Dual Antiplatelet and Glycoprotein Inhibitors in Emergency PCI

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8.1 Introduction

Platelet inhibition remains the core pharmacotherapy component in patients undergoing emergency or primary percutaneous coronary interventions (PCI). This can be achieved using a number of intravenous and oral preparations. Intravenous (iv) antiplatelets include various glycoprotein IIb/IIIa (GPIIb/IIIa) inhibitors and the only available intravenous P_2Y_{12} inhibitor, cangrelor. Available oral agents include aspirin and various P_2Y_{12} inhibitors or their analogues. These are usually used in combination with the intention to maintain dual antiplatelet therapy (DAPT) for a period of time (generally up to 12 months) after the index PCI procedure.

Understanding and appropriate use of antiplatelet agents are vital in optimizing clinical outcomes of patients with acute coronary syndromes, particularly in the emergency setting where the patient may be naïve to all pharmacological agents. In this review, an overview on antiplatelet therapy for patient needing emergency PCI is described, including evidence from important clinical trials and suggested antiplatelet therapy regimens by published clinical practice guidelines.

8.2 Aspirin

Aspirin (acetylsalicylic acid) (≥75 mg daily) permanently inhibits platelet-dependent cyclooxygenase 1 (COX-1) enzyme and consequently preventing synthesis of and thromboxane A_2 (TXA_2), which is a powerful promoter of platelet aggregation [1]. At higher doses, aspirin inhibits COX-2 which offers analgesic and

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