Appendix 1: Detail search strategies for PubMed, Embase, and the Cochrane Central Register of Controlled Trials databases

PubMed

((“lung cancer” [Title/Abstract]) AND (“NSCLC” [Title/Abstract]) OR (“Non small Cell” [Title/Abstract]) OR (“Non-Small-Cell” [Title/Abstract]) OR (“Non-Small Cell” [Title/Abstract])) OR (“Carcinoma, Non-Small-Cell Lung”[MeSH]))

AND ((“EGFR”[All Fields]) OR (“epidermal growth factor receptor”[All Fields]))

AND ((“mutation”[All Fields]) OR (“exon”[All Fields]) OR (“exon 19”[All Fields]) OR (“exon 21”[All Fields]) OR (“19 deletion”[All Fields]) OR (“21 L858R”[All Fields]))

AND ((“pembrolizumab” [Supplementary Concept]) OR (“lambrolizumab” [Title/Abstract]) OR (“Keytruda” [Title/Abstract]) OR (“MK-3475” [Title/Abstract]) OR (“nivolumab” [Supplementary Concept]) OR (“MDX-1106” [Title/Abstract]) OR (“ONO-4538” [Title/Abstract]) OR (“BMS-936558” [Title/Abstract]) OR (“Opdivo” [Title/Abstract]) OR (“atezolizumab” [Supplementary Concept]) OR (“MPDL3280A” [Title/Abstract]) OR (“Tecentriq” [Title/Abstract]) OR (“RG7446” [Title/Abstract]) OR (“RG-7446” [Title/Abstract]) OR (“Durvalumab” [Title/Abstract]) OR (“Imfinzi” [Title/Abstract]) OR (“MEDI4736” [Title/Abstract]) OR (“Camrelizumab” [Title/Abstract]) OR (“SHR-1210” [Title/Abstract]) OR (“Tislelizumab” [Title/Abstract]) OR (“Sintilimab” [Title/Abstract]) OR (“IBI 308” [Title/Abstract]) OR (“anti-PDL1” [Title/Abstract]) OR (“anti-PD1” [Title/Abstract]) OR (“PD-1” [Title/Abstract]) OR (“PD-L1” [Title/Abstract]) OR (“Programmed Death 1” [Title/Abstract]) OR (“Programmed Cell Death 1 Receptor” [Title/Abstract]) OR (“Programmed Death Ligand 1” [Title/Abstract]) OR (“programmed cell death 1 ligand 1 protein” [Title/Abstract]) OR (“immune checkpoint inhibitor” [Title/Abstract]) OR (“immune therapy” [Title/Abstract]) OR (“immunotherapy” [Title/Abstract]))

Embase

(‘lung cancer’:ab,ti OR nsclc:ab,ti OR ‘non small cell’:ab,ti OR ‘non small cell lung cancer’/exp OR ‘non-small cell’:ab,ti)

AND (‘EGFR’:ab,ti OR ‘epidermal growth factor receptor’:ab,ti)

AND (‘mutation’ free text OR ‘exon’ free text OR ‘exon 19’ free text OR ‘exon 21’ free text OR ‘19 deletion’ free text OR ‘21 L858R’ free text)

AND (‘pembrolizumab’/exp OR ‘lambrolizumab’:ab,ti OR ‘Keytruda’:ab,ti OR ‘MK-3475’:ab,ti OR ‘nivolumab’/exp OR ‘MDX-1106’:ab,ti OR ‘ONO-4538’:ab,ti OR ‘BMS-936558’:ab,ti OR ‘Opdivo’:ab,ti OR ‘atezolizumab’/exp OR ‘MPDL3280A’:ab,ti OR ‘Tecentriq’:ab,ti OR ‘RG7446’:ab,ti OR ‘RG-7446’:ab,ti OR ‘Durvalumab’:ab,ti OR ‘Imfinzi’:ab,ti OR ‘MEDI4736’:ab,ti OR ‘Camrelizumab’/exp OR ‘SHR-1210’:ab,ti OR ‘Tislelizumab’/exp OR ‘Sintilimab’/exp OR ‘IBI-308’:ab,ti OR ‘anti-PDL1’:ab,ti OR ‘anti-PD1’:ab,ti OR ‘PD-1’:ab,ti OR ‘PD-L1’:ab,ti OR ‘Programmed Death 1’:ab,ti OR ‘Programmed Cell Death 1 Receptor’:ab,ti OR ‘Programmed Death-Ligand 1’:ab,ti OR ‘programmed cell death 1 ligand 1 protein’:ab,ti OR ‘immune checkpoint inhibitor’:ab,ti OR ‘immune therapy’:ab,ti OR ‘immunotherapy’:ab,ti)

