

Antiplatelet Drugs - Perioperative Management - Summary Clinical Guideline

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Introduction

Platelets play a major role in thrombus formation with complex activation via multiple receptors and pathways. They are therefore central in the pathogenesis of atherosclerosis and thrombotic diseases. As a result, increasing numbers of antiplatelet agents are being used in both the prevention and treatment of coronary, cerebral and peripheral vascular diseases. This presents a significant challenge when these patients present for surgery, when the inherently increased risk of bleeding has to be carefully weighed against the potentially devastating complications of withholding antiplatelet therapy. There are no specific reversal agents and bleeding during antithrombotic therapy is associated with high morbidity and mortality.

Aim and Scope

This guideline provides a rational, evidenced based approach for the perioperative management of patients taking antiplatelet agents who present for surgery at Derby Teaching Hospitals NHS Foundation Trust. It aims to reduce unnecessary delays in getting patients to theatre, avoid the administration of inappropriate platelet transfusions and, above all, minimise patient harm. It covers the newer antiplatelet agents with which some clinicians may not be quite so familiar and on which current evidence is limited.

This guideline is of particular relevance to anaesthetists, surgeons, haematologists and cardiologists.

Major Characteristics of Antiplatelet Agents

| Drug (route) | Mechanism of action | Platelet inhibition | Time to recover platelet function after drug withdrawal |
|-------------------|--------------------------------|---------------------|---|
| Aspirin (PO) | COX-1 inhibition | Irreversible | 5-7 days |
| Dipyridamole (PO) | Phosphodiesterase inhibitor | Reversible | 24 hr |
| Clopidogrel (PO) | ADP receptor inhibitor | Irreversible | 5-7 days |
| Prasugrel (PO) | ADP receptor inhibitor | Irreversible | 5-7 days |
| Ticagrelor (PO) | ADP receptor inhibitor | Reversible | 3-5 days |
| Abciximab (IV) | GP IIb/IIIa receptor inhibitor | Reversible | 24-48 hr |
| Eptifibatide (IV) | GP IIb/IIIa receptor inhibitor | Reversible | 4-8 hr |
| Tirofiban (IV) | GP IIb/IIIa receptor inhibitor | Reversible | 4-8 hr |