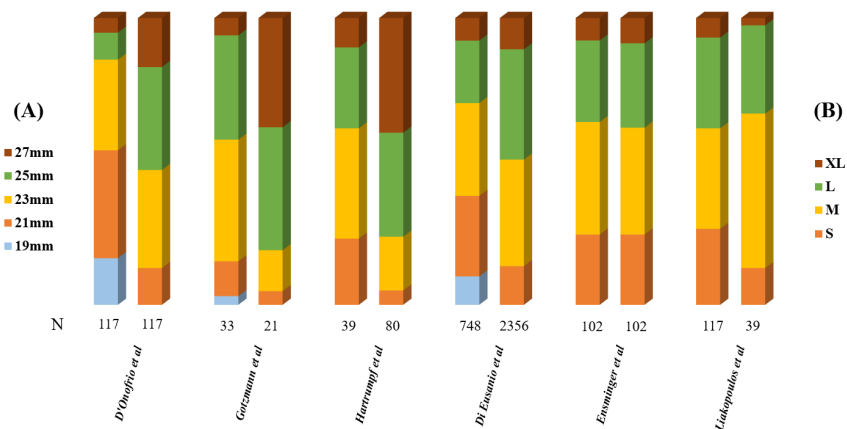


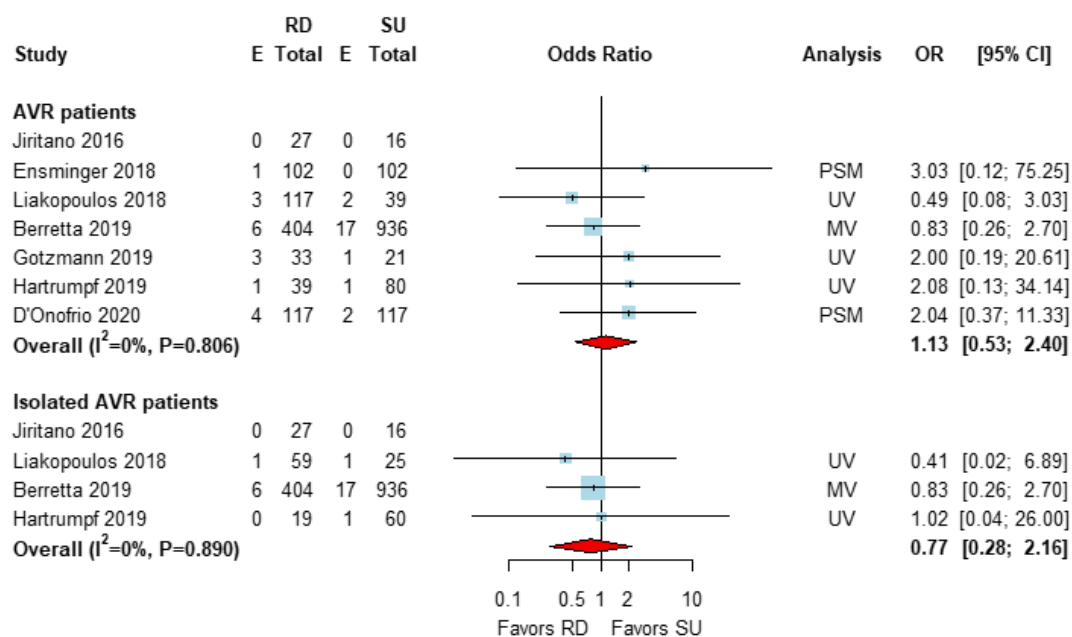
**Table S1** Quality Assessment by Risk Of Bias In Non-randomized Studies of Interventions (ROBINS-I)

Study	Bias due to confounding	Bias in selection of participants into the study	Bias in measurement of interventions	Bias due to departures from intended interventions	Bias due to missing data	Bias in Measurement of outcomes	Bias in selection of the reported result	Overall
D'Onofrio <i>et al.</i>	Moderate	Low	Low	Low	Low	Low	Low	Moderate
Berretta <i>et al.</i>	Serious/moderate*	Low	Low	Low	Low	Low	Low	Serious/moderate*
Gotzmann <i>et al.</i>	Serious	Low	Low	Low	Low	Low	Low	Serious
Hartrumpf <i>et al.</i>	Serious	Low	Low	Low	Low	Low	Low	Serious
Ensminger <i>et al.</i>	Moderate	Low	Low	Low	Low	Low	Low	Moderate
Liakopoulos <i>et al.</i>	Serious	Low	Low	Low	Low	Low	Low	Serious
Jiritano <i>et al.</i>	Serious	Low	Low	Low	Low	Low	Low	Serious
Di Eusanio <i>et al.</i> <sup>†</sup>	Serious	Low	Low	Low	Low	Low	Low	Serious

