Journal of Hypertension and Heart Care

Extended Abstract
Vol. 3, Iss. 3
2020

Novel technique to prevent no/slow flow during PCI by sodium nitroprusside injection time, point and method

Sarbesh Kumar Jha

Koshi Zonal Hospital, Nepal

Introduction: The no-reflow incidence appears to be highest in acute myocardial infarction patients who undergoes primary percutaneous coronary intervention (PCI) or during PCI of saphenous vein grafts. The intracoronary administration of medications that causes vasodilatation in small distal coronary vasculature forms the base of management of no-reflow. Sodium nitroprusside (NTP) does not require intracellular metabolism to induce vasodilatation in microcirculation. In view of above present study was undertaken to evaluate efficacy and usefulness of sodium nitroprusside in prevention of no/ slow reflow at the time of fixing stents and balloons simultaneously and complications associated with it.

Material & Methods: The current study comprised of 93 patients who were done percutaneous coronary interventions and were randomly divided into two groups namely: Drug (Nitroprusside) given group (n=47) and placebo group (n=46). A stent or a balloon on specific lesion was passed and then loading dose of sodium nitroprusside (50-100 micro gram) or normal saline (2-3 ml) was prepared and injected through guiding catheter into coronary artery. Maximum Duration of decreased BP and TIMI Grade were noted. A Pearson correlation analysis was conducted to examine whether there is a relationship between Nitroprusside and Coronary Slow/ No Reflow. A statistical analysis of numerical variables expressed as mean±SD was done using ANOVA.

Results: Five cases of coronary slow/no reflow in placebo group and no cases in nitroprusside group were reported. A significant and negative relationship between 2 parameters (r=.24, N=93, p=.02). The Lowest SBP was 56 mmHg (Mean=101.34, SD=20.663), maximum SBP difference with in 2-3 minute each time drug was given was 100 mmHg (Mean=29.38, SD=18.431) and maximum duration of falling blood pressure was 180 seconds (Mean=91.21, SD=24.655).

Conclusion: Intracoronary nitroprusside is useful for the prevention of the slow reflow or no-reflow phenomenon following PCI in acute myocardial infarction. This knowledge can be utilized to prevent the coronary vasospasm during PCI which would be beneficial to reduce complications during and after PCI. After this trial since 2013-2017 we used same procedure for more than 4000 patients and only two patients were reported slow flow.

This work is partly presented at 22nd International Conference on New Horizons in Cardiology & Cardiologists Education, March 07-08, 2019 Berlin, Germany