

Title: Temporal Trends in Coronary Angiography & Percutaneous Intervention in Saudi Arabia- A Single Center Experience

Category: Interventional Cardiology

Abstract

Background: Coronary angiography(CA), including percutaneous coronary intervention (PCI), is the invasive management strategy utilized for establishing the diagnosis of coronary artery disease(CAD). There are limited contemporary data on national temporal trends in CA in Saudi Arabia. We sought to investigate time-related changes in patient demographics, risk factors and co-morbidities in patients undergoing CA in the Kingdom.

Methods: This is a retrospective analysis of patients undergoing CA in the cardiac catheterization laboratory at King Abdul Aziz Cardiac Center, Riyadh Saudi Arabia, between the years 2012 to 2016. We identified all patients , age ≥ 18 years who underwent CA with or without PCI. Descriptive statistics and multivariate logistic regression models were used to investigate temporal trends.

Results: In some 5600 patients From 2012 to 2016, there was a consistent increase in age (57 ± 11 in 2012 vs. 60 ± 12 , years in 2016, $p < 0.0001$) and females gender(17% in 2012 vs. 29% in 2016, $p < 0.0001$). Regarding risk factor profile, while there was a decrement in the number of smokers from 2012 to 2016 (40.2% vs. 24.2%, $p < 0.0001$), the prevalence of obesity (35% vs. 42%, $p < 0.0001$), type 2 diabetes (52% vs. 65%, $p < 0.0001$), hypertension (55.7% vs. 68%, $p < 0.0001$) and dyslipidemia(52% vs. 63%, $p < 0.0001$) showed an exponential rise during the study period. The patients became more morbid over the years with a significant increase in prevalence of previous myocardial infarction(11% vs. 39% $p < 0.0001$), cerebrovascular disease(3.2% vs. 5%, $p < 0.0001$, peripheral vascular disease (1.2% vs. 4%, $p < 0.0001$), chronic lung disease (3.2% vs. 6%, $p < 0.0001$) and those receiving dialysis(1.9% vs. 3.5% $p < 0.0001$). There was a significant increase not only in the prevalence of pre-existing heart failure(12.3% vs. 37.5%, $p < 0.0001$), but the proportion of those with NYHA class III-IV also significantly increased(28% vs. 39%, $p < 0.0001$).

Conclusions: Our results show that patients presenting for CA are becoming increasingly more complex and sicker over time which is in agreement with data from other populations. Whether these adverse temporal trends in the patient profile predict poor clinical outcome remains to be explored.