**Introduction**: Acute coronary syndromes (ACS) are the leading causes of death in the elderly. Atrial fibrillation (AF) is a common arrhythmias finding in ACS. AF is associated with increased morbidity and mortality. Nowadays, treatment for ST elevation myocardial infarction (STEMI) was shifted to percutaneous coronary intervention (PCI) but it still couldn't be fully implanted in some hospital especially in developed country. We investigated the impacts of AF on cardiovascular adverse events in elderly STEMI patients treated with fibrinolytic therapy.

**Methods**: This study is single center, retrospective, and observational study. We collected patient data with diagnosis of STEMI who performed fibrinolytic from January 2018 to June 2019. AF was defined as AF documented during admission, patients who previously recorded AF were excluded. Based on WHO criteria, elderly patient was defined by age more than 60 years. Patients were followed up for the entire duration of hospital stay and 30 days after discharge. Data analysis was carried out using SPSS 20.0 version with appropriate statistical tests. P value <0.05 was considered statistically significant.

**Result**: We enrolled total 91 elderly patients with STEMI undergoing fibrinolytic therapy (mean age 71.26±7.88 years; 74.7% male). The incidence of AF in elderly patients with STEMI was 31.9%. Form baseline data patients STEMI with AF are usually male (25.3% vs 6.6%, p=0.49), had higher Killip class (19.8% vs 12.1%, p<0.001), hypertension (18.7% vs 13.2%, p=0.07), and diabetes mellitus (16.5% vs 15.4%, p<0.001). Patients with AF had higher rate of in hospital mortality (OR 0.15 95%CI 0.42-0.55, p=0.002) and 30 days mortality (OR 0.08 95%CI 0.26-0.231, p<0.001).

**Conclusion**: Atrial fibrillation is a common complication in patients with STEMI and AF can be predictor of in hospital and 30 days mortality.