

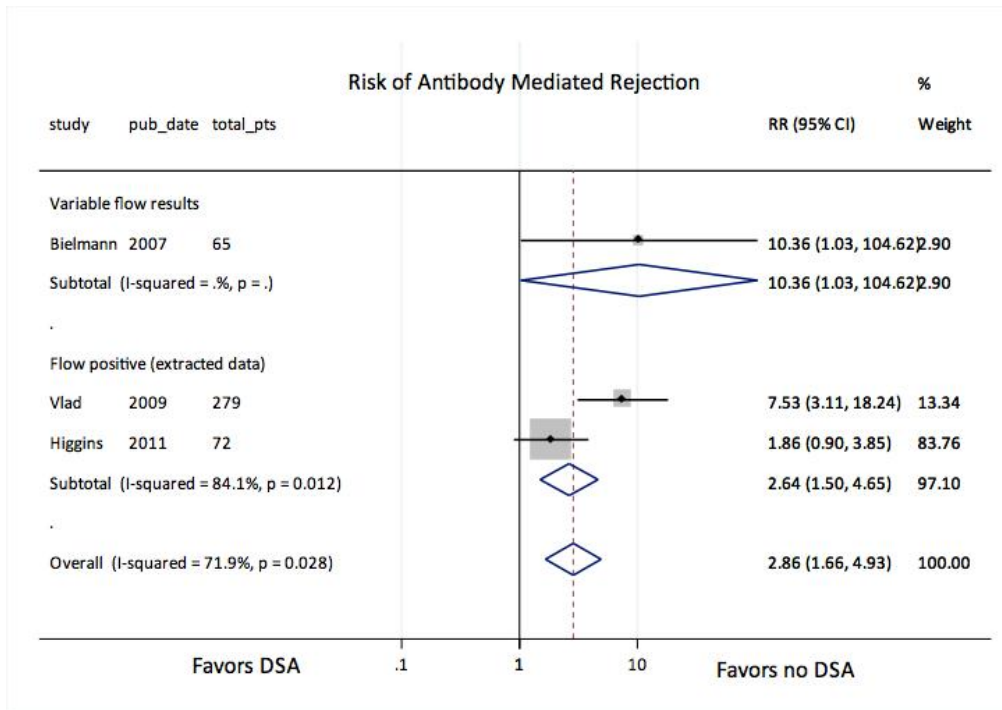
Supplementary table 1a. Relative risk, confidence intervals relative weight, and tests of heterogeneity for the pooled analysis for graft failure rates for group 1 and group 2

	Relative Risk	95% Confidence interval	Weight %	z	p value	I ² statistic	p value
Group 1							
Patel ⁵	6.833	0.81 - 57.652	1.68				
Gupta ³	0.904	0.354 - 2.308	17.26				
Vlad ⁷	4.705	1.456 -15.202	2.74				
Willicombe ⁸	2.62	1.456 -4.718	18.55				
Verghese ⁶	1.667	0.401 -6.935	4.74				
Higgins ⁴	1.515	0.654 -3.512	15.42				
Group 1 pooled RR	1.984	1.364 - 2.885	60.39	3.58	<0.001	32.3%	0.193
Group 2							
Aubert ¹²	23.769	1.02 - 553.677	0.25				
Amico ¹¹	5.943	3.504 - 10.083	20.69				
Lefaucher ¹⁵	13.28	5.585 - 31.578	6.31				
Dunn	3.673	1.947 – 6.931	12.39				
Group 2 pooled RR	7.808	5.029 - 12.122	39.61	10.12	<0.001	53.8	0.090
Overall pooled RR	3.780	2.943 – 4.853	100	10.42	<0.001	68.9%	0.001

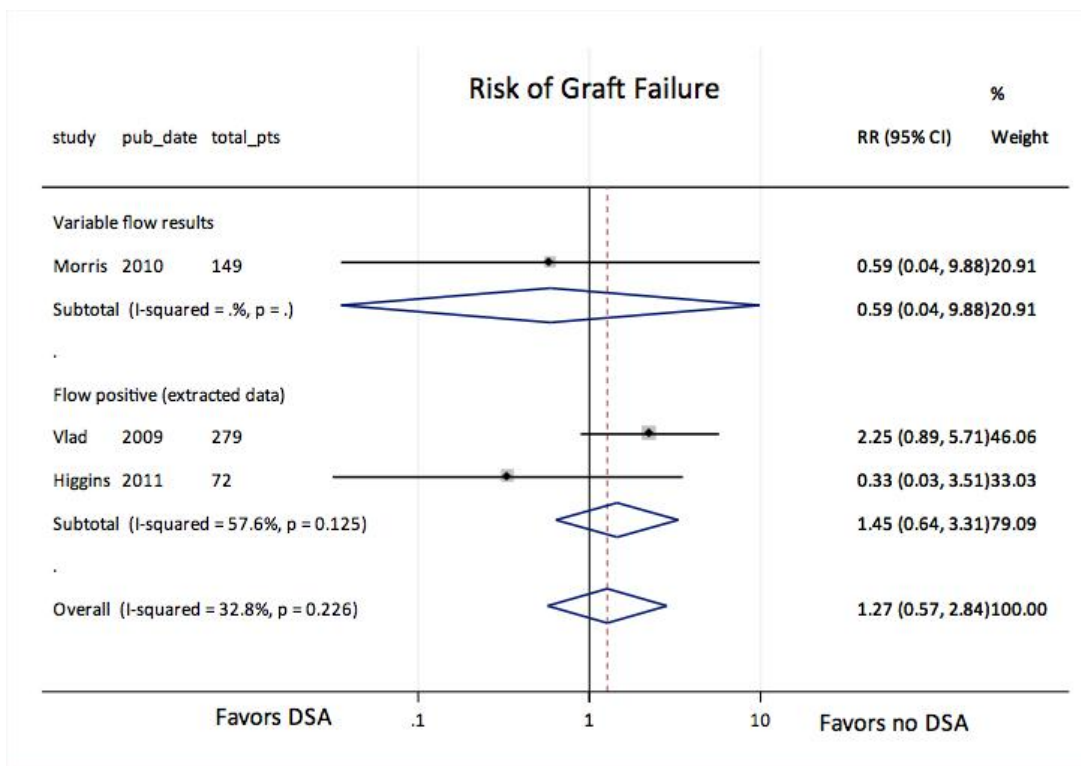
Supplementary table 1b. Relative risk, confidence intervals relative weight, and tests of heterogeneity for the pooled analysis for graft failure rates for group 1 and group 2

