Electronic supplementary material

Figure S1: Quality assessment of the included studies

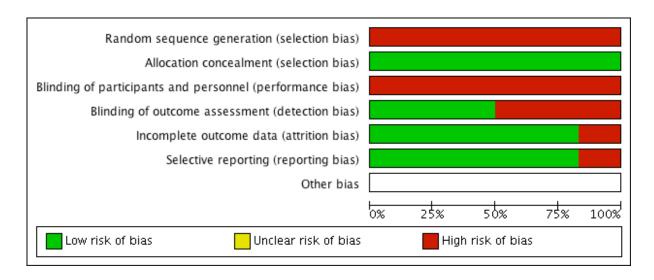


Figure S3: Forrest plot of preoperative left ventricle ejection fraction

	Sutureless Tavi					Mean Difference	Mean Difference		
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Biancari 2015	52	7	144	53.6	5.8	144	20.1%	-1.60 [-3.08, -0.12]	
D'Onofrio 2016	57.7	9.3	214	58.2	10.2	214	18.7%	-0.50 [-2.35, 1.35]	-
Kamperdis 2014	59	10	40	58	9	40	10.6%	1.00 [-3.17, 5.17]	
Miceli 2015	52.6	9.7	37	50.6	7.8	37	11.0%	2.00 [-2.01, 6.01]	
Muneretto 2015	55.1	7.3	204	54.6	6.8	204	20.5%	0.50 [-0.87, 1.87]	+
Santarpino 2015	58	9	102	54	1.4	102	19.1%	4.00 [2.23, 5.77]	
Total (95% CI)			741			741	100.0%	0.78 [-1.07, 2.62]	•
Heterogeneity: Tau² =	3.84; (Ihi² =	: 24.46	, df = 5	(P = 1	0.0002); $I^2 = 80$	%	-20 -10 0 10 20
Test for overall effect:	Z = 0.8	32 (P	= 0.41)					Sutureless Tavi

Figure S4: Forrest plot of preoperative renal failure

	Sutureless Tavi			Mean Difference Mean Difference					
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Biancari 2015	52	7	144	53.6	5.8	144	20.1%	-1.60 [-3.08, -0.12]	
D'Onofrio 2016	57.7	9.3	214	58.2	10.2	214	18.7%	-0.50 [-2.35, 1.35]	
Kamperdis 2014	59	10	40	58	9	40	10.6%	1.00 [-3.17, 5.17]	- •-
Miceli 2015	52.6	9.7	37	50.6	7.8	37	11.0%	2.00 [-2.01, 6.01]	+•
Muneretto 2015	55.1	7.3	204	54.6	6.8	204	20.5%	0.50 [-0.87, 1.87]	+
Santarpino 2015	58	9	102	54	1.4	102	19.1%	4.00 [2.23, 5.77]	
Total (95% CI)			741			741	100.0%	0.78 [-1.07, 2.62]	•
Heterogeneity: Tau ² =			%	-20 -10 0 10 20					
Test for overall effect:	Z = 0.8	32 (P	= 0.41)					Sutureless Tavi

Figure S5: Forrest plot of patients' gender

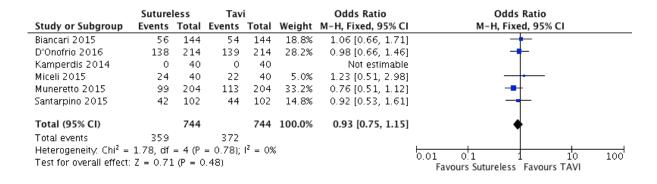


Figure S6: Forrest plot of REDO patients

	Suture	less	Tav	i		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% CI	M-H, Fixed, 95% CI
Biancari 2015	12	144	15	144	19.0%	0.78 [0.35, 1.73]	
D'Onofrio 2016	22	214	21	214	26.0%	1.05 [0.56, 1.98]	-
Muneretto 2015	16	204	30	204	38.2%	0.49 [0.26, 0.94]	-
Santarpino 2015	13	102	14	102	16.9%	0.92 [0.41, 2.06]	
Total (95% CI)		664		664	100.0%	0.77 [0.54, 1.09]	•
Total events	63		80				
Heterogeneity: Chi ² =	2.98, df	= 3 (P	= 0.39);	$I^2 = 0\%$	6		
Test for overall effect:	Z = 1.50	(P = 0).13)				0.01 0.1 1 10 100 Sutureless Tavi

Figure S7: Forrest plot preoperative age

Sutureles		SS	-	Γavi			Mean Difference	Mean Difference	
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Biancari 2015	79.4	5.4	144	79	6	144	18.2%	0.40 [-0.92, 1.72]	-
D'Onofrio 2016	77.4	5.4	214	77.7	7.9	214	18.8%	-0.30 [-1.58, 0.98]	
Kamperdis 2014	79	4.5	40	79	5.9	40	8.3%	0.00 [-2.30, 2.30]	
Miceli 2015	79	4.5	37	78.8	7.4	37	6.0%	0.20 [-2.59, 2.99]	
Muneretto 2015	79	4	204	80	2	204	34.0%	-1.00 [-1.61, -0.39]	-
Santarpino 2015	80	4	102	79	7	102	14.7%	1.00 [-0.56, 2.56]	+-
Total (95% CI)			741			741	100.0%	-0.16 [-0.90, 0.57]	•
Heterogeneity: Tau ²	= 0.31; (- , , , , , , , , , , , , , , , , , , ,							
Test for overall effect: Z = 0.44 (P = 0.66)								Sutureless Tavi	

