Supplementary

Appendix 1 The detailed search strategies of each database and detailed statistical methods for the median meta-analysis

Pubmed Search Strategy:

(("Small Cell Lung Carcinoma"[Mesh]) OR ("Small Cell Lung Cancer"[Title/Abstract])) OR ("Oat Cell Lung Cancer"[Title/Abstract])) OR ("Small Cell Cancer Of The Lung"[Title/Abstract])) OR ("Carcinoma, Small Cell Lung"[Title/Abstract])) OR ("Oat Cell Carcinoma of Lung"[Title/Abstract])) AND (("anlotinib" [Supplementary Concept]) OR (AL3818[Title/Abstract]))

Embase Search Strategy:

'Small Cell Lung Carcinoma':ab,ti or 'Small Cell Lung Cancer':ab,ti or 'Oat Cell Lung Cancer':ab,ti or 'Small Cell Cancer Of The Lung':ab,ti or 'Carcinoma, Small Cell Lung':ab,ti or 'Oat Cell Carcinoma of Lung':ab,ti AND 'anlotinib' :ab,ti or 'AL3818':ab,ti

web of science Search Strategy:

(TS=(Small Cell Lung Carcinoma OR Small Cell Lung Cancer OR Oat Cell Lung Cancer OR Sm all Cell Cancer Of The Lung OR Carcinoma, Small Cell Lung OR Oat Cell Carcinoma of Lung))AND(TS=(anlotinib OR AL3818))

Cochrane Library Search Strategy:

((Small Cell Lung Carcinoma) OR (Small Cell Lung Cancer):ab,ti,kw OR (Oat Cell Lung Cancer):ab,ti,kw OR (Small Cell Cancer Of The Lung):ab,ti,kw OR (Carcinoma, Small Cell Lung):ab,ti,kw OR (Oat Cell Carcinoma of Lung):ab,ti,kw) AND ((anlotinib) OR (AL3818:ab,ti,kw))

Detailed statistical methods for the median meta-analysis:

For the transformation of uncontrolled binary data, the conversion formulas are as follows: Method 1: P = X/n, SE（P） = P(1 - P)/n; Method 2:P = ln（odds） = ln[X/(n - X)], SE（P） = SE[ln（odds）] = 1/X + 1/(n - X)。Where: n = total number of enrolled patients; odds = odds; X = number of event-positive cases; P = incidence rate; SE(P) = standard error. Method 1 is applied when n is sufficiently large, P is not close to 0 or 1, and both n ×Pand (n×(1-P) are greater than 5 (under these conditions, the sampling distribution of P approximates a normal distribution). Otherwise, Method 2 is used.

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Table S1 GRADE Quality assessment by therapeutic strategy and study design for the outcomes of survival, and adverse events

Primary outcomes	No. of Studies	No. of participants	Difference (95% CI)	Quality assessment					Quality
				Risk[a] of bias	Inconsistency	Indirectness	Imprecision	Publication bias[b]	
Survival									
OS	6	489	14.99 (13.37–16.62)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
PFS	7	519	7.29 (6.07–8.52)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
ORR (%)	6	270	83.0 (79–88)	Low	No inconsistency	No indirectness	Serious (-1)	Unlikely	Moderate
Grade AEs (%)									
Hypertension	5	244	28.36 (22.97–33.75)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
Fatigue	5	244	27.24 (21.91–32.57)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
Decreased white blood cell counts	4	186	27.20 (21.87–32.53)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
Neutropenia	3	151	23.88 (18.78–28.98)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
Oral mucositis	3	179	16.79 (12.32–21.27)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
Grade ≥3 AEs (%)									
Hypertension	4	454	16.42 (11.99–20.86)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
Fatigue	3	151	16.04 (11.65–20.43)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
Decreased white blood cell counts	3	156	8.58 (5.23–11.93)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
Neutropenia	3	151	5.59 (2.84–8.34)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High
Oral mucositis	2	159	4.10 (1.73–6.47)	Low	No inconsistency	No indirectness	No imprecision	Unlikely	High

[a], Risk of bias assessed using the Newcastle-Ottawa Scale (NOS) for non-randomized studies. [b,] Publication bias was assessed by Egger's and Begg's tests.