	Relative Risk	95% Confidence interval	Weight %	z	p value	I ² statistic	p value
Group 1							
Patel ⁸	1.952	0.81 - 57.652	0.89				
Gupta ⁶	0.904	0.354 - 2.308	10.03				
Vlad ¹⁰	1.901	1.456 -15.202	3.95				
Willicombe ¹¹	2.165	1.456 -4.718	6.58				
Verghese ⁹	3.333	0.401 -6.935	3.33				
Higgins ⁷	1.731	0.654 -3.512	2.45				
Couzi ⁵	(Excluded)						
Group 1 pooled RR	1.759	1.128 - 2.743	27.23	2.49	0.013	0%	0.570
Group 2							
Gibney ¹⁵	3.7	0.778 - 17.596	2.13				
Van den Berg-Loonen ¹⁸	1.067	0.171 - 6.643	2.55				
Aubert ¹³	2.889	0.124 - 67.034	0.41				
Amico ¹²	1.968	1.124 - 3.444	16.75				
Caro-Orleas ¹⁴	1.595	1.142 - 2.226	47.55				
Dunn	0.360	0.022 – 5.903	3.38				
Group 2 pooled RR	1.673	1.270 – 2.205	72.77	3.65	<0.001	0%	0.715
Overall pooled RR	1.697	1.342 – 2.145	100	4.42	<0.001	0%	0.810

Supplemental Figure 1a. Forest plot for risk of antibody mediated rejection with and without DSA stratified by flow crossmatch results for group 3 and group 4



Supplemental Figure 1b. Forest plot for risk of graft failure with and without DSA stratified by flow crossmatch results for group 3 and group 4



Supplementary Table 2a. Relative risk, confidence intervals relative weight, and tests of heterogeneity for the pooled analysis for AMR for groups 3 and 4

	Relative Risk	95% Confidence interval	Weight %	z	p value	I ² statistic	p value
Group 3							
Bielmann ²⁵	10.364	1.027 – 104.622	2.62				
Group 3 pooled RR	10.364	1.027 – 104.622	2.62	1.98	0.047	-	-
Group 4							
Vlad ¹⁰	7.527	3.106 – 18.241	13.34				
Higgins ⁷	1.857	0.896 – 3.851	83.76				
Group 4 pooled RR	2.636	1.496 – 4.646	97.1	3.35	0.001	84.1	0.012
Overall pooled RR	7.875	5.111 – 12.132	100	3.79	<0.001	71.9%	0.028

Supplementary Table 2b. Relative risk, confidence intervals relative weight, and tests of heterogeneity for the pooled analysis for graft failure rates for groups 3 and 4

	Relative Risk	95% Confidence interval	Weight %	z	p value	I ² statistic	p value
Group 3							
Morris ²⁷	0.592	0.035 – 9.883	20.91				
Group 3 pooled RR	0.592	0.035 – 9.883	20.91	0.37	0.715	-	-
Group 4							
Vlad ¹⁰	2.253	0.888 – 5.714	46.06				
Higgins ⁷	0.333	0.032 – 3.515	33.03				
Group 4 pooled RR	1.451	0.637 – 3.307	79.09	0.89	0.376	57.6%	0.125
Overall pooled RR	1.271	0.569 – 2.840	100	0.53	0.558	32.8%	0.226

Supplementary table 3. Definitions used for a negative flow crossmatch across studies included in group 1.

Study	Criteria listed
Patel ⁸	T cell FCXMs were considered borderline positive if MCS was +40 or greater and positive if the MCS was + 80 or greater. B cell FCXMs were considered borderline positive if MCS was + 100 or greater and positive if MCS was + 200 or greater
Gupta ⁶	No details provided other than that both T and B cell crossmatch was performed
Vlad ¹⁰	A positive T cell FCXM and a positive B cell FCXM represented median channel shift values of ≥ 40 and ≥ 100 , respectively."
Couzi ⁵	Threshold for positivity set for MFI ratio between the patient's serum and the negative control serum of 1.2 for T cells and 2 for B cells, which were equivalent to a shift of 20 and 70 fluorescence channels, respectively
Willicombe ¹¹	Performed only T cell flow crossmatch. No further details provided
Vergheze ⁹	No details provided
Higgins ⁷	Readout was the ratio of the median channel Fluorescence of the test sample over that for the negative control AB serum as relative median Fluorescence. Threshold for a positive XM was set at a relative median fluorescence of 4 for primary grafts and 2.5 for regrafts