Title: Bleeding Outcomes of Ticagrelor Loading Dose in ST-Elevation Myocardial Infarction Thrombolysis with Streptokinase and Tenecteplase

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| **Introduction**  Asian populations treated with ticagrelor were reported to have a higher bleeding risk despite its reported superiority over clopidogrel in reducing cardiovascular events among patients with acute coronary syndrome. Also, the bleeding outcomes of ticagrelor loading (instead of clopidogrel) with thrombolytic agent among Asian ST-elevation myocardial infarction (STEMI) patients is unknown.  **Objectives**  This study aimed to assess the bleeding outcomes among STEMI patients who received thrombolytic therapy with a ticagrelor loading dose.  **Methods**  This single-center retrospective study collected data on STEMI patients who received thrombolytic therapy with a 180mg ticagrelor loading dose in the Emergency Department (ED), Hospital Kuala Lumpur, from September 2020 to March 2024. Total population sampling was used in this study. All data were analyzed descriptively.  **Results**  A total of 117 patients were included in the analyses. Their mean age was 57.2±12.4 years, and they were predominantly male (n=105, 89.7%). Most had MI with anterior involvement STEMI (n=67, 57.3%) and received tenecteplase as thrombolytic therapy (n=84, 71.8%). The in-hospital mortality was 15.4% (n=18), with more than half (55.6%) of the mortality occurring in the ED (n=10). No major bleeding was observed within 24 hours following the administration of ticagrelor and thrombolytic agent. Eight (6.8%) minor bleeding events (7 cases of gum bleeding; 1 case of epistaxis) occurred in the ED; all gum bleeding case were treated with tranexamic acid gargle.  **Conclusion**  This is the first Asian study on the bleeding outcomes of ticagrelor loading in STEMI patients treated with thrombolytic agents. Compared to previously published studies for the local population, our findings suggest that ticagrelor loading in STEMI thrombolysis did not increase the risk of bleeding.  **Keywords:** ticagrelor; STEMI; thrombolysis  Word count: 270 |