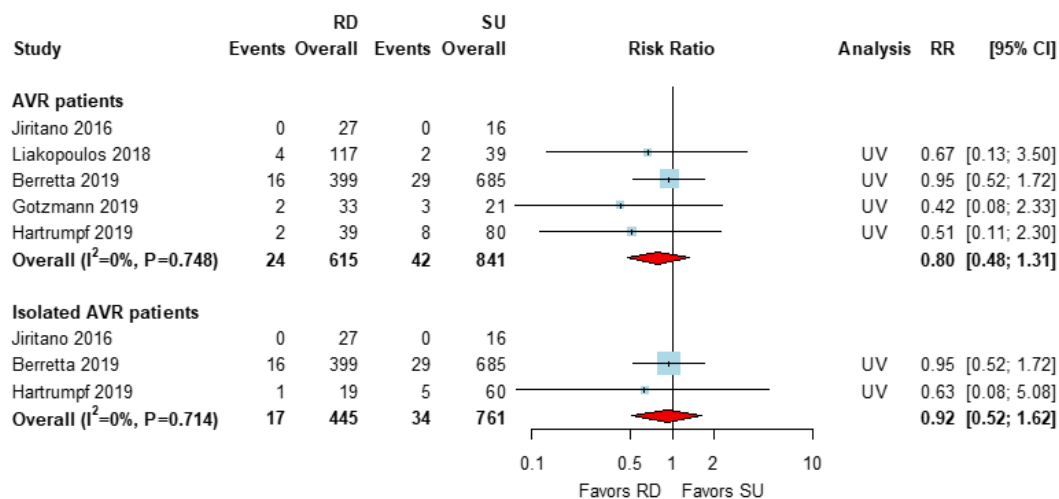
\* Multivariable analysis was performed in the risk factor analysis for early mortality. <sup>†</sup> Assessed for the outcomes regarding mean transvalvular pressure gradient of the aortic valve in each valve size.



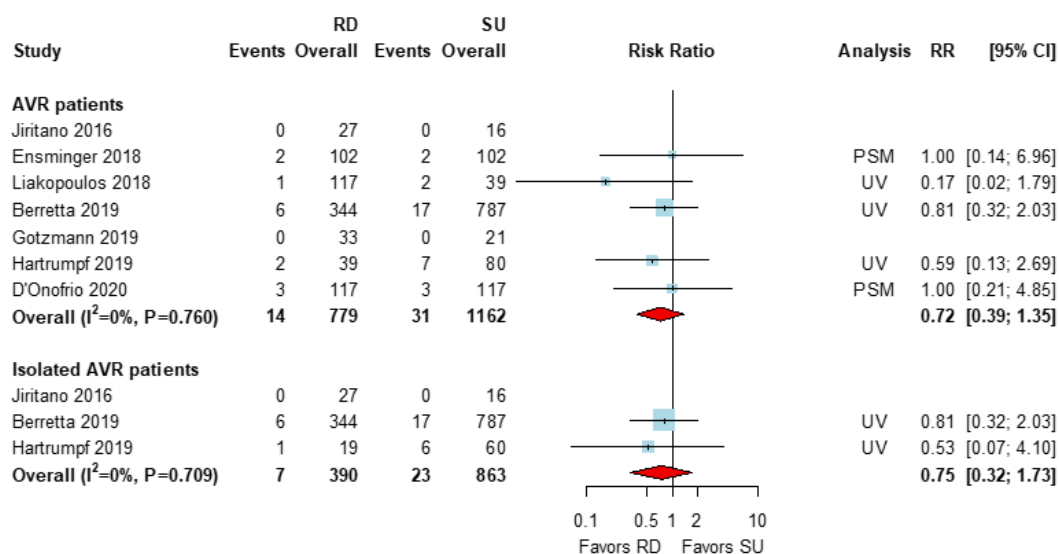
**Figure S1** The distribution of the sizes of both (A) rapid deployment and (B) sutureless valves used in the included studies. S, small; M, medium; L, large; XL, extralarge.