Figure S8: Forrest plot of preoperative EuroSCORE

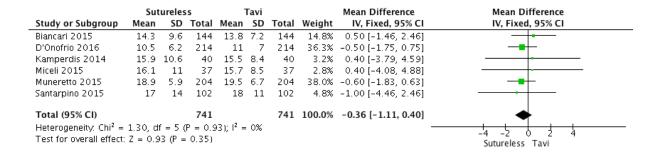


Figure S9: Forrest plot of preoperative diabetes

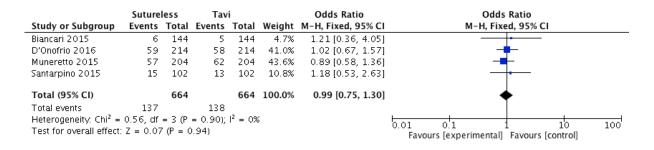


Figure S10: Forrest plot of preoperative CAD

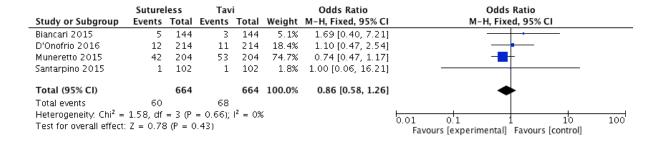


Figure S11: Forrest plot of preoperative extracardiac arteriopathy

	Suture	less	Tav	i		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% CI	M-H, Fixed, 95% CI
Biancari 2015	12	144	13	144	11.7%	0.92 [0.40, 2.08]	
D'Onofrio 2016	46	214	48	214	36.9%	0.95 [0.60, 1.50]	
Miceli 2015	11	37	9	37	6.2%	1.32 [0.47, 3.69]	-
Muneretto 2015	40	204	43	204	33.8%	0.91 [0.56, 1.48]	
Santarpino 2015	27	102	16	102	11.5%	1.94 [0.97, 3.86]	•
Total (95% CI)		701		701	100.0%	1.07 [0.82, 1.40]	•
Total events	136		129				
Heterogeneity: Chi2 =	3.80, df	= 4 (P	= 0.43);	$1^2 = 0\%$	6		d1 02 05 1 2 5 1h
Test for overall effect:	Z = 0.48	3 (P = 0	0.63)				0.1 0.2 0.5 1 2 5 10 Favours [experimental] Favours [control]

Figure S12: Forrest plot of NYHA class III-IV

	Sutureless Tavi				Odds Ratio	Odds Ratio	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% CI	M-H, Fixed, 95% CI
Biancari 2015	107	144	105	144	21.0%	1.07 [0.64, 1.81]	-
D'Onofrio 2016	149	214	147	214	34.8%	1.04 [0.69, 1.57]	-
Miceli 2015	25	37	22	37	5.6%	1.42 [0.55, 3.68]	
Muneretto 2015	130	204	137	204	38.7%	0.86 [0.57, 1.29]	
Total (95% CI)		599		599	100.0%	1.00 [0.78, 1.28]	+
Total events	411		411				
Heterogeneity. Chi ² =	1.17, df	= 3 (P	= 0.76);	$1^2 = 09$	6		0.01 0.1 1 10 100
Test for overall effect:	Z = 0.00) (P = 1	L.00)				Favours [experimental] Favours [control]

Figure S14: Metaregression evaluating the relation between postoperative mortality and postoperative aortic regurgitation and between postoperative mortality and postprocedural stroke

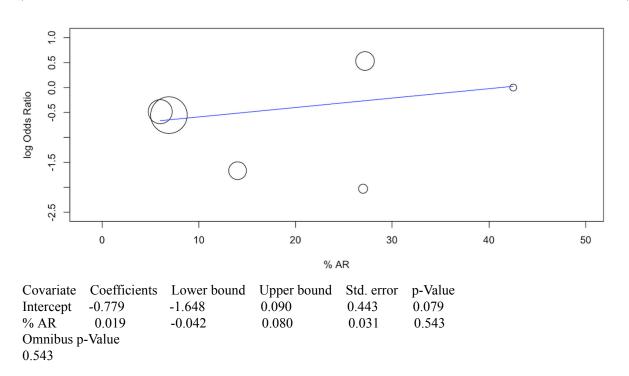
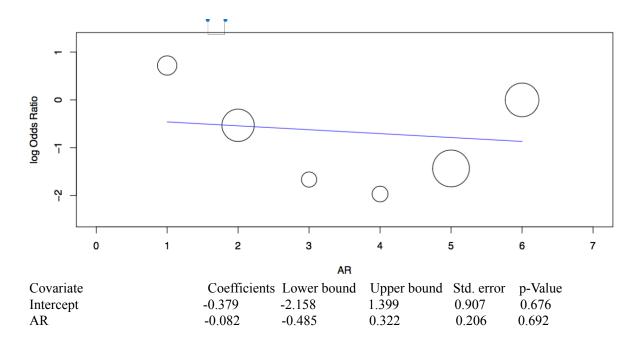


Figure S17: Metaregression evaluating the relation between postoperative stroke and postoperative aortic regurgitation and postoperative aortic regurgitation and acute kidney injury



Omnibus p-Value 0.692