The Cochrane Central Register of Controlled Trials

#1 MeSH descriptor: [Carcinoma, Non-Small-Cell Lung] explode all trees
#2 (lung OR pulmo*):ti,ab,kw
#3 (cancer OR carcinoma OR neoplas*):ti,ab,kw
#4 #2 AND #3
#5 #1 OR #4
#6 (EGFR OR ‘epidermal growth factor receptor):ti,ab,kw
#7 (mutation OR exon OR exon 19 OR exon 21 OR 19 deletion OR 21 L858R)
#8 (‘pembrolizumab’ OR ‘lambrolizumab’ OR ‘Keytruda’ OR ‘MK-3475’ OR ‘nivolumab’ OR ‘MDX-1106’ OR ‘ONO-4538’ OR ‘BMS-936558’ OR ‘Opdivo’ OR ‘atezolizumab’ OR ‘MPDL3280A’ OR ‘Tecentriq’ OR ‘RG7446’ OR ‘RG-7446’ OR ‘Durvalumab’ OR ‘Imfinzi’ OR ‘MEDI4736’ OR ‘Camrelizumab’ OR ‘SHR-1210’ OR ‘Tislelizumab’ OR ‘Sintilimab’ OR ‘IBI 308’ OR ‘anti-PDL1’ OR ‘anti-PD1’ OR ‘PD-1’ OR ‘PD-L1’ OR ‘Programmed Death 1’ OR ‘Programmed Cell Death 1 Receptor’ OR ‘Programmed Death-Ligand 1’ OR ‘programmed cell death 1 ligand 1 protein’ OR ‘immune checkpoint inhibitor’ OR ‘immune therapy’ OR immunotherapy):ti,ab,kw
#9 #5 AND #6 AND #7 AND #8

