**TITLE: “*RACE AGAINST TIME WITH MYOCARDIUM AND CEREBRAL LOSS”***

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Introduction:

Thrombolysis with streptokinase (STK) during cardiopulmonary resuscitation (CPR) can stabilize and improve survival rate in acute myocardial infarction (AMI) or initial conventional resuscitation efforts remain unsuccessful. We present a case of AMI with VF, undergone prolonged CPR which successfully reperfusion with accelerated STK infusion and achieved good neurological function.

Case:

A 61 years old gentleman, referred from private medical centre for AMI. Initial ECG in private centre showed sinus rhythm with hyperacute T wave over lead V2-V4. He was served with dual antiplatelet therapy (DAPT) then referred to emergency department HSB. However upon arrival, patient developed witnessed cardiac arrest with VF. Resuscitation started as per ALS protocol in which total defibrillations with 200 J given for 8 times, together with pharmacological antiarrhythmic drugs. IV STK 1.5 mega unit was initiated at 25 minutes of resuscitation and completed over 15 minutes. Patient achieved return of spontaneous circulation (ROSC) after 5 minutes of STK completion. Vital sign post ROSC remain normotensive but subsequently required double inotropes for circulatory support. ECG post ROSC showed sinus rhythm with ST segment elevation over lead 1, aVL, V2-V4. Subsequent ECG at 1 hour post STK showed resolution of ST segment over lead I, aVL, V2-V4. Post resuscitation, patient was admitted to CCU for post cardiac arrest care. He was able to wean off from ventilatory support after 2 weeks and achieved good neurological function.

Discussion:

In recent reports, thrombolysis during CPR is recommended in AMI and no significant bleeding has been reported. Restoration of microcirculatory perfusion lead to increasing frequency of ROSC and achieved better neurological outcome. Generally, neurological outcomes was better associated with shorted duration of CPR but published report had revealed that no definitive maximum duration to determine neurological outcome. From case series, accelerated STK infusion is safe, well tolerated, and significantly faster and higher reperfusion rates, resulting in less in-hospital mortality rates.

Conclusion:

Thrombolysis with STK during CPR in AMI had shown to reduce mortality rate and favourable neurological outcome. Therefore, STK is safe and effective during prolonged CPR in cardiac arrest due to AMI.

Keywords: AMI, Prolonged CPR, Accelerated Streptokinase