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Newer treatment approaches in cardiac disease tirofiban in acute coronary syndrome – The re-defined role

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Background: Inhibitors of Glycoprotein IIb-IIIa of platelets are increasingly used in world with wide applications in atherothrombotic events including myocardial ischemia syndromes and Stroke. A recently published metaanalysis involving 52,598 patients showed tirofiban is effective in reducing major adverse cardiovascular events in acute coronary syndromes.1Here we had studied role of tirofiban in acute coronary syndrome with cardiogenic shock which were usually excluded from most studies.

Methods: Longitudinal, observation study between December 2010 and May 2012. We analysed data of 40 patients with MI who were in cardiogenic shock treated with GPiib-iiia inhibitors and underwent revascularisation as PCI or CABG or continued on medical treatment. The GP IIb-IIIa antagonist used in this study was Tirofiban (Aggribloc) due to its low cost and non-inferiority in comparison to Abciximab (Reo-pro). Tirofiban was given in 29 patients (72.5%) as intravenous bolus followed by infusion. The dose given was 135 microgram per kilogram body weight intra-venous bolus followed by 0.5 microgram per kilogram body weight per minute intravenous infusion for 20–24 hours. Average duration of tirofiban infusion was (16.75 ± 2.43) hours.Primary outcome observed as the overall 30-day mortality and Secondary outcomes were reinfarction, target vessel revascularization and Stent thrombosis.

Results: Overall 30-day mortality observed was 40%. Primary outcome of 30- day mortality was seen in 10 of 29 patients (34.4%) of those who received tirofiban compared to six of 11 non-tirofiban group (p-0.1). Secondary outcomes of reinfarction or stent thrombosis and target vessel revascularization occurred in 5 of 29 patients (17.9%) of those who received tirofiban. There was no statistical significance in either outcome. The overall incidence of bleeding was n=6(15%) with major bleeding in only one (2.5%) requiring transfusion.Major bleed had occurred in only one patient who had received thrombolysis followed by Rescue percutaneous coronary intervention.

Conclusions: This study reciprocated the efficacy and safety of early intervention in management of cardiogenic shock in acute myocardial infarction. This is our first effort to reduce the mortality ij cardiogenic shock. It was observed that maximal medical therapy, Low cost effective alternative GP IIb-IIIa inhibitor (Tirofiban), intra-aortic balloon pump in selected cases showed non-significant trend towards reduction in mortality. Though further large randomized clinical trials are needed to support the role of tirofiban in cardiogenic shock. This would have socio-economic impact on developing countries.

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