CONCLUSIONS The findings of this meta-analysis suggest that for the treatment of LM disease, PCI with DES and CABG have comparable mortality (all cause and cardiovascular) during long-term follow-up. PCI with DES appears to be associated with increased risks of MI and repeat revascularization.

CATEGORIES CORONARY: PCI Outcomes
KEYWORDS PCI outcomes

TCT-464 Long-Term Mortality Of Percutaneous Coronary Intervention With Drug-Eluting Stents Compared To Bypass Surgery In Patients With Left Main Disease Stratified By The SYNTAX Score: Comprehensive Systematic Review And Meta-Analysis Of 3372 Patients
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BACKGROUND According to the most recent guidelines, percutaneous coronary intervention (PCI) with drug eluting stents (DES) should be considered safe and effective alternative to coronary artery bypass grafting (CABG) for the treatment of left main (LM) disease in patients with favorable anatomy (SYNTAX score <32). Conversely in those with more complex coronary disease (SYNTAX 33-32) CABG is favored mainly due to lower rates of revascularization and myocardial infarction. However, whether the latter is translated into long-term mortality benefit it is not clear and merits further investigation.

METHODS A systematic review of the MEDLINE, EMBASE, EBSCO, CINAHL, Web of Science and COCHRANE databases was conducted in May 2015. Studies reporting long-term outcomes (at least 4 years mean follow up) of PCI with DES to CABG for LM disease stratified by SS were identified. Patients were categorized to low/intermediate (SS <32) and high score (SS >33) groups. Random-effects meta-analyses were performed using risk ratios as the metric of choice.

RESULTS Four studies comprising two randomized control trials (SYNTAX and PRECOMBAT) and two observational studies (Main-compare and CREDO-Kyoto) with a total of 3372 patients were included. 1248 patients (37%) had complex coronary artery disease (SYNTAX >33). Over a mean follow up of 4.9 years, no significant difference in all-cause mortality was observed between PCI and CABG irrespective of SYNTAX score strata (Figure 1). Similar findings were observed for cardiovascular mortality (SS ≤32 RR 0.85; 95% CI 0.41-1.77; I2 66% for PCI vs. CABG; SS >33 RR 1.25; 95% CI 0.92-1.69; I2 29% for PCI vs. CABG).

CONCLUSIONS Patients with LM disease appear to have similar risks of mortality after PCI with DES or CABG regardless of coronary artery disease burden or complexity during long term follow up.
individualized preventive approach and develop a successful quality control/improvement solution.

CATEGORIES CORONARY: PCI Outcomes

KEYWORDS Acute myocardial infarction

TCT-466 Long-term outcomes following mini-crush versus culotte stenting for unprotected left main coronary artery disease: a substudy from the Milan and New-Tokyo (MITO) registry

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BACKGROUND Both mini-crush and culotte stenting are considered efficacious options when percutaneous coronary intervention (PCI) with a planned 2-stent strategy is necessary for unprotected left main coronary artery (LMCA) disease. However, there are limited data available regarding the long-term clinical outcomes of each strategy.

METHODS A retrospective analysis was conducted from the Milan and New-Tokyo (MITO) registry and included all patients that underwent PCI to the unprotected LMCA with drug-eluting stents. Between July 2002 and November 2013, 225 patients were identified (135 patients treated with the mini-crush technique, and 90 patients with culotte stenting). The median follow-up period was 1263 (IQR 820–1847) days.

RESULTS The mini-crush group had worse baseline characteristics when compared to the culotte group. SYNTAX score were higher in the mini-crush group than in the culotte (SYNTAX score; 30.4 ± 10.5 vs. 27.5 ± 9.4, p = 0.04). Stents implanted to the side-branch (SB) were significantly smaller and shorter in the mini-crush group compared to the culotte group (SB stent diameter: 2.26 ± 0.38 mm vs. 2.41 ± 0.34 mm, p < 0.001, and SB stent length: 19.8 ± 6.4 vs. 22.3 ± 5.7 mm, p = 0.004). Intravascular ultrasound was utilized in 67% of all cases, and final kissing balloon inflation was performed in more than 97% in both groups. There were no significant differences in major adverse cardiac events (MACE) at 5-years (mini-crush 35.0% vs. culotte 41.4%, p = 0.57). Main-branch (MB)-TLR tended to be higher in the culotte group (mini-crush 4.0% vs. culotte 9.9% at 5-years, p = 0.10) although there were no significant differences regarding to SB-TLR. Notably, myocardial infarction (MI) and definite stent thrombosis (ST) were significantly more frequent in the culotte group (MI mini-crush 0% vs. culotte 11.3%, log-rank p = 0.003, and definite ST; mini-crush 0% vs. culotte 6.3%, p = 0.02, respectively). Multivariate Cox regression analysis revealed that full stent coverage of the LMCA (HR 0.54; 95% CI: 0.32–0.92, p = 0.02) and SYNTAX score (HR 1.02; 95% CI: 1.00–1.05, p = 0.03) were independent predictors of MACE.

CONCLUSIONS The incidence of MACE and overall TLR were comparable between groups. However, the rates of MI and definite ST were significantly higher in the culotte group. Full stent coverage of the LMCA may reduce the incidence of MACE when a two-stent strategy is used for the treatment of unprotected LMCA disease.

CATEGORIES CORONARY: PCI Outcomes

TCT-467 Results of Longest Available Clinical Follow-up of a Cohort of “Real-World” Patients Treated Exclusively with Drug-Eluting Stents: the DESIRE (Drug-Eluting Stents in the Real-world) Registry

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BACKGROUND There is still uncertainty about the durability of the results of drug-eluting stents (DES) in real-world complex patients (pts). We sought to provide the longest clinical follow-up data on outcomes of unselected patients treated solely with DES.

METHODS The DESIRE registry is a prospective, single-center registry with all consecutive patients (pts) treated with DES since May 2002. To compare the outcomes of pts treated with 1st and 2nd generation DES, a propensity score model was built to minimize the difference between the cohorts. The primary endpoint was the comparison of MACE and stent thrombosis (ST) up to 2 years of follow-up.

RESULTS A total of 5,614 pts were enrolled in the DESIRE. After propensity score adjustment, the outcomes of 1,135 pairs of pts treated with 1st and 2nd generation DES were compared. The cohorts were comparable in terms of clinical profile, with relatively high incidence of diabetics (33%) and STEMI pts (17%). Conversely, 2nd generation pts had more LM disease (1.1% vs. 2.3%, p < 0.001), ostial lesions (3.8% vs. 6.5%, p < 0.001) and bifurcations (7.2% vs. 10.3%, p < 0.001). In terms of clinical performance, there was no significant difference in MACE (Figure, panel A) and TLR between the groups, although 2nd generation DES significantly reduced MI (Figure, panel B), and tended to reduce ST (Figure, panel C).