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Off-hours activation of the cathlab team: who should push the button?

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Objectives: Primary percutaneous coronary intervention (PPCI) is the standard reperfusion strategy for ST-segment elevation myocardial infarction in our center. To reduce door to balloon time we have a dopted a strategy in which the cathlab team is activated by mobile intensive care unit (MICU) paramedics with direct transfer of the patients from home to the cathlab. However, this strategy may incur false alerts. We critically assessed this activation strategy for the occurrence of unnecessary calls and compared it with different activation approaches.
Methods and Results: We retrospectively analyzed 110 consecutive admissions of patients referred to our cathlab for PPCI during off-hours. Fifty-four patients (49.1%) were referred by MICU, 27 (24.55%) by emergency room physicians and 26 (23.6%) were referred from other hospitals. Forty-three patients (79.6%) who were referred by MICU personnel underwent P-PCI. The reasons to postpone procedure were signs of spontaneous reperfusion in 8 patients (14.8%), and ECG misinterpretation, high-risk for procedure (CRF, Cirrhosis), and death on the way, each occurring in one patient (1.85%). In comparison, of 27 patients referred by emergency physicians, 6 patients (22.2%) did not undergo primary PCI due to spontaneous reperfusion (4 pts., 14.8%), ECG misinterpretation (1 pt., 3.7%), and high risk (1pt., 3.7%). Of 26 patients referred from another hospital, 9 patients (34%) did not undergo primary PCI mainly due to spontaneous reperfusion (8 pts., 30.7%).
Conclusions: Activation of the cathlab team for PPCI by MICU personnel significantly shortens the time to balloon and is associated with a low rate of unnecessary calls. Simple and efficient cathlab activation protocols that rely on MICU-cathlab interaction are mandatory to reduce door to balloon time and improve STEMI patients' outcome.