Supplementary Table S1: Risk of bias in the randomized controlled trials based on the Cochrane risk of bias assessment tool

Study ID	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other bias	Assessment of study
Liao 2016	Unclear	Unclear	Unclear	Unclear	Low	Low	Unclear	Unclear
Xu 2015	Unclear	Unclear	Unclear	Unclear	Low	Low	Unclear	Unclear
Shao 2014	High	High	Unclear	Unclear	Low	Unclear	Unclear	High
Wu 2007	Low	Low	Unclear	Unclear	Low	Low	Unclear	Unclear

Supplementary Table S2: Risk of bias in the observational studies based on the modified Newcastle-Ottawa scale

Study ID	Selection			Comparability		Outcome		Quality score
	Assignment for treatment[a]	Representative treatment group	Representative reference group	Comparable for 1,2,3,4[b]	Comparable for 5,6,7,8,9[b]	Assessment of outcomes	follow-up ≥ 36 months	
Wang 2018	—	☆	☆	☆	☆	☆	☆	6
Wu 2018	—	☆	☆	☆	☆	☆	☆	6
Xia 2017	—	☆	☆	☆☆	☆	☆	☆	7
You 2017	—	☆	☆	☆☆	☆	☆	☆	7
You-Rui 2017	—	☆	☆	☆☆	☆	☆	☆	7
Zeng 2016	—	☆	☆	☆☆	—	☆	—	5
Lou 2016	—	☆	☆	☆☆	☆	☆	☆	7
Wu 2016	—	☆	☆	☆☆	☆	☆	☆	7
Li 2016	—	☆	☆	☆☆	☆	☆	☆	7
Wang 2016	☆	☆	☆	☆	—	☆	☆	6
Li 2015	—	☆	☆	☆☆	—	☆	—	5
Yin 2014	—	☆	☆	☆☆	☆	☆	—	6
Tang 2012	☆	☆	☆	☆☆	☆	☆	—	7

Comparability variables: 1 = age, 2 = gender, 3 = performance status score, 4 = disease stage, 5 = T category, 6 = N category, 7 = radiotherapy, 8 = other treatment, 9 = pretreatment plasma Epstein-Barr virus DNA.

[a] Details of criteria for adequate random assignment of patients to treatment were provided.

[b] If all variables were comparable, two stars; if one variable was not comparable, one star; otherwise, no stars.

Supplementary Table S3. Subgroup analyses for comparison 1

Outcomes	N of studies	N of pts in mAb group	N of pts in RT/CRT group	HR/RR (95% CI)	*P*-value[c]	Heterogeneity	
						I^2	*P*-value[c]
Cetuximab subgroup							
OS	4	271	362	0.58 (0.39-0.84)[a]	**0.004**	1%	0.39
DFS	3	207	288	0.70 (0.51-0.96)[a]	**0.03**	0%	0.54
skin rash	3	241	913	7.28 (2.17-24.43)[b]	**0.001**	84%	**0.002**
mucositis	4	277	955	2.31 (1.04-5.15)[b]	**0.04**	94%	**< 0.001**
Nimotuzumab subgroup							
OS	6	277	412	0.50 (0.33-0.74)[a]	**< 0.001**	0%	0.58
DFS	4	225	221	0.65 (0.41-1.03)[a]	0.06	22%	0.28
skin rash	2	117	719	1.19 (0.51-2.78)[b]	0.68	0%	0.42
mucositis	4	288	886	1.25 (0.81-1.94)[b]	0.31	58%	**0.07**

Abbreviations: N = number; pts = patients; mAb = monoclonal antibody; RT = radiotherapy; CRT = chemoradiotherapy; HR = hazard ratio; RR = risk ratio; CI = confidence interval; OS = overall survival; DFS = disease-free survival.

[a] Hazard ratio.

[b] Risk ratio.

[c] Statistically significant results are shown in bold.

Supplementary Table S4. Subgroup analyses for comparison 2

Outcomes	N of studies	N of pts in mAb group	N of pts in CCRT group	HR/RR (95% CI)	*P*-value[c]	Heterogeneity	
						I^2	*P*-value[c]
Cetuximab subgroup							
OS	2	77	79	0.82 (0.34-1.99)[a]	0.67	0%	0.68
DFS	2	77	79	0.89 (0.46-1.71)[a]	0.72	0%	0.61
skin rash	3	135	651	11.13 (6.16-20.10)[b]	**< 0.001**	0%	0.96
mucositis	3	135	651	1.62 (1.33-1.98)[b]	**< 0.001**	0%	0.76
Nimotuzumab subgroup							
OS	2	80	84	2.49 (1.18-5.24)[a]	**0.02**	0%	0.83
DFS	2	80	84	2.11 (1.13-3.94)[a]	**0.02**	0%	0.77
skin rash	3	165	656	1.32 (0.22-8.06)[b]	0.76	64%	**0.06**
mucositis	3	165	656	0.92 (0.72 -1.18)[b]	0.50	37%	0.20

Abbreviations: N = number; pts = patients; mAb = monoclonal antibody; CCRT = concurrent chemoradiotherapy; HR = hazard ratio; RR = risk ratio; CI = confidence interval; OS = overall survival; DFS = disease-free survival.

[a] Hazard ratio.

[b] Risk ratio.

[c] Statistically significant results are shown in bold.

Supplementary Table S5. Sensitivity analyses for comparison 1

Outcomes	N of studies	N of pts in mAb group	N of pts in RT/CRT group	HR (95% CI)	*P*-value[a]	Heterogeneity	
						I^2	*P*-value[a]
Studies using CRT							
OS	9	623	1350	0.50 (0.38-0.66)	**< 0.001**	0%	0.54
DFS	6	507	1085	0.71 (0.54-0.92)	**0.01**	8%	0.36
Studies with follow-up time ≥ 36 months							
OS	5	442	1162	0.48 (0.33-0.69)	**< 0.001**	0%	0.42
DFS	4	420	1001	0.73 (0.55-0.98)	**0.03**	0%	0.58
High-quality observational studies							
OS	7	573	1358	0.48 (0.34-0.66)	**< 0.001**	1%	0.42
DFS	6	551	1197	0.66 (0.52-0.84)	**< 0.001**	11%	0.34

Abbreviations: N = number; pts = patients; mAb = monoclonal antibody; RT = radiotherapy; CRT = chemoradiotherapy; HR = hazard ratio; CI = confidence interval; OS = overall survival; DFS = disease-free survival.

[a] Statistically significant results are shown in bold.

Supplementary Table S6. Sensitivity analyses for comparison 2

Outcomes	N of studies	N of pts in mAb group	N of pts in CCRT group	HR (95% CI)	*P*-value	Heterogeneity	
						I^2	*P*-value
Studies using IC before RT							
OS	4	157	163	1.57 (0.89-2.77)	0.12	20%	0.29
DFS	4	157	163	1.40 (0.89-2.20)	0.15	22%	0.28
Studies with follow-up time ≥ 36 months							
OS	5	300	735	1.22 (0.82-1.83)	0.33	24%	0.26
DFS	5	300	735	1.10 (0.79-1.52)	0.58	35%	0.19
High-quality observational studies							
OS	4	319	816	1.15 (0.79-1.67)	0.48	29%	0.24
DFS	4	319	816	1.17 (0.85-1.60)	0.34	48%	0.12

Abbreviations: N = number; pts = patients; mAb = monoclonal antibody; CCRT = concurrent chemoradiotherapy; HR = hazard ratio; CI = confidence interval; OS = overall survival; DFS = disease-free survival.