Supplementary

Appendix 1

Search strategy

#1
"Carcinoma, Non-Small-Cell Lung" OR "Carcinoma, Non Small Cell Lung" OR "Carcinomas, Non-Small-Cell Lung" OR "Lung Carcinoma, Non-Small-Cell" OR "Lung Carcinomas, Non-Small-Cell" OR "Non-Small-Cell Lung Carcinomas" OR "Nonsmall Cell Lung Cancer" OR "Non-Small-Cell Lung Carcinoma" OR "Non Small Cell Lung Carcinoma" OR "Carcinoma, Non-Small Cell Lung" OR "Non-Small Cell Lung Cancer" OR "NSCLC"
#2
"Neoadjuvant Therapy" OR "Neoadjuvant" OR "Neo-adjuvant" OR "induction treatment" OR "Perioperative" OR "Preoperative"
#3
"nivolumab" OR "opdivo" OR "ono-4538" OR "MDX-1106" OR "BMS-936558" OR "pembrolizumab" OR "lambrolizumab" OR "keytruda" OR "SCH900475" OR "MK-3475" OR "atezolizumab" OR "tecentriq" OR "RO5541267" OR "RG7446" OR "MPDL3280A" OR "durvalumab" OR "imfinzi" OR "MEDI-4736" OR "MEDI4736" OR "Avelumab" OR "barvencik" OR "MSB0010718C" OR "cemiplimab" OR "libtayo" OR "REGN2810" OR "Tislelizumab" OR "BGB-A317" OR "Sintilimab" OR "IBI 308" OR "IBI308" OR "IBI-308" OR "Ipilimumab" OR "Yervoy" OR "MDX 010" OR "Lambrolizumab" OR "Keytruda" OR "MK-3475" OR "Camrelizumab" OR "SHR-1210"
#4
"Trial" OR "Trials" OR "phase" OR "Random" OR "Randomized" OR "Controlled"
#5
("Randomized Controlled Trial" or "Clinical Trial") not "Review"
#6
#1 AND #2 AND #3 AND #4 AND #5

