Table S1. Overview of studies evaluating the clinical impact of CAD on TAVR recipients.

Study	Design	Approach	Device	Definition of CAD	Results
Studies showing an association between CAD (and its severity) and clinical outcomes					
Dewey et al. 2010[1]	Multicenter registry	136 TF 35 TA	Sapien	Previous PCI or CABG	CAD is associated with increased 30-day and 2-year mortality after TAVI
Mancio et al. 2015[2]	Single-center registry	87 TF or TSc 4 TA	CoreValve or Sapien	Prior PCI or CABG, or stenosis ≥50% severity	CAD is associated with increased 2-year mortality after TAVI
Franzone et al. 2017 [3]	Multicenter registry	496 patients (TF, TA, and TSc)	CoreValve, Sapien or Symetis	Prior PCI, CABG or MI, or stenosis ≥50% severity of a major native coronary vessel or bypass graft	CAD is associated with increased 1-year MACCE after TAVI
Huczek et al. 2018[4]	Multicenter registry	741 TF 155 other routes	Balloon- and self-expandable prosthesis of first and second generation	Stenosis >70% severity in vessel >1.5 mm (50% for the left main)	CAD is associated with increased 30-day mortality after TAVI
Ryan et al. 2018 [5]	Single-center registry	402 TF	CoreValve or Sapien	Stenosis ≥50% severity in vessel ≥1.5 mm	CAD severity (according to SS-II) is associated with increased 4-year mortality and MACCE after TAVI
Guedeney et al. 2018 [6]	Multicenter registry	708 TF 79 other routes	Balloon- and self-expandable prosthesis	Prior MI or coronary revascularization, or diseased coronary vessels at angiography	CAD is associated with adverse 1-year outcomes (VARC-2 efficacy

					endpoint) in women undergoing TAVI
Khawaja et al. 2015[7]	Single-center registry	124 TF 96 TA 51 TAo	Sapien or Sapien XT	Stenosis ≥70% severity or ≥50% for left main, using QCA	CAD severity (according to SS-I) rather than CAD itself is associated with increased 1-year mortality after TAVI
Witberg et al. 2017[8]	Multicenter registry	1053 TF 217 other routes	Missing information	Prior PCI, CABG or MI, or stenosis >50% severity in major epicardial coronary artery	CAD severity (according to SS-I) rather than CAD itself is associated with increased mortality after TAVR
Kaihara et al. 2021[9]	Single-center registry	186 patients, missing information regarding access route	CoreValve, Evolut R, Sapien XT, Sapien 3	>75% stenosis of ≥1 major branch or 50% stenosis only in the LM	CAD with an LM or LAD proximal lesion is a strong independent predictor of mid-term MACCEs and all-cause mortality in patients with severe AS treated with TAVI.
Studies showing no association between CAD (and its severity) and clinical outcomes					
Masson et al. 2010[10]	Single-center registry	93 TF 43 TA	Cribier-Edwards or Sapien	Prior revascularization or any coronary stenosis ≥ 50% severity	Lack of association between the extent of CAD (according

					DMJS) and 1-year mortality post-TAVI
Gautier et al. 2011[11]	Single-center registry	TF, TA or TSc (144 patients)	CoreValve or Sapien	Stenosis ≥ 70% severity or ≥ 50% for left main, using QCA	CAD does not associate with 1-year mortality after TAVI
Abdel-Wahab et al. 2012[12]	Multicenter registry	1209 TF 122 TA 10 TAo 41 TSc	CoreValve or Sapien	Prior PCI or CABG, or stenosis ≥50% severity	CAD is associated with increased in-hospital mortality after TAVR by univariate analysis, but not by multivariate analysis
Ussia et al. 2013[13]	Multicenter registry	595 TF 64 TA	CoreValve	Prior PCI or CABG	CAD does not associate with increased 1-year mortality or MACCE after TAVI
Gasparetto et al. 2013[14]	Single-center registry	128 TF 58 TA 5 TSc	CoreValve, Sapien or Sapien XT	Prior PCI or CABG or stenosis > 50% severity	CAD is not associated with 1-year combined efficacy endpoint after TAVI
Codner et al. 2013[15]	Single-center registry	112 TF 27 TA 1 TAo 13 TSc	CoreValve or Sapien	Missing information	CAD is associated with increased 2-year mortality after TAVI by univariate analysis, but no longer by multivariate

