ABSTRACT

Patients undergoing trans-catheter aortic valve implantation (TAVI) routinely undergo coronary angiography prior to the procedure to define the coronary anatomy and to evaluate the extend of coronary artery disease (CAD). Whether percutaneous coronary intervention (PCI) prior/concomitant with TAVI confers any additional clinical benefit in patients with CAD remains unclear. Literature search was performed using MEDLINE, EMBASE, Google Scholar and Scopus from inception of these databases till April 2019. Included outcomes were 30-day all-cause mortality, stroke, myocardial infarction (MI), acute kidney injury (AKI) and one-year mortality. The main summary estimate was random effects odds ratio (OR) with 95% confidence intervals (CIs). Eleven cohort studies enrolling 5580 patients (mean age 82.4 years and 52.6% females) were included. Our study found no difference in effect estimates for 30-day all-cause mortality (OR 1.30 (0.85 – 1.98), p = 0.22, I^2 = 37.5%), stroke (OR 0.7 (0.36 – 1.45), p = 0.36, I^2 = 32.8%), MI (OR 2.71 (0.55 – 12.23), p = 0.22, I^2 = 41.3%), AKI (OR 0.7 (0.46 – 1.06), p = 0.08, I^2 = 14.4%) and 1-year all-cause mortality (OR 1.19 (0.92 – 1.52) (p = 0.18, I^2 = 0.0%) in patients undergoing TAVI with and without PCI. In conclusion, our analysis indicates that PCI with TAVI in patients with severe aortic stenosis and concomitant CAD grants no additional clinical advantage in terms of patient-important clinical outcomes. Further randomized studies are needed to better delineate the clinical practice for myocardial revascularization in patients receiving trans-catheter therapy for aortic valve disease.