https://dx.doi.org/10.21037/amj-22-88

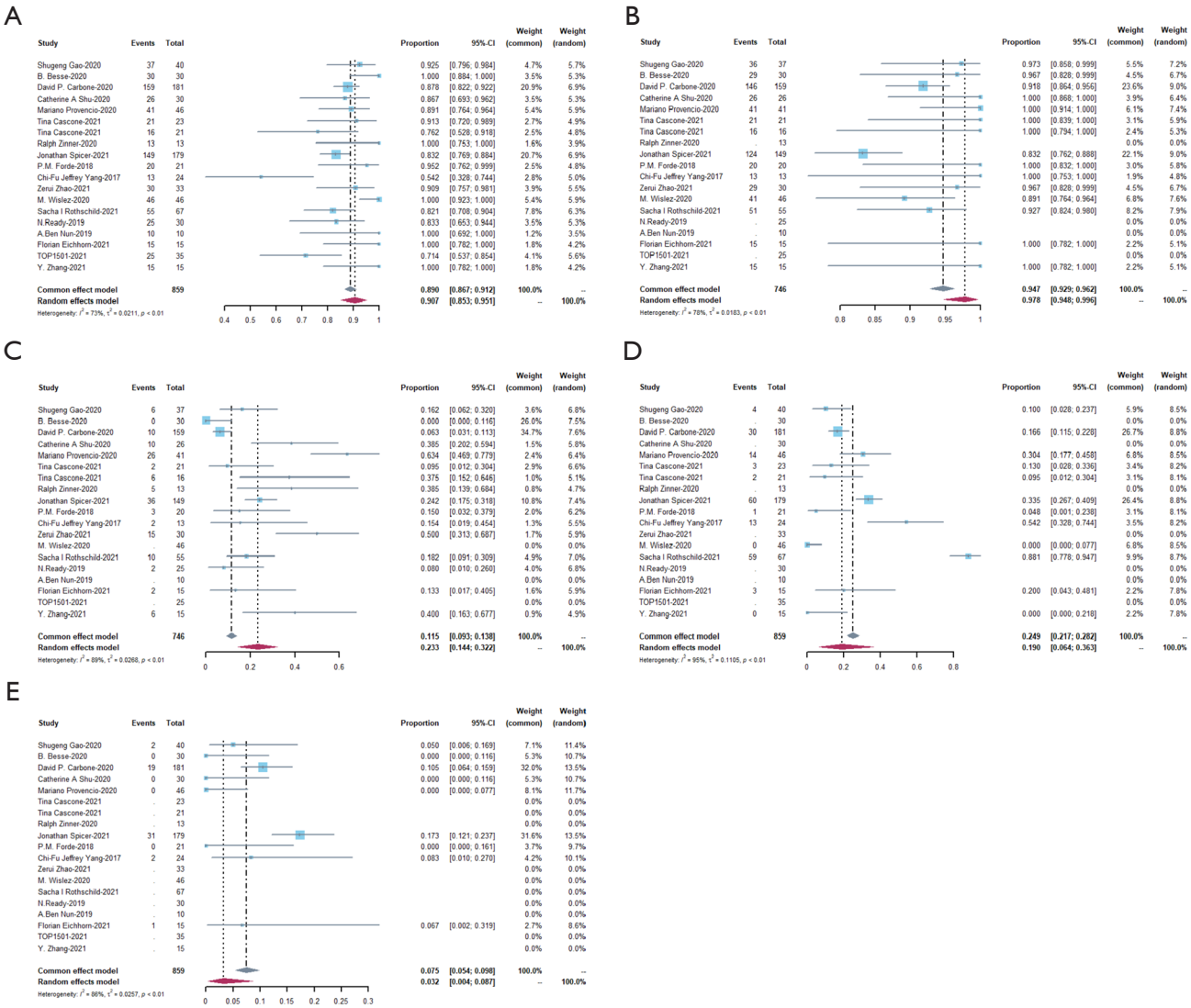

Figure S1 Meta-analysis of pooled efficacy and safety. Forest plot for the efficacy and safety of neoadjuvant immunotherapy. (A) Surgical resection rate. (B) R0 rate. (C) pCR. (D) 3–5 grade TRAE. (E) Surgical delay. CI, confidence interval; R0 rate, R0 surgical resection rate; pCR, pathological complete response; TRAE, treatment-related adverse event.

