FP08 STUDY ON ACTIVATION ACCURACY OF PRIMARY PERCUTANEOUS INTERVENTION (PPCI) FOR ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION (STEMI) IN A STEMI NETWORK

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INTRODUCTION

Activation of the catheterization laboratory (cathlab) for primary percutaneous coronary intervention (PPCI) in patients with acute ST-segment elevation myocardial infarction (STEMI) by non-PPCI centers requires significant resources. This study aims to determine the rate of inappropriate activation, false positive and false negative activation.

MATERIALS AND METHODS

Patients who presented with STEMI to Hospital Kuala Lumpur (HKL) and referred to the PCI-able Institut Jantung Negara (IJN) from October 2014 to December 2016 were included. Cases were categorized as *appropriate activation* if patients were sent to cathlab or were not sent due to revoked consent, ECG resolution, instability or death before procedure. *Inappropriate activation* included patients not sent to cathlab due to change of diagnosis or unsuitability for procedure. Improvement initiatives included case-based teaching sessions.

RESULTS

382 cases were referred for PPCI. 357 (93.5%) were *appropriate activation* whereas 25 (6.5%) were *inappropriate activation*. Out of the *appropriate activation*, 341 (95.5%) underwent angiogram and 16 (4.5%) did not due to revoked consent (n=4), ECG resolution (n=4) and instability or death before procedure (n=8). Of those that had angiogram, 291 (85.3%) had PPCI, 26 (7.6%) had multi-vessel disease requiring surgery and 2 had abandoned procedures. There was an overall *false positive* activation rate of 4.5% (n=17) whereby patients had normal or near normal angiograms. Out of the *inappropriate activation*, 12 had angiograms during the admission where significant occlusion requiring intervention were found in 10 patients. This gives an overall *false negative* rate of 2.6%. Over 2 years, there was reduction in the rate of *inappropriate activation* from 8.1% (2015) to 2.7% (2016).

Discussion

Inappropriate cathlab activation in STEMI Networks increases resources, financial burden and reduces team confidence. Accurate ECG interpretation, patient selection and regular training reduces inappropriate activation. Feedback to referring centers and further studies following correction of root leads to improvement.