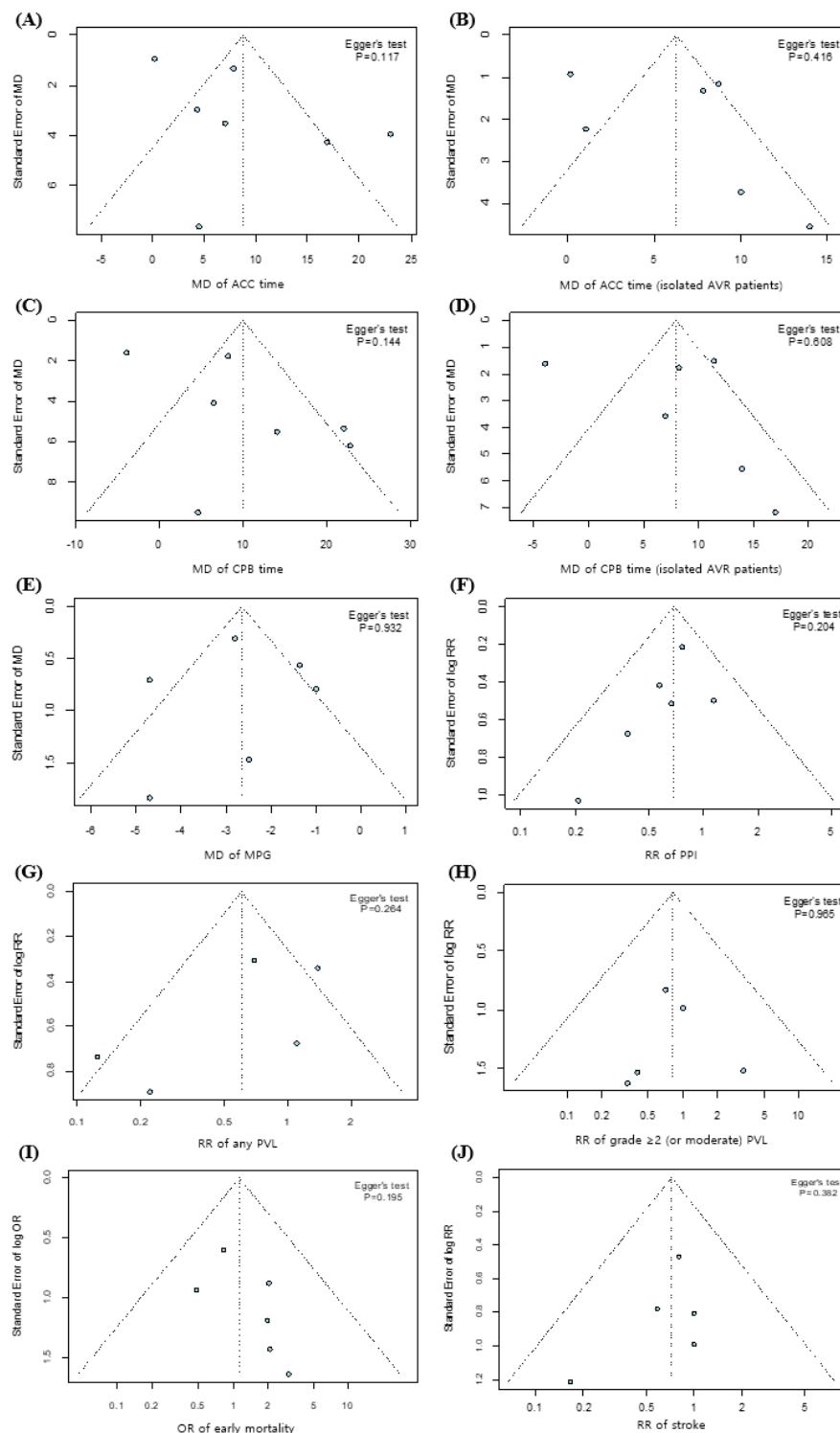
**Figure S2** Odds ratios (ORs) of early mortality in rapid deployment (RD) versus sutureless (SU) aortic valve replacement (AVR). Pooled analyses from overall patients and from isolated AVR patients are presented. CI, confidence interval; MV, multivariable; PSM, propensity score matching; UV, univariate.



**Figure S3** Risk ratios (RRs) of bleeding reoperation after rapid deployment (RD) versus sutureless (SU) aortic valve replacement (AVR). Pooled analyses from overall patients and from isolated AVR patients are presented. CI, confidence interval; UV, univariate.



**Figure S4** Risk ratios (RRs) of postoperative stroke after rapid deployment (RD) versus sutureless (SU) aortic valve replacement (AVR). Pooled analyses from overall patients and from isolated AVR patients are presented. CI, confidence interval; PSM, propensity score matching; UV, univariate.



**Figure S5** Funnel plots and Egger's test for (A) aortic cross-clamp (ACC) time in overall patients, (B) ACC time in isolated aortic valve replacement (AVR) patients, (C) cardiopulmonary bypass (CPB) time in overall patients, (D) CPB time in isolated AVR patients, (E) mean transvalvular pressure gradient (MPG) of the aortic valve, (F) risk of permanent pacemaker implantation (PPI), (G) risk of any paravalvular leak (PVL), (H) risk of grade  $\geq 2$  (or moderate) PVL, (I) early mortality, and (J) stroke. MD, mean difference; RR, risk ratio; OR, odds ratio.