https://dx.doi.org/10.21037/amj-22-88

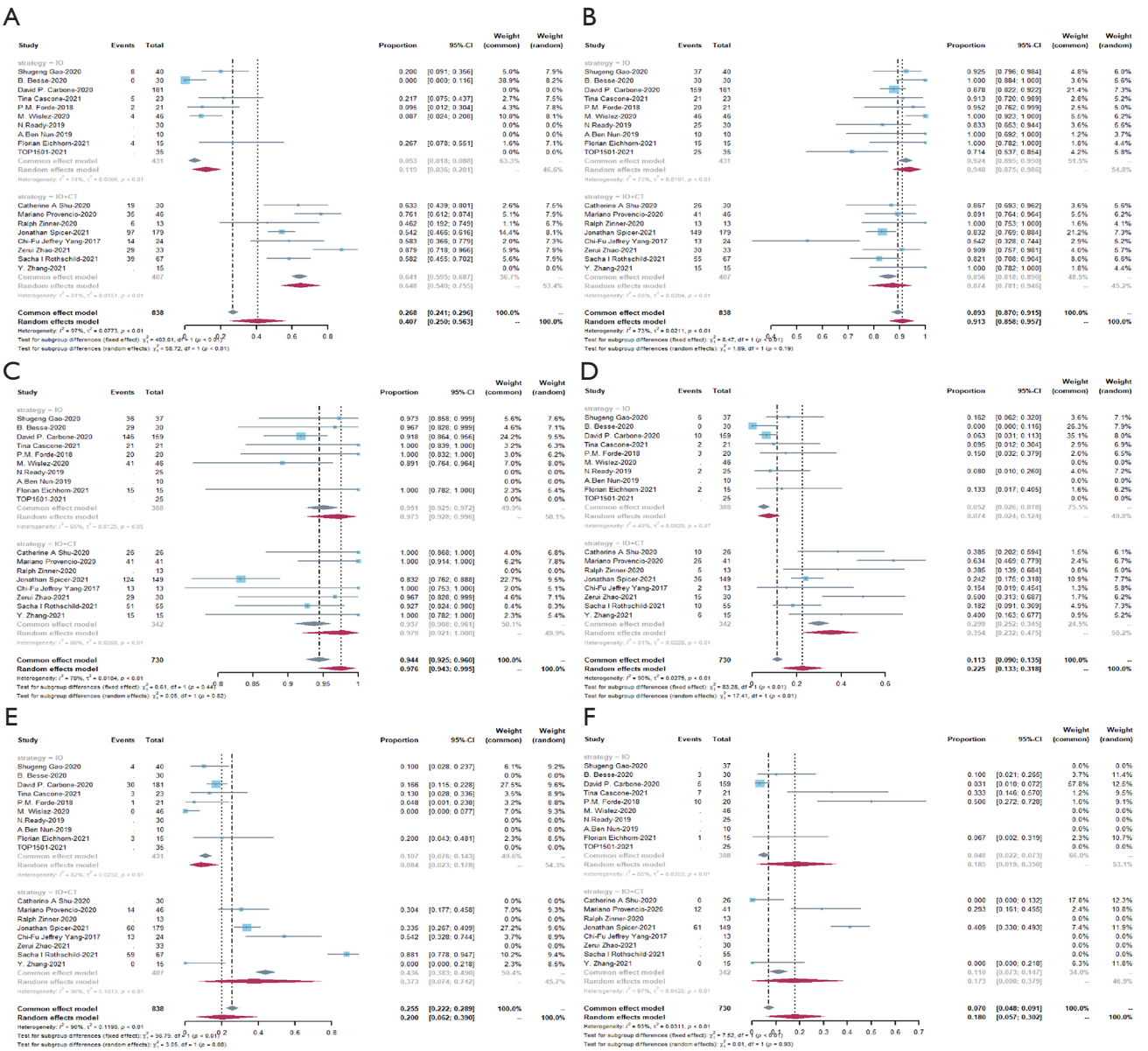

Figure S2 Subgroup analysis of safety and efficacy among different combination therapies. Subgroup analysis of safety and efficacy based on combination types. (A) ORR. (B) Surgical resection rate. (C) R0 rate. (D) pCR. (E) 3–5 grade TRAE. (F) Surgical complications. CI, confidence interval; IO, immunotherapy; CT, chemotherapy; ORR, objective response rate; R0 rate, R0 surgical resection rate; pCR, pathological complete response; TRAE, treatment-related adverse event.