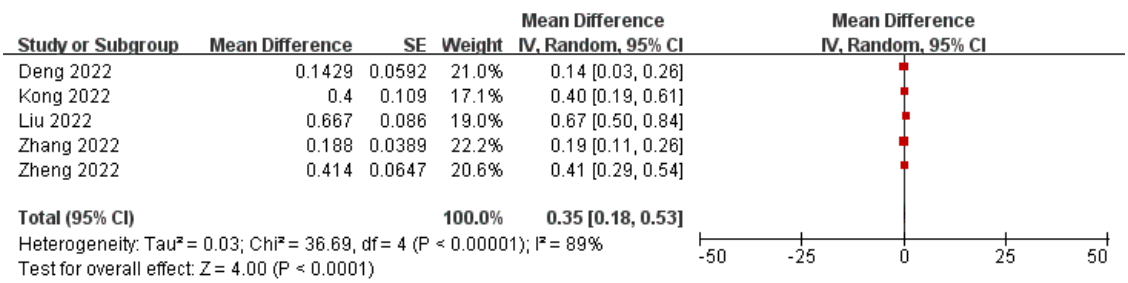

Figure S1 Forest plot of AEs of hypertension.

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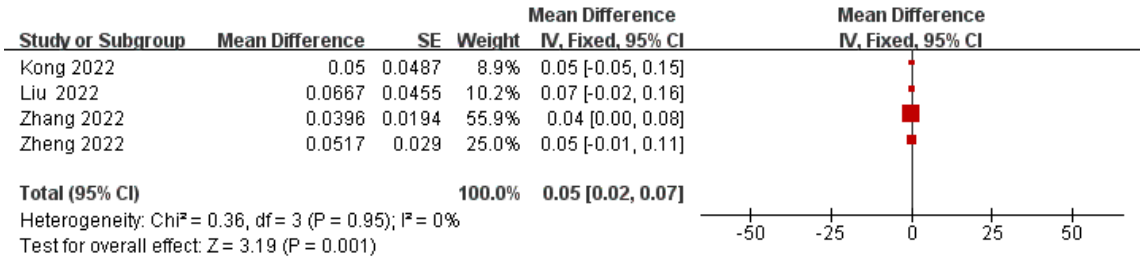

Figure S2 Forest plot of AEs of grade ≥ III hypertension.

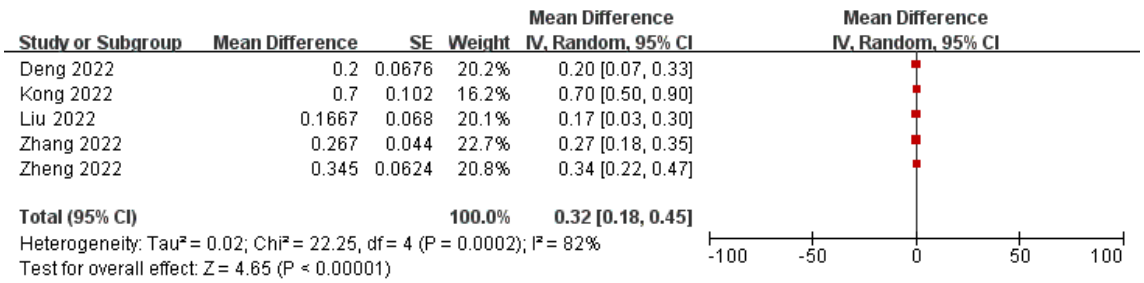

Figure S3 Forest plot of AEs of fatigue.

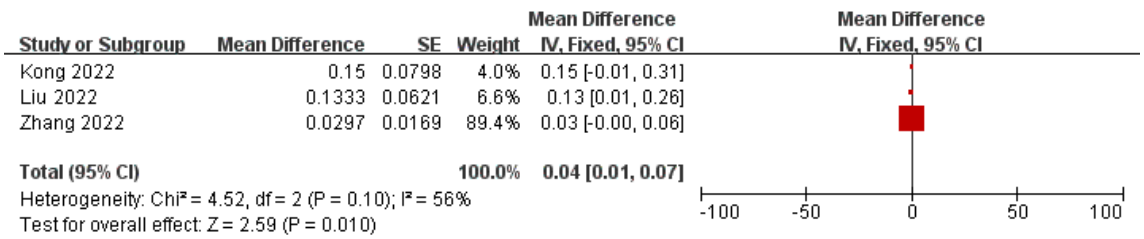

Figure S4 Forest plot of AEs of ≥ III fatigue.