					analysis
Linke et al. 2014 [16]	Multicenter registry	880 TF 21 Tao 95 TSc	CoreValve	Missing information	CAD is not associated with increased 1-year mortality after TAVRI
Stefanini et al. 2014[17]	Single-center registry	348 TF 92 TA 5 TSc	CoreValve, Sapien or Symetis	Stenosis ≥50% severity in vessel ≥1.5 mm in diameter	CAD severity (according to SS-I) is associated with increased 1-year MACCE after TAVI by univariate analysis, but not by multivariate analysis
Snow et al. 2015[18]	Multicenter registry	1750 TF 838 other routes	CoreValve, Sapien or Sapien XT	Stenosis >50% severity in major epicardial coronary vessel	CAD is associated with increased 4-year mortality after TAVI by univariate analysis, but not by multivariate analysis
Schymik et al. 2015[19]	Multicenter registry	1685 TF 894 TA 109 Tao/TSc	Sapien XT	Missing information	CAD is associated with increased 1-year mortality after TAVI by univariate analysis, but not by multivariate analysis
Paradis et al. 2017[20]	Multicenter registry	182 TF 195 TA	Sapien, Sapien XT or Sapien 3	Stenosis ≥50% severity by QCA	Neither CAD nor its severity

				estimation in vessels ≥1.5 mm	according to SS-I is associated with MACCE occurrence after TAVI
Puymirat et al. 2017[21]	Multicenter registry Patients with prior CABG were excluded	2600 TF 506 TA 190 TSc 127 Other routes	CoreValve and Sapien	Stenosis of >50% diameter in major epicardial coronary vessel	Neither CAD nor extent of CAD is associated with increased 3-year mortality after TAVI
Millan-Iturbe et al. 2017[22]	Single-center registry	884 TF 12 TA 1 TAo 47 TSc	Centera, CoreValve, Evolut R, Lotus, Portico, Sapien 3, Symetis	At least one stenosis >70% severity (50% for the left main)	CAD is not associated with increased long-term mortality after TAVI
Shamekhi et al. 2017[23]	Single-center registry	641 TF 8 TAo 3 TA 14 TSc	Centera, CoreValve, Direct Flow, Evolut R, Engager, Lotus, Sapien XT, Sapien 3, Symetis	Stenosis ≥50% severity in vessel ≥1.5 mm	CAD severity (according to SS-I) is associated with increased 3-year mortality after TAVI by univariate analysis, but not by multivariate analysis
Lopez-Otero et al. 2019[24]	Single-center registry	335 TF 14 TA	CoreValve	Stenosis ≥50% severity in vessel ≥1.5 mm in diameter	Neither CAD nor its severity according to SS-I is associated with MACCE occurrence after TAVI
Chodòr et al. 2019[25]	Single-center registry	109 TF 33 other routes	CoreValve, Evolut R, Sapien XT, Sapien 3	prior PCI or CABG, history of myocardial	CAD is not associated with 30-day and

				infarction, stenosis of at least one coronary artery at ≥50% of its diameter	1-year mortality after TAVI
Elbaz et al. 2020[26]	Single-center registry	753 TF 134 other routes	CoreValve, Evolut R, Sapien XT, Sapien 3	Stenosis >70% obstruction in any of the left anterior descending artery, circumflex artery, or right coronary artery, or >50% obstruction in the left main coronary artery. Prior CABG excluded	Neither the number of disease vessels nor PCI before TAVI is significantly associated with either 30-day or 1-year mortality
Studies showing no association between the stable CAD and clinical outcomes except for acute coronary syndrome					
Saia et al. 2019[27]	Single-center registry	413 TF 81 TA 31 TAo 15 TSc	CoreValve, Evolut R, Sapien XT, Sapien 3, Symetis, Portico, Jena	presence of at least one stenosis >70% at visual estimation (>50% for the left main coronary artery) of an epicardial vessel with diameter ≥2 mm OR previous coronary revascularization	Neither CAD nor its severity is associated with MACCE occurrence after TAVI except for patients presenting with acute coronary syndrome

CABG, Coronary artery bypass graft; CAD, Coronary artery disease; MACCE, Major adverse cardiovascular and cerebrovascular event; MI, Myocardial infarction; PCI, Percutaneous coronary intervention; QCA, Quantitative coronary angiography; TAVI, Trans-catheter aortic valve implantation; SS, Syntax score; TA, Trans-apical; Tao, Trans-aortic; TF, Trans-femoral; TSc, Trans-subclavian.

