Introduction

Platelet aggregation occurs as a central role of an interconnected pattern of plaque disruption, lipid accumulation, mural thrombus formation, and lesion progression in acute coronary syndrome (ACS). When plaque rupture occurs, the subendothelial protein matrix is disrupted, allowing platelet adhesion molecules such as VonWillebrand factor and collagen to interact with circulating platelets with Platelet activation and degranulation [(1)]. In recent years percutaneous coronary intervention (PCI) has become a mainstay for the treatment of coronary artery disease (CAD) especiallyACS [(2)].

Currently, pharmacological agents directed the glycoproteinIIb/IIIa receptors prevent binding of adhesion molecules with potent inhibition of platelet aggregation and reduce clinical morbidity and mortality. The GP IIb/ IIIa antagonists, eptifibatide and tirofiban, have been evaluated in phase III randomized clinical trials and approved for the treatment of patients with ACS who are undergoing PCI in some countries. One of these agents, eptifibatide is a cyclic heptapeptide that mimics the lysine-glycine-aspartic acid sequence and it is an intravenous, rapidly reversible, highly specific competitive inhibitor of Glycoprotein (GP) IIb/ IIIa receptors. Tirofiban is a non-peptide which mimics arginine-glutamic-aspartic acid (RGD) sequence to occupy GP IIb/IIIa receptor, and it is a competitive inhibitor of formation of fibrinogen or platelet aggregation for Von Willebrand factor [(3-5)].

Primary percutaneous coronary intervention (PCI) is the preferred reperfusion agent in ST-segment elevation myocardial infarction (STEMI) [6]. Data from randomized controlled trials suggest that the adjunctive use of abciximab may be associated with a survival advantage in patients undergoing primary PCI [7]. Although the current guidelines support the use of abciximab in patients undergoing primary PCI, there is significant variability in the choice of antiplatelet therapy in real-world clinical practice for various reasons [8]. First, the magnitude of survival benefit associated with abciximab is still controversial [9]. Second, eptifibatide or tirofiban, are often less expensive and more widely available in many hospitals. Given the widespread use of small molecule glycoprotein (GP) IIb/IIIa inhibitors in PCI, it is important to evaluate how often these agents are used in patients undergoing primary PCI and whether their use is associated with any adverse clinical impact.