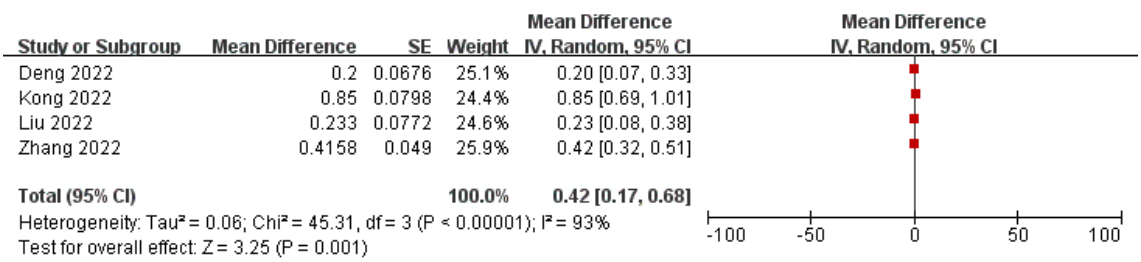

Figure S5 Forest plot of AEs of decreased white blood.

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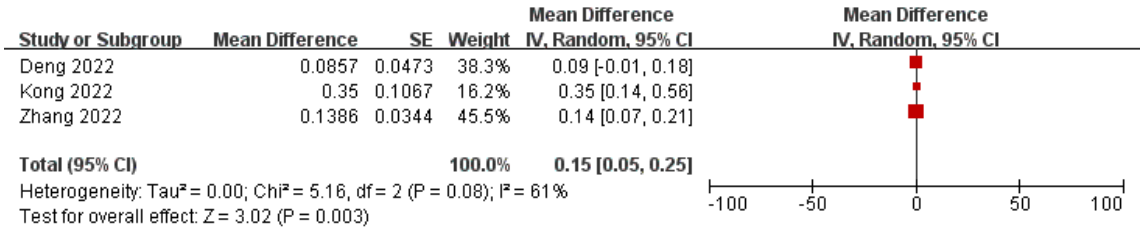

Figure S6 Forest plot of AEs of grade ≥3 decreased white blood.

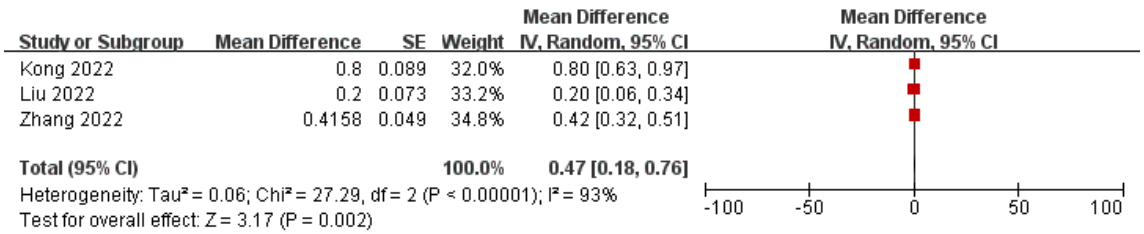

Figure S7 Forest plot of AEs of neutropenia.

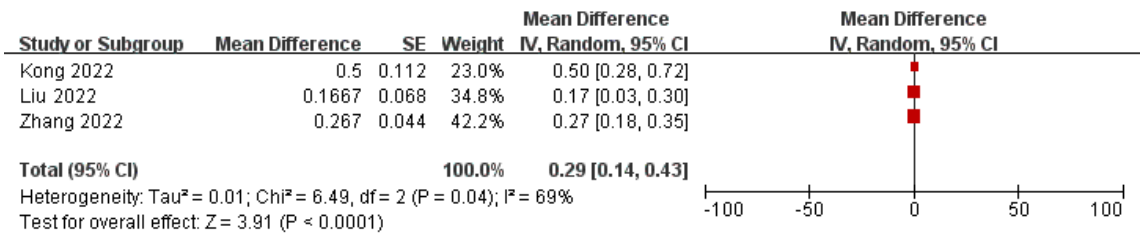

Figure S8 Forest plot of AEs of grade ≥3 neutropenia.