https://dx.doi.org/10.21037/tlcr-24-884

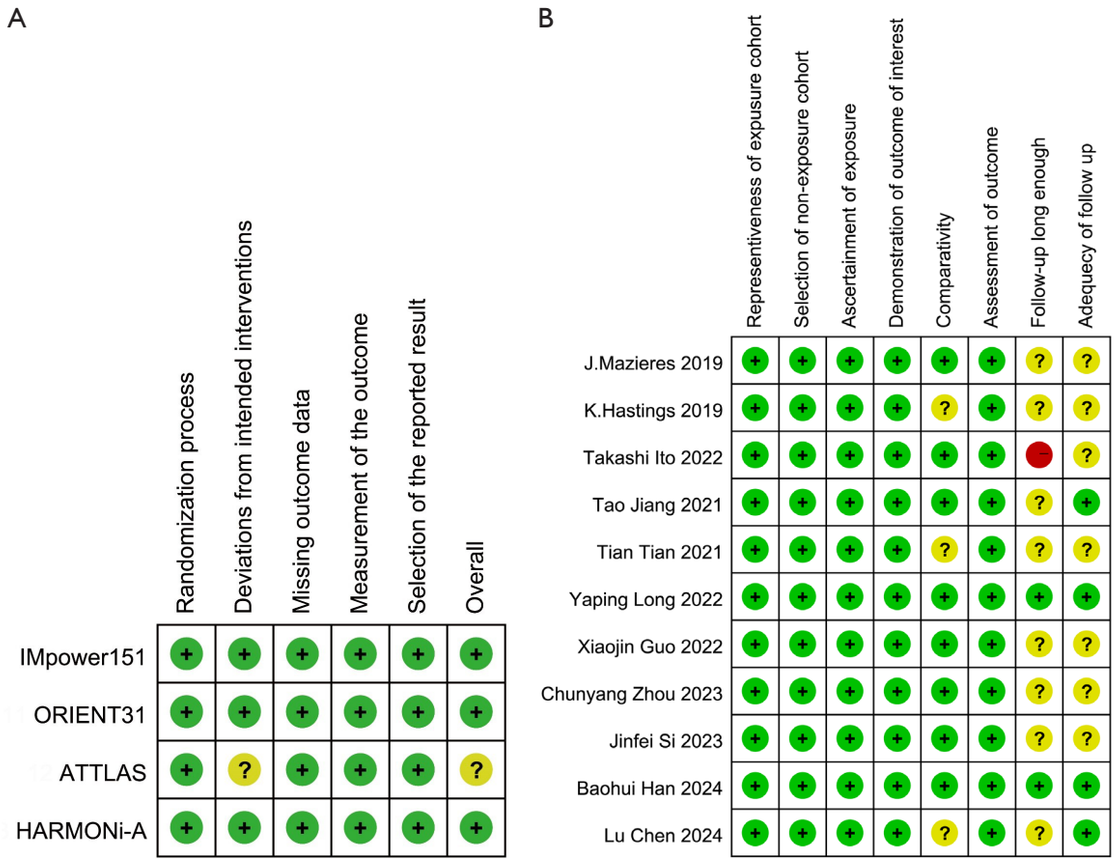

Figure S1 The methodological quality and risk of bias of individual studies were evaluated using (A) Cochrane Risk of Bias 2 tool to assess the quality of included RCTs and (B) a modified Newcastle-Ottawa scale to assess other studies independently. RCT, randomized control trial.

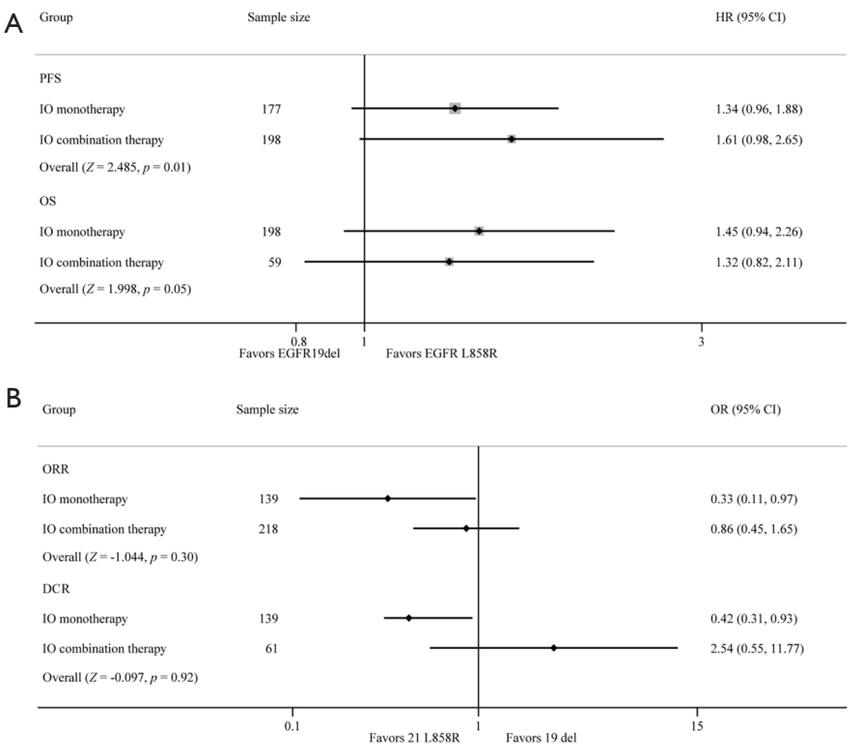

Figure S2 Subgroup analysis of 19 Del *vs*. 21 L858R in IO monotherapy or IO combination therapy for (A) PFS and OS (B) ORR and DCR. IO: including anti-PD-1/PD-L1 antibody; IO combination: including IO plus chemo or IO plus chemo and antiangiogenic therapy. HR, hazard ratio; CI, confidence interval; PFS, progression-free survival; IO, immunotherapy; OS, overall survival; 19 Del, exon 19 deletion; 21 L858R, exon 21 L858R mutation; OR, odds ratio; ORR, objective response rate; DCR, disease control rate; PD-1, programmed death-1; PD-L1, programmed death-ligand 1; chemo, chemotherapy.

https://dx.doi.org/10.21037/tlcr-24-884