Percutaneous Coronary Intervention vs Coronary artery bypass graft in female patients with unprotected Left main disease: A Meta-Analysis

### **Introduction:**

Percutaneous coronary intervention (PCI) has become a mainstay of treatment in patients with unprotected left main disease (ULMD) with low-intermediate SYNTAX score (0 to 32) and increased surgical risk. However, evidence supporting these recommendations is derived from RCT's with an underrepresentation of females. Hence, we performed a meta-analysis, comparing PCI and CABG in females with ULMD.

#### **Methods:**

PubMed, Embase and Cochrane databases were searched for all studies comparing PCI vs CABG in female patients with ULMD. The primary outcome was long term all-cause mortality. Secondary outcomes include myocardial infarction (MI), major adverse cardiac and cerebrovascular event (MACCE) and ischemia driven (ID) revascularization. Pooled odds ratios (OR) with their corresponding 95% confidence intervals (CIs) were calculated using the Mantel-Haenszel random-effects model.

### **Results:**

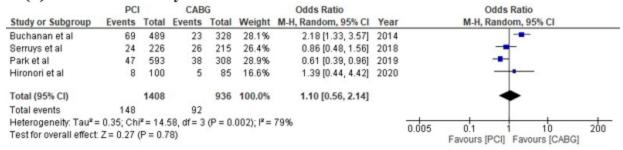
4 studies met the inclusion criteria, with a total of 2344 patients (PCI group 1408, CABG group 936) and mean follow-up of 45 months. There was no significant difference in all-cause mortality between PCI and CABG group (OR 1.10 [0.56-2.14]; p=0.78). Although there was higher incidence of MACCE in PCI group, the difference was not statistically significant (OR 1.61 [1.00-2.59]; p=0.05). MI and ID revascularization rates were significantly higher in the PCI group than in CABG group. (OR 2.20 [1.30-3.73]; p=0.003) (OR 2.66 [1.60-4.44]; p=0.0002) [Figure 1]

#### **Conclusion:**

Although no significant difference all-cause mortality, females undergoing PCI for ULMD have significantly higher long-term MI and ID revascularization rates as compared to CABG. Thus, further evidence is warranted to further stratify revascularization strategies in females.

Figure 1: Forest plots of primary and secondary outcome

### (A) All-cause mortality



# (B) Major Adverse Cardiac Events (MACCE)

	PCI		CABG		Odds Ratio			Odds Ratio		
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	Year	M-H, Random, 95% CI		
Buchanan et al	149	489	51	328	38.2%	2.38 [1.67, 3.40]	2014	-		
Park et al	115	593	50	308	37.7%	1.24 [0.86, 1.79]	2019	-		
Hironori et al	26	100	18	85	24.1%	1.31 [0.66, 2.60]	2020	- <del>-</del>		
Total (95% CI)		1182		721	100.0%	1.61 [1.00, 2.59]		•		
Total events	290		119							
Heterogeneity: Tau <sup>2</sup> =	0.12; Ch	$j^2 = 6.8$	5, df = 2 (		0.02 0.1 1 10 50					
Test for overall effect:	Z=1.98	(P = 0.0)	)5)		Favours [PCI] Favours [CABG]					

# (C) Myocardial Infarction (MI)

	PCI	1	CAB	G		Odds Ratio		Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	Year	M-H, Random, 95% CI
Buchanan et al	21	489	5	328	28.8%	2.90 [1.08, 7.77]	2014	-
Serruys et al	26	226	14	215	60.7%	1.87 [0.95, 3.68]	2018	<del></del>
Hironori et al	6	100	2	85	10.6%	2.65 [0.52, 13.48]	2020	
Total (95% CI)		815		628	100.0%	2.20 [1.30, 3.73]		•
Total events	53		21					
Heterogeneity: Tau <sup>2</sup> =	0.00; Ch	$i^2 = 0.50$	F	01 0.1 1 10 100				
Test for overall effect:	Z= 2.92	P = 0.0	003)	0.	Favours [PCI] Favours [CABG]			

## (D) Ischemic driven revascularization

