Objective. to assess the safety of ticagrelor in patients with ST-elevation myocardial infarction treated with fibrinolytic therapy.

Materials and methods. This unicenter, non randomized trial enrolled 200 patients (less than 75 years) diagnosed with ST-segment elevation myocardial infarction who received streptokinase from March to May 2018. One hundred Patients received ticagrelor (180-mg loading dose followed with 90 mg twice daily) while other 100 patients received clopidogrel (300-mg loading dose then 75 mg daily). Both P2Y12 inhibitors were administrated 2 hours after streptokinase, all population were naïve for any P2Y12 inhibitors pretreatment.The primary end point was thrombolysis in myocardial infarction (TIMI) major and minor bleedings through 60 days.

Results. At 60 days, TIMI major bleeding had occurred in 4 % of patients who received ticagrelor and in 3 % of patients who recieved clopidogrel (Odds ratio =1.3472, 95 % CI =0.293 % to 6.18 %; P =0.7014 for safety). No rates of fatal or intracranial bleeding occurred. Minor and minimal bleeding had occurred in 14 % of patients on ticagrelor and in 11 % of patients on clopidogrel (Odds ratio =1.3171; 95 % CI =0.566 % to 3.06 %; P =0.5221 for safety). After adjusting for subgroup of patients with high bleeding risk at baseline (HAS-BLED ≥3), Bleeding rates not increased in ticagrelor group (Odd ratio=1.611; 95 % CI=0.52–4.9; NNT for harm=8.4; P=0.40). RRR of bleeding rates in the clopidogrel group was only 1.25 %.

Conclusion. In patients younger than 75 years with ST-segment elevation myocardial infarction, delayed administration of ticagrelor for 2 hours after fibrinolytic therapy was safe and non inferior to clopidogrel for TIMI major and minor bleeding up to 60 days even in patients with high risk of bleeding (HAS-BLED score ≥3).

**Key words:**anti platelets, Myocardial infarction, Fibrinolysis, Bleeding.