https://dx.doi.org/10.21037/amj-22-88

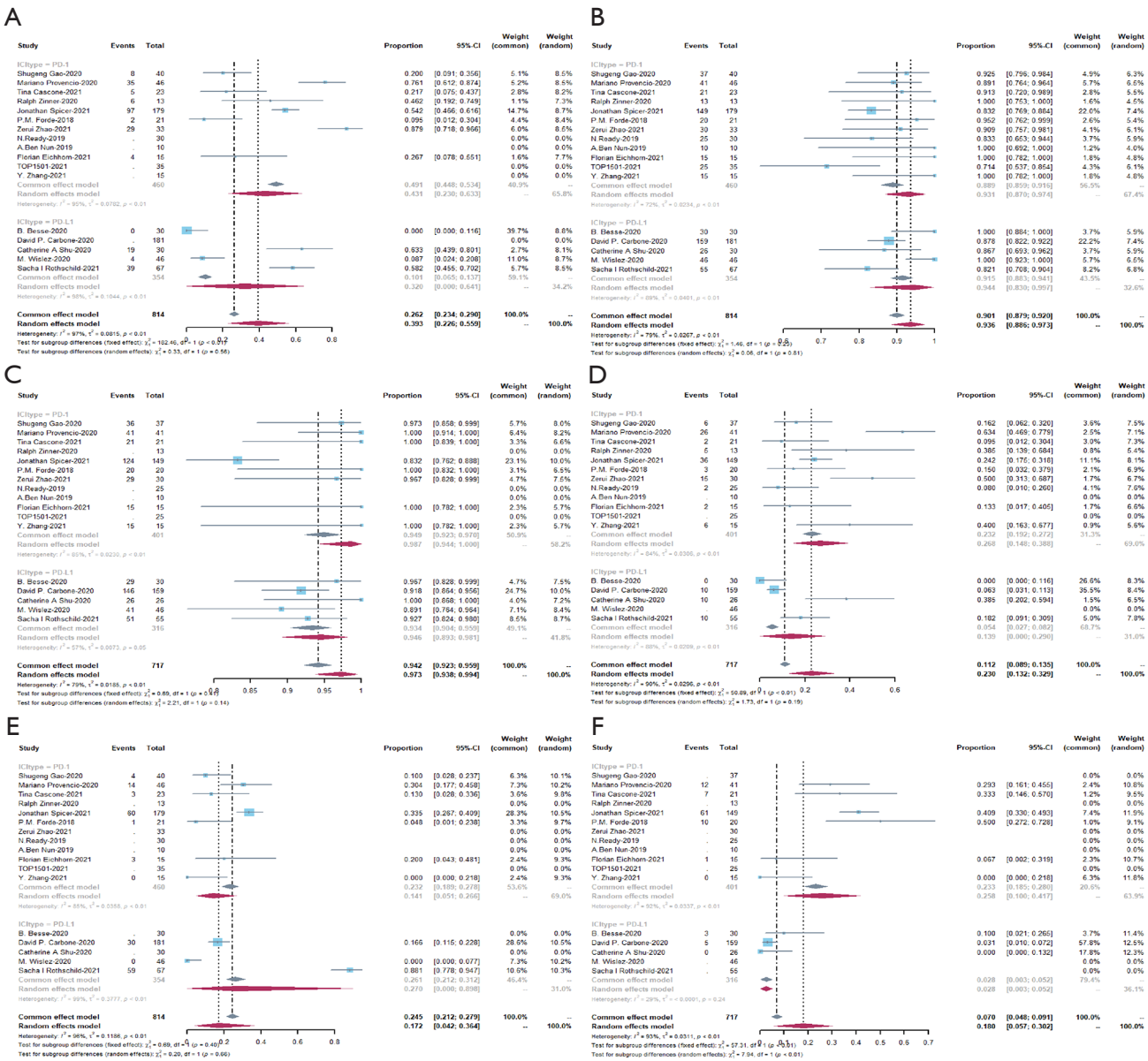

Figure S3 Subgroup analysis of safety and efficacy among different types of ICIs. Subgroup analysis of safety and efficacy based on ICIs types. (A) ORR. (B) Surgical resection rate. (C) R0 rate. (D) pCR. (E) 3–5 grade TRAE. (F) surgical complications. CI, confidence interval; ICI, immune checkpoints inhibitor; PD-1, programmed cell death protein 1; PD-L1, programmed cell death protein ligand 1; ORR, objective response rate; R0 rate, R0 surgical resection rate; pCR, pathological complete response; TRAE, treatment-related adverse event.

https://dx.doi.org/10.21037/amj-22-88

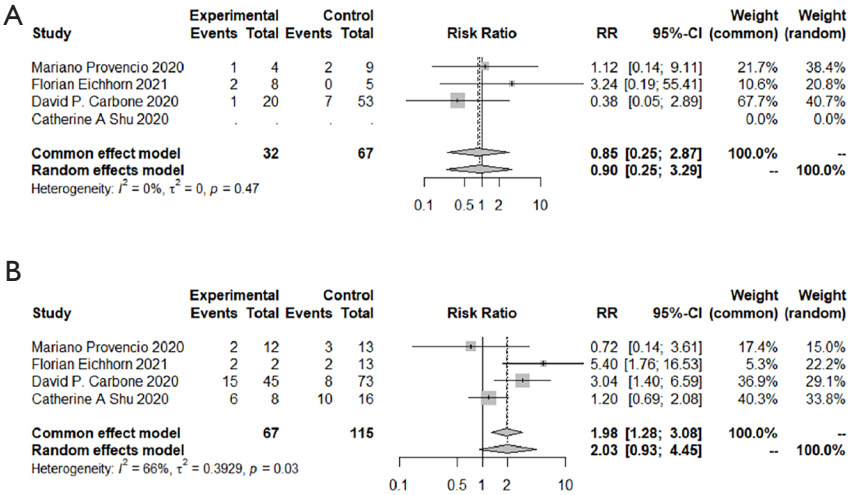

Figure S4 Exploratory analysis of relationship between MPR and PD-L1 expression level. Exploratory analysis of MPR between different PD-L1 expression groups. (A) MPR between low PD-L1 expression group and PD-L1 negative expression group. Experiment events means the number of patients with MPR in those with low PD-L1 expression. The total means the number of patients who overcame surgery in those with low PD-L1 expression. The control group means events in negative PD-L1 expression group. (B) MPR between group with high PD-L1 expression level and group with PD-L1 expression level range from 0 to 49%. Experiment events means the number of patients with MPR in those with high PD-L1 expression. The total means the number of patients who overcame surgery in those PD-L1 expression positive. The control group means events in group with PD-L1 expression level range from 0 to 49%. RR, relative risk; CI, confidence interval; MPR, major pathological response; PD-L1, programmed cell death protein ligand 1.

