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TIROFIBAN USE EVALUATION IN ACUTE CORONARY SYNDROME

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Introduction: Tirofiban was introduced on the national hospital formulary in 2015 on the basis that it is associated with a significant reduction in procedural complications and is recommended for use in high risk acute coronary syndrome (ACS) patients undergoing percutaneous coronary intervention (PCI). The rationale for this tirofiban use evaluation study was to determine whether tirofiban use in contemporary practice is associated with clinical benefits in the framework of short and long-term outcomes in ACS patients undergoing PCI.

Purpose: To evaluate use of tirofiban in terms of efficacy and safety outcomes

Methods: Following ethics approval, patient records of 138 patients ≥18 years with ACS presentation (with or without ST elevation), referred for PCI, and administered tirofiban 250mcg/ml infusion between 21 August 2015 and 18 December 2020, were reviewed. Efficacy outcomes, including cardiac death, recurrent myocardial infarction, acute stent thrombosis, stroke, and acute heart failure, and safety outcomes, including bleeding, thrombocytopenia, and impact on kidney function, at five timepoints post-tirofiban dosing (24 hours, 2-7 days, 8-30 days, 6 months, >6 months) were assessed using patient records.

Results: Mean age of patients was 62 years (range 28-84) and 109 (79%) were male. Eighty-four (60.7%) patients were administered tirofiban during procedure, 50 (36.2%) at end of procedure and 4 (2.9%) at start of procedure. The independent samples t-test showed a significant decrease ($p<0.05$) between day of procedure and 2-7 days after procedure in haemoglobin, haematocrit and platelet count. The majority of patients (92%, n=127) experienced no adverse outcomes 24 hours post-procedure. Six patients experienced bleeding during the procedure: 1 oral mucosal, 1 retroperitoneal, 1 bleeding at site of catheter insertion and gum bleeding, 1 during cardiopulmonary resuscitation, 1 from above lips and 1 hemoptysis. The z test showed a significant increase ($p<0.001$) in adverse cardiac outcomes between t3 (1 week-30 days after procedure) and t4 (6 months after procedure).

Conclusions: The majority of patients did not experience negative outcomes during and within 24 hours after the procedure when tirofiban was given. Overall, the benefit-risk ratio appeared to be good, with a relatively low risk of bleeding complications compared to the benefit of tirofiban in saving patients in life-threatening situations.