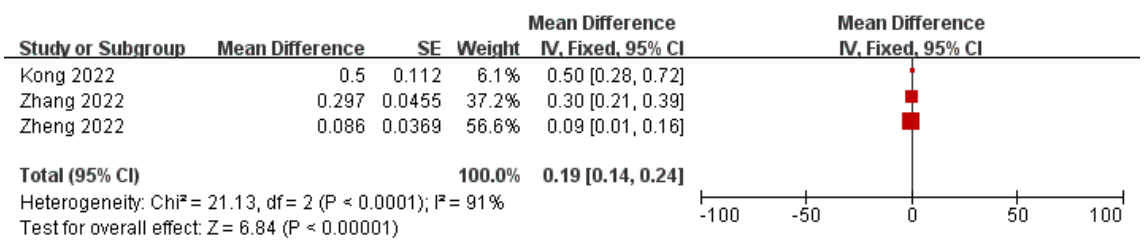

Figure S9 Forest plot of AEs of oral mucositis.

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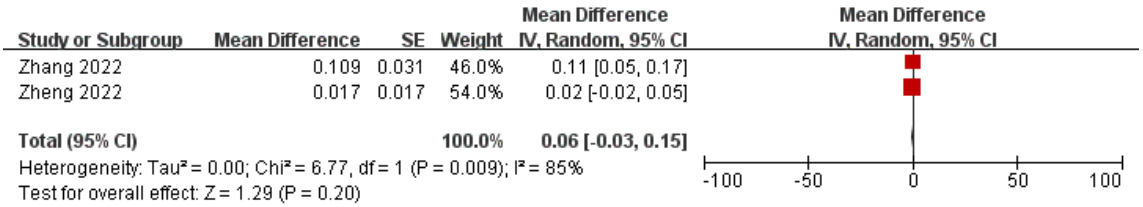

Figure S10 Forest plot of AEs of grade ≥3 oral mucositis.

Table S2 Sensitivity of PFS

Study omitted	Estimate	95% CI
Cheng 2024	7.57	6.24–8.97
Deng 2022	7.51	6.14–8.89
Gao 2023	7.48	6.27–8.70
Kong 2022	6.98	6.02–7.94
Liu 2022	6.82	5.52–8.13
Zhang 2022	7.17	5.70–8.64
Zheng 2022	7.50	6.17–8.82
Combined	7.29	6.07–8.52

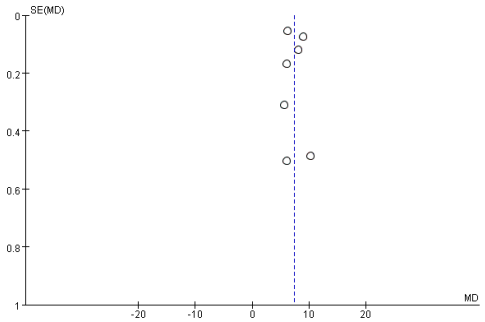

Figure S11 The funnel plot of PFS.

Table S3 Sensitivity of OS

Study omitted	Estimate	95% CI
Cheng 2024	15.36	13.85–16.87
Deng 2022	14.80	12.35–17.25
Kong 2022	14.55	12.55–16.56
Liu 2022	15.19	13.39–16.98
Zhang 2022	14.20	12.49–15.91
Zheng 2022	15.86	14.25–17.47
Combined	14.99	13.37–16.62

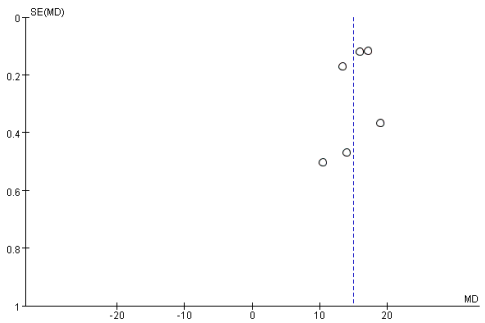

Figure S12 The funnel plot of OS.

Table S4 Sensitivity of ORR

Study omitted	Estimate	95% CI
Deng 2022	0.83	0.78–0.87
Gao 2023	0.84	0.80–0.89
Kong 2022	0.83	0.78–0.87
Liu 2022	0.82	0.77–0.87
Zhang 2022	0.80	0.75–0.86
Zheng 2022	0.86	0.82–0.91
Combined	0.83	0.79–0.88

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