**EFFECT OF TIME OF DAY ON OUTCOMES OF PCI FOR STEMI**

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**Background:** Reducing time to reperfusion in patients with ST-elevation myocardial infarction (STEMI) leads to improved clinical outcomes. Given that patients with STEMI can present at any time of day, it is important to have systems in place that allow for rapid triage to percutaneous intervention (PCI) for patients at any hour. Little is known about the effect of time of day of PCI on patient outcomes.

**Objective**: To examine differences in outcomes between daytime and nighttime PCI for patients with STEMI.

**Methods:** This single center, retrospective study identified 1,549 patients who underwent PCI for STEMI from 2010 to 2017. These patients were divided into two groups, based on the time of day when PCI was performed. Nighttime hours were defined as 6:00pm to 6:00am. For both groups, key time points including initial emergency room (ER) arrival, electrocardiogram completion, catheterization lab activation, catheterization lab arrival, and device deployment were recorded. Door-to-device time was defined as the time interval between initial ER arrival to first device deployment. Clinical outcomes measured were in-hospital mortality, incidence of post-PCI bleeding requiring transfusion, and hospital length of stay.

**Results:** Most PCI procedures took place during daytime hours (60.7% vs 39.3%). Baseline demographics and comorbidities were comparable between day and night groups with the exception of average age (63.7 vs 61.5, P<0.05) and current/former smoking status (52.5% vs 60.6%, P<0.05). Overall door-to-device time was not found to be significantly different between daytime and nighttime groups. Time between catheterization lab activation and first device deployment was found to be 7 minutes longer at nighttime compared to daytime (105.2 vs 112.4, P<0.05). In-hospital mortality, incidence of bleeding requiring transfusion, and length of stay did not vary significantly between groups.

**Conclusion:**Though catheterization lab activation to device time was longer for nighttime versus daytime procedures, in hospital outcomes were comparable. In this study population, time of procedure does not seem to significantly impact outcomes including mortality, bleeding, and length of stay.