https://dx.doi.org/10.21037/amj-22-88

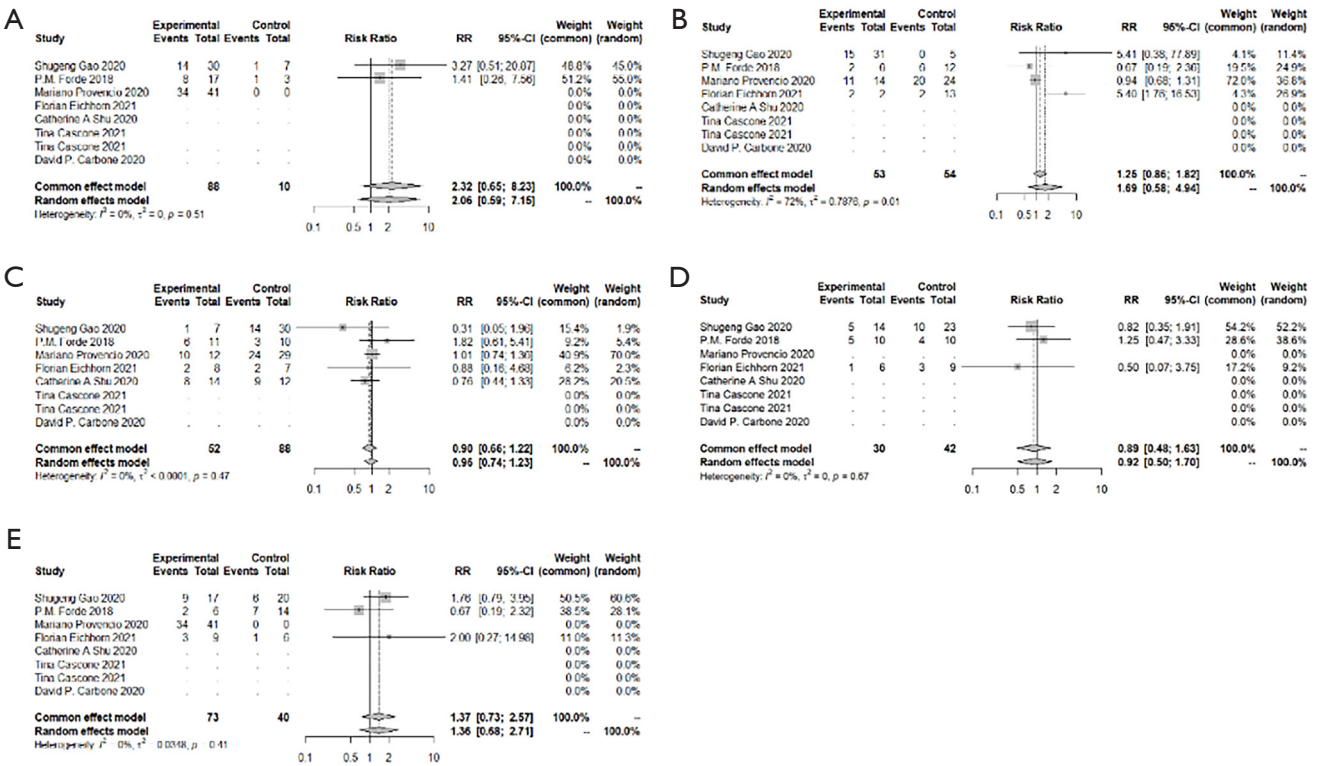

Figure S5 Exploratory analysis of relationship between MPR and clinical characteristics. Exploratory analysis of MPR between different groups. (A) MPR between smoking group and no smoking group. (B) MPR between adenocarcinoma and squamous carcinoma. (C) MPR between female and male. (D) MPR between group with stage II tumor and group with other stage tumor. (E) MPR between group with stage III tumor and group with other stage tumor. Experiment events means the number of patients with MPR in those smoking, squamous carcinoma, female, with stage II tumor, with stage III tumor, respectively. The total means the number of patients who overcame surgery. The control group means the other group in each category. RR, relative risk; CI, confidence interval; MPR, major pathological response.

