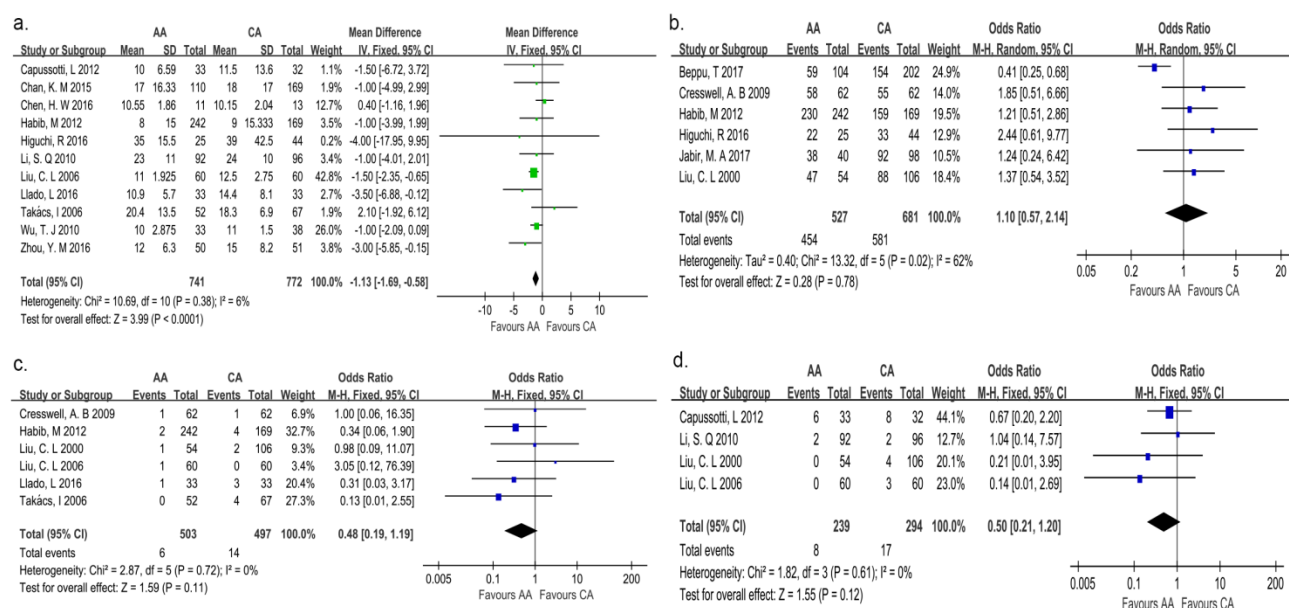


Supplementary Figure 1 Forest plot and meta-analysis of total tumor recurrence.

AA: Anterior approach; CA: Conventional approach.



Supplementary Figure 2 Forest plot and meta-analysis of postoperative outcomes. A: Forest plot and meta-analysis of hospital stay; B: Forest plot and meta-analysis of R0 resection rate; C: Forest plot and meta-analysis of bile leak; D: Forest plot and meta-analysis of liver failure. AA: Anterior approach; CA: Conventional approach.

Supplementary Table 1 Qualities of including articles are evaluated by modified Newcastle-Ottawa scale and Jadad scale

Studies	Newcastle-Ottawa scale								Quality score
	Selection				Comparability	Outcome			
	Representativeness of the exposed cohort	Selection of the non exposed cohort	Ascertainment of exposure	Demonstration that outcome of interest was not present at start of study		Assessment of outcome	Was follow-up long enough for outcomes to occur	Adequacy of follow up of cohorts	
Beppu et al.	★		★		★★	★	★	★	★★★★★★★
Chan et al.	★		★	★	★	★	★		★★★★★★
Chen et al.	★		★	★	★	★			★★★★★
Cresswell et al	★		★	★	★	★			★★★★★
Habib et al.	★	★	★	★	★	★			★★★★★★
Hao et al.	★	★	★	★	★	★	★		★★★★★★★
Higuchi et al.	★		★	★	★	★			★★★★★
Jabir et al.	★	★	★		★	★	★		★★★★★★
Li et al.	★		★		★★	★	★	★	★★★★★★★
Liu et al.	★		★	★	★	★	★	★	★★★★★★★
Llado et al.	★		★	★	★	★	★		★★★★★★
Takács et al.	★	★	★		★	★			★★★★★
Wu et al.	★		★	★	★	★	★	★	★★★★★★★
Studies	Jadad scale								
	randomization		blinding		withdrawals		Total		
Capussotti et al.	2		1		1		4		
Liu et al.	2		1		1		4		
Zhou et al	2		2		0		4		

Supplementary Table 2 Sensitivity analysis comparison of anterior approach *vs* conventional approach right hepatectomy

Outcomes of interest	studies, no.	AA	CA	WMD [†] /OR/HR (95% CI)	p value [*]	Study heterogeneity				
		patients, no	patients, no			χ ²	df	I ² , %	p value [*]	
Primary outcomes										
Intraoperative blood loss	11	886	938	-208.23 [†] (-314.19, -102.28)	0.0001	69.59	10	86	<0.00001	
Massive blood loss	6	291	357	0.46 (0.23, 0.93)	0.03	9.92	5	50	0.08	
Intraoperative blood transfusion	9	534	599	0.43 (0.27, 0.67)	0.0002	18.11	8	56	0.02	
Operative time	11	886	937	-6.74 [†] (-38.46, 24.98)	0.68	283.68	10	96	<0.00001	
Mortality	9	764	814	0.51 (0.32, 0.84)	0.007	6.76	8	0	0.56	
Morbidity	10	762	760	0.74 (0.59, 0.94)	0.01	4.69	9	0	0.86	
Overall survival	9	562	680	0.71 (0.50, 1.00)	0.05	47.12	8	83	<0.00001	
Disease-free survival	9	556	671	0.67 (0.58, 0.79)	<0.00001	15.05	8	47	0.06	
Recurrence	9	788	840	0.62 (0.47, 0.83)	0.001	13.82	8	42	0.09	
Extrahepatic recurrence	7	436	502	0.67 (0.46, 0.97)	0.03	12.50	6	52	0.05	
Intrahepatic recurrence	7	436	502	0.78 (0.59, 1.02)	0.07	6.32	6	5	0.39	
Extrahepatic and intrahepatic	4	224	286	0.54 (0.29, 0.98)	0.04	2.10	3	0	0.55	
Secondary outcomes										
Hospital stay	8	653	648	-1.43 [†] (-2.03, -0.82)	<0.00001	3.43	7	0	0.84	
R0 resection rate	4	374	493	0.86 (0.41, 1.79)	0.68	8.22	3	64	0.04	
Bile leak	4	389	368	0.56 (0.20, 1.63)	0.29	1.83	3	0	0.61	
Liver failure	4	239	294	0.50 (0.21, 1.20)	0.12	1.82	3	0	0.61	

AA = anterior approach; CA = conventional approach; WMD/ OR/ HR=weighted mean difference/odds ratio/ hazard ratio; CI = confidence interval; df = degrees of freedom;

[†] weighted mean difference.

* Statistically significant results are shown in bold.