelet therapy for 1 year. Should the patient spontaneously bleed or requires a non-cardiac operative procedure within this time period, the risks associated with stopping antiplatelet therapy are great. In one study which examined factors associated with stent thrombosis, discontinuation of therapy was associated with a hazard ratio of 7.5. Of those reported with a stent thrombosis, 27% had discontinued dual antiplatelet therapy. The risk of stent thrombosis is higher without antiplatelet therapy. If clopidogrel needs to be temporarily stopped in the context of an acute coronary-intestinal haemorrhage then discontinuation of therapy should be limited to this interval.

Patients on clopidogrel requiring coronary artery bypass surgery have an increased risk of haemorrhage if clopidogrel is discontinued for fewer than 5 days related to the need to consider discontinuation of dual antiplatelet therapy for non-cardiac surgical procedures. It is recommended that surgery is delayed to allow discontinuation of clopidogrel. If possible, surgical procedures should be undertaken with complete lack of antiplatelet cover, such that if clopidogrel does need to be stopped because of excess bleeding risk, then aspirin should be continued if possible.

For patients with known high risk of needing a future non-cardiac procedure (eg, planned future surgery for cancer) bare metal stenting will be undertaken since dual antiplatelet therapy will only be required for 1 month.

9.0 HEPARIN AS AN ALTERNATIVE TO ORAL ANTICOAGULANTS

In a meta-analysis short-term LMWH compared favourably to unfractionated heparin (70% thromboembolism) but patients requiring long-term treatment because of intolerance to oral anticoagulants did less well suffering a 20% incidence of thromboembolism in the first 2 months.57 In review of the literature, after short-term bridging with LMWH (~10 days) one study reviewed 1082 patients started on enoxaparin 1 mg/kg/12 h or dalteparin 100 anti-factor Xa U/kg subcutaneously, twice daily58,59. Minor bleeding was seen in 7.6%, major bleeding in 0.3% but no thromboembolic episodes during the bridging period though such a practice has been endorsed in this and other publications, there is a need for randomised controlled trials.

10.0 ENDOSCOPY ON ANTICOAGULANTS AND ANTIPLATELET AGENTS: RISK STRATIFICATION

It is apparent that certain endoscopic procedures carry a higher risk of haemorrhage, and certain clinical situations will result in a high risk of thromboembolic complications should anticoagulants or antiplatelet agents be withdrawn. The American Society for Gastrointestinal Endoscopy has produced guidelines on the management of anticoagulants during endoscopy.15 and we have adapted the risk stratification model for endoscopic procedures in table 1. Procedures have been characterized as high risk or low risk for haemorrhage. A number of endoscopic data for baseline risks of haemorrhage, and the limited data available regarding endoscopy during therapy with these agents. Tables 2 and 3 show high risk or antiplatelet therapy according to clinical scenario and the risks of thromboembolic sequelae on discontinuation of therapy.

Diagnostic endoscopic procedures, with or without biopsy, are classified as low risk. This applies to diagnostic colonoscopy, but polyps are likely to be encountered in 22.5–84.2% in large studies. Endoscopists may therefore choose to manage all colonoscopies as if they were high-risk procedures with respect to anticoagulants and antiplatelet agents. Similar conclusions apply to ERF if there is uncertainty as to the pathology from previous imaging.

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12.0 REFERENCES