Table S2. Overview of studies evaluating the clinical impact of PCI pre-TAVI.

Study	Design	Population	Approach	Device	Results
Wenaweser et al. 2011[28]	Single-center registry	59 TAVR+PCI 197 isolated TAVR	197 TF 55 TA 4 TSc	CoreValve or Sapien	No differences in 2-year all-cause mortality

Abdel-Wahab et al. 2012 [29]	Single-center registry	55 TAVR+PCI 70 isolated TAVR	124 TF 1 TSc	CoreValve	No differences in 3-year all-cause mortality
Codner et al. 2013 [15]	Single-center registry	36 TAVR+PCI 117 isolated TAVR	112 TF 27 TA 1 Tao 13 TSc	CoreValve or Sapien	No differences in 2-year all-cause mortality
Abramowitz et al. 2014 [30]	Single-center registry	61 TAVR+PCI 83 isolated TAVR (with CAD) 105 isolated TAVR (without CAD)	TF or TSc	CoreValve or Sapien	No differences in 3-year all-cause mortality
Khawaja et al. 2015 [7]	Single-center registry	25 TAVR+PCI 68 isolated TAVR (with CAD)	124 TF 96 TA 51 TAo	Sapien or Sapien XT	No differences in 1-year all-cause mortality
Snow et al. 2015 [18]	Multicenter registry	2005 TAVR without previous PCI 363 TAVR with historical PCI 169 TAVR with hybrid PCI	TF or other routes	CoreValve, Sapien or Sapien XT	No differences in 5-year all-cause mortality
Huczek et al. 2016 [4]	Multicenter registry	169 TAVR+PCI 293 isolated TAVR (with CAD) 434 isolated TAVR (without CAD)	741 TF 155 other routes	Balloon- and self-expandable prosthesis of first and second generation	No differences in 30-day mortality
Chakravarty et al. 2016 [31]	Multicenter registry	128 TAVR+LM PCI 128 isolated TAVR	149 TF 38 TA 12 TAo 5 TSc	CoreValve, Direct Flow, or Edwards	No differences in 1-year all-cause mortality
Millan-Iturbe et al. 2017 [22]	Single-center registry	136 TAVR+PCI 88 isolated	884 TF 12 TA 1 TAo	Centera, CoreValve, Evolut R, Lotus, Portico, Sapien 3,	No differences in 9-year all-cause

		TAVR (with CAD) 720 isolated TAVR (without CAD)	47 TSc	Symetis	mortality
Guedeney et al. 2018[6]	Multicenter registry	459 isolated TAVI (without CAD) 241 isolated TAVI (cad patients without recent PCI) 81 TAVI + PCI	708 TF 79 other routes	Balloon- and self-expandable prosthesis	Patients with recent PCI had increased risk of all-cause death and stroke compared with patients without CAD.
Faroux et al. 2020 [32]	Multicenter registry	1197 TAVI + PCI before	974 TF 135 TA 24 TAo 25 TSc 39 Tcr	Balloon-expandable, self-expanding and mechanically expandable	After a median follow-up of 2 years post-TAVI, 100 (8.4%) patients presented an ACS and 105 (8,8%) had cardiovascular death
Elbaz et al. 2020 [26]	Single-center registry	444 TAVI + PCI before 444 isolated TAVI (with CAD)	753 TF 134 other routes	CoreValve, Evolut R, Sapien XT, Sapien 3	PCI before TAVI is not significantly associated with either 30-day or 1-year mortality
Kaihara et al. 2021 [9]	Single-center registry	108 Isolated TAVI (without CAD) 29 TAVI + PCI 49 isolated TAVI (with CAD)	186 patients, missing information regart access route	CoreValve, Evolut R, Sapien XT, Sapien 3	PCI before TAVI did not influence the outcomes.

CAD, coronary artery disease; LM, left main stem; PCI, percutaneous coronary intervention; TA, trans-apical; Tao, trans-aortic; TAVI, transcatheter aortic valve implantation; TCr, transcarotid; TF, trans-femoral; TSc, trans-subclavian.

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