

**Title:** Clinical Characteristics and Prognosis of Young Middle Eastern Adults with ST-Elevation Myocardial Infarction: One-Year Follow-Up

**Category:** Acute Coronary Syndromes

### **Abstract**

**Background:** Few studies have investigated premature ST-elevation myocardial infarction (STEMI) in the Middle East. The aim of the present study is to delineate the differential clinical characteristics and one-year prognosis of young Middle Eastern adults with STEMI (<45 years) compared to their older counterparts (≥45 years).

**Methods:** A total of 706 patients with STEMI, who were prospectively enrolled in the First Jordanian Percutaneous Coronary Intervention (PCI) Registry, were stratified into two independent groups (<45 or ≥45 years). Baseline clinical variables and in-hospital, one-month, and one-year major adverse cardiovascular events (MACE) were evaluated.

**Results:** One hundred twenty-three patients were <45 years old (17.4% of the total). Compared with older patients (≥45 years), young patients were mostly male (96% vs 82%,  $P<0.001$ ), smokers (86% vs 49%,  $P<0.001$ ) and less likely to have diabetes (39% vs 58%,  $P<0.001$ ), hypertension (30% vs 56%,  $P<0.001$ ) and known coronary artery disease (CAD) (17% vs 29%,  $P=0.006$ ). Anterior STEMI or new left bundle branch block was the most common diagnosis (67% vs 63%,  $P=0.5$ ) and left anterior descending artery was the most common culprit vessel (56% vs 50%,  $P=0.24$ ) in both young (<45 years) and older (≥45 years) patients respectively. A greater proportion of the older patients (44%) compared to the younger patients (26%;  $P=0.001$ ) had multi-vessel CAD. There were no significant differences between the younger and older patients in regard to in-hospital (23% vs 17%,  $P=0.12$ ), one-month (24% vs 23%,  $P=0.77$ ), and one-year (27% vs 28%,  $P=0.68$ ) MACE. However, none (0%) of the younger patients died during one year follow-up while 21 patients (4%) of the older patients died which was statistically significant ( $P=0.036$ ).

**Conclusions:** Young adult patients in the Middle East with STEMI are more likely to be smoking men with single vessel CAD by angiography. Although, younger patients had similar one-year MACE to older patients, their mortality rate appears to be better. A larger study is warranted to investigate this vulnerable group of patients to prevent future events.