OP17 OUTCOME EVALUATION OF MASSIVE TRANSFUSION PROTOCOL IN EMERGENCY DEPARTMENTS, HOSPITAL PUTRAJAYA AND HOSPITAL AMPANG: A 3-YEAR RETROSPECTIVE STUDY

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Introduction: Massive transfusion protocol (MTP) is defined as the delivery of ten or more units of packed red cell within 24 hours, replacement of 50% total blood volume within 3 hours or replacement of one entire blood volume within 24 hours. It facilitates close adherence to ideal haemostatic resuscitation - a transfusion ratio of 1:1:1 of fresh frozen plasma (FFP), platelets (PLT) and a packed red blood cell (PRBC), which interrupts the lethal triad of acidosis, hypothermia and coagulation, thus affecting the outcome of patients in terms of survival and mortality.

Objective: This study aims to evaluate the outcomes from MTP implementation in trauma and non trauma patients in Emergency Department, Hospital Putrajaya and Hospital Ampang.The outcome measures are transfusion delivery time, 24-hour and 30-day mortality rates, length of hospital stay (LOS), and rate of transfusion error.

Methods: This is a retrospective cohort study of 253 patients who underwent blood transfusion in the emergency departments of the respective hospitals from January 2017 till December 2019. Data was obtained from patient's electronic medical record (EMR). They were divided into two groups, which are MTP activated and non MTP activated groups. The outcome was evaluated based on transfusion delivery time (time from MTP activation to time of blood transfusion), 24 hour and 30 days mortality, length of hospital stay (LOS) and presence of transfusion error.

Results: Out of 253 patients who received blood transfusion, MTP is only activated in 49 (20%) patients. The prevalence of MTP is higher in trauma patients compare to non trauma (35.1% vs 7%). The results showed that MTP resulted in shorter transfusion delivery time (median 35 min vs 55.5 min, $p<0.001$) in MTP group compare to the non MTP, and reduced 24 hour mortality (36.8% vs 63.8%) and 30 hour mortality (10.7% vs 89.3%,) ($p=0.016$). There were no significant association between MTP activation and length of hospital stay (LOS). Meanwhile, no data on transfusion error was obtained.

Conclusion: In conclusion, MTP results in shorter transfusion delivery time and reduced 24hours and 30 days mortality. There was no significant association between MTP and length of hospital stay (LOS), and data was not obtained for transfusion error.

Keywords:
Massive Transfusion Protocol (MTP)
Blood transfusion
Outcome