https://dx.doi.org/10.21037/amj-22-88

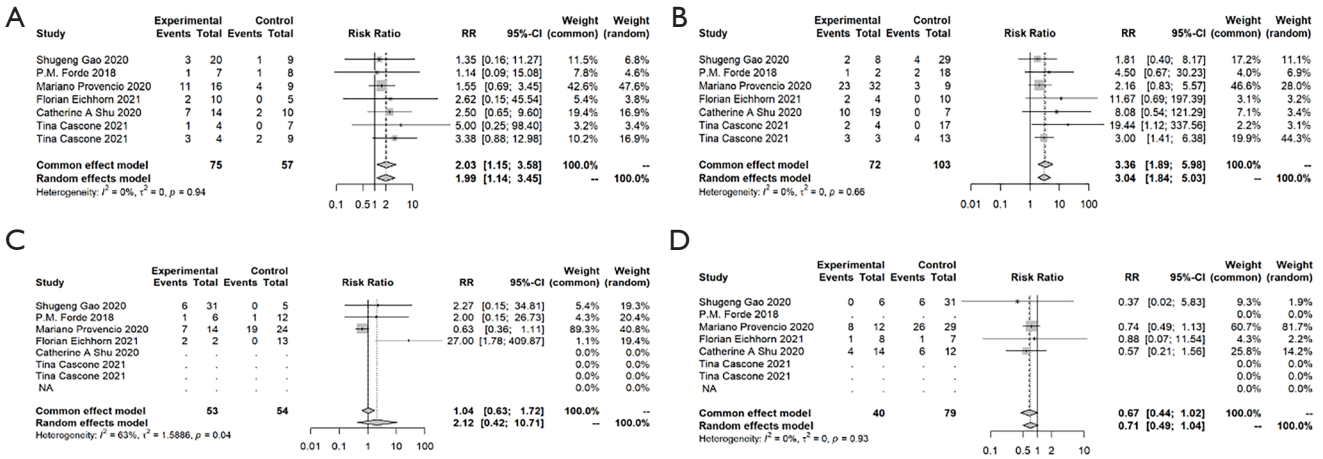

Figure S6 Exploratory analysis of pCR. Exploratory analysis of pCR between different groups. (A) pCR between PD-L1 positive expression group and PD-L1 negative expression group. (B) pCR between group with objective response and group without. (C) pCR between adenocarcinoma and squamous carcinoma. (D) pCR between female and male. Experiment events means the number of patients with pCR in those with positive PD-L1 expression, with objective response, squamous carcinoma, female, respectively. The total means the number of patients who overcame surgery. The control group means the other group in each category. RR, relative risk; CI, confidence interval; pCR, pathological complete response; PD-L1, programmed cell death protein ligand 1.

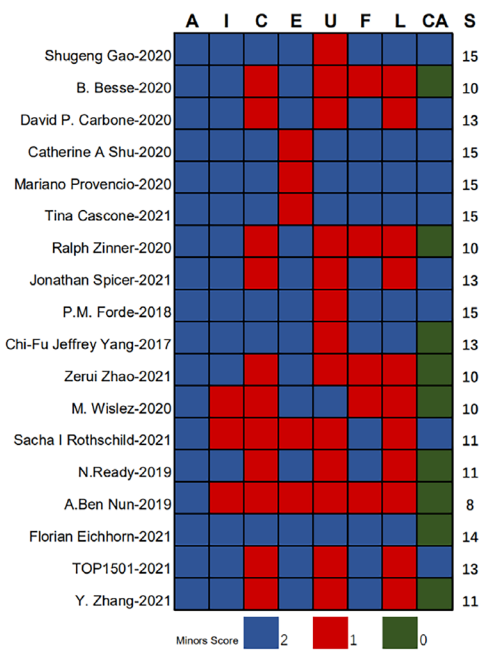

Figure S7 Risk of bias assessment for 18 trials included. Risk of bias assessment. A, a clearly stated aim; I, inclusion of consecutive patients; C, prospective collection of data; E, endpoint appropriate to the aim of study; U, unbiased assessment of the study endpoint; F, follow-up period appropriate to the aim of the study; L, loss to follow-up <5%; CA, prospective calculation of the study size.

https://dx.doi.org/10.21037/amj-22-88