

Table S1 Search strategies of this study in different databases

Search step	Search terms
PubMed	
#1	breast neoplasms: ("breast neoplasms"[MeSH Terms] OR ("breast"[All Fields] AND "neoplasms"[All Fields]) OR "breast neoplasms"[All Fields])
#2	neoadjuvant therapy: ("neoadjuvant therapy"[MeSH Terms] OR ("neoadjuvant"[All Fields] AND "therapy"[All Fields]) OR "neoadjuvant therapy"[All Fields])
#3	Receptor, ErbB-2/ therapeutic use: (("receptor, erbb 2"[MeSH Terms] OR ("receptor"[All Fields] AND "erbb 2"[All Fields]) OR "erbb-2 receptor"[All Fields] OR "receptor erbb 2"[All Fields]) AND ("therapeutic use"[MeSH Subheading] OR "therapeutic"[All Fields] OR "therapeutic use"[All Fields] OR "therapeutic uses"[MeSH Terms] OR ("therapeutic"[All Fields] AND "uses"[All Fields]) OR "therapeutic uses"[All Fields] OR "therapeutic"[All Fields]))
#4	anthracycline: ("anthracyclin"[All Fields] OR "anthracyclines"[MeSH Terms] OR "anthracyclines"[All Fields] OR "anthracycline"[All Fields] OR "anthracyclins"[All Fields])
#5	#1 AND #2 AND #3 AND #4
Medline	
#1	breast neoplasms.af.
#2	neoadjuvant therapy.af.trastuzumab.af.
#3	Receptor, ErbB-2.af.
#4	anthracyclines.af.
#5	#1 AND #2 AND #3 AND #4
Embase	
#1	('human epidermal growth factor receptor 2 positive breast cancer'/exp OR 'human epidermal growth factor receptor 2 positive breast cancer')
#2	('neoadjuvant therapy'/exp OR 'neoadjuvant therapy')
#3	('anthracycline'/exp OR anthracycline)
#4	#1 AND #2 AND #3
Cochrane Library	
#1	"HER2-positive breast cancer" in All Text
#2	"neoadjuvant therapy" in All Text
#3	"anthracycline" in All Text
#4	#1 AND #2 AND #3

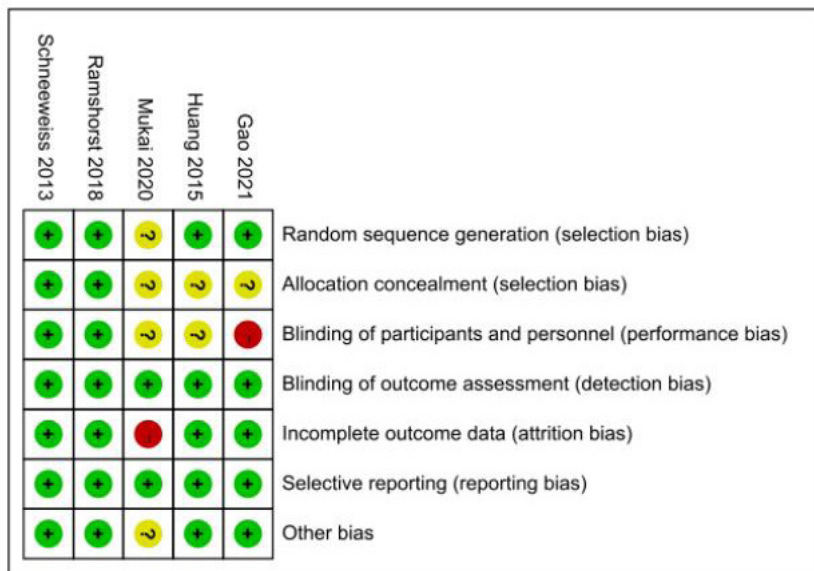
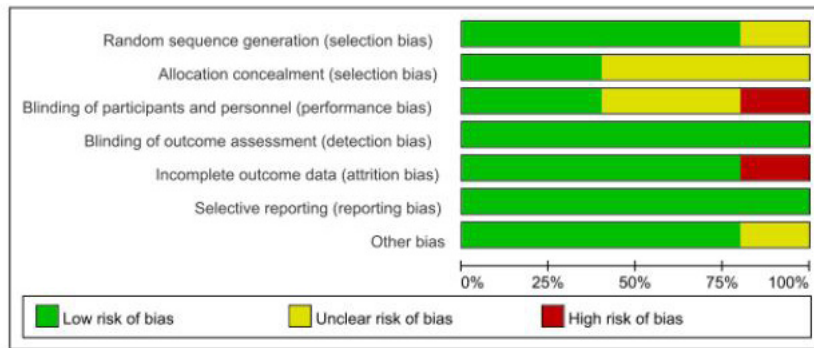


Figure S1 Risk of bias for the selected randomized controlled trials (RCTs).

Table S2 Newcastle-Ottawa scale for assessment of quality of included studies

Study, year (reference)	Selection			Demonstration that outcome of interest was not present at start of study (maximum:*)	Comparability of cohorts on the basis of the design or analysis (maximum:**)	Outcome			Quality score
	Representativeness of the exposed cohort (maximum:*)	Selection of the non-exposed cohort (maximum:*)	Ascertainment of exposure (maximum:*)			Assessment of outcome (maximum:*)	Was follow up long enough for outcomes to occur (maximum:*)	Adequacy of follow up of cohorts (maximum:*)	
Horiguchi 2011 (23)	*	*	*	*	**	*	*	*	8
He 2022 (19)	*	*	*	*	**	*	*	*	9
Fujita 2022 (21)	*	*	*	*	*	*	*	*	8
Ueno 2020 (27)	*	*	*	*	**	*	*	*	9
Bayraktar 2012 (20)	*	*	*	*	*	*	*	*	7
Watanuki 2019 (28)	*	*	*	*	*	*	*	*	7

, The asterisk () denotes the fulfillment of each criterion according to the Newcastle-Ottawa scale. * score as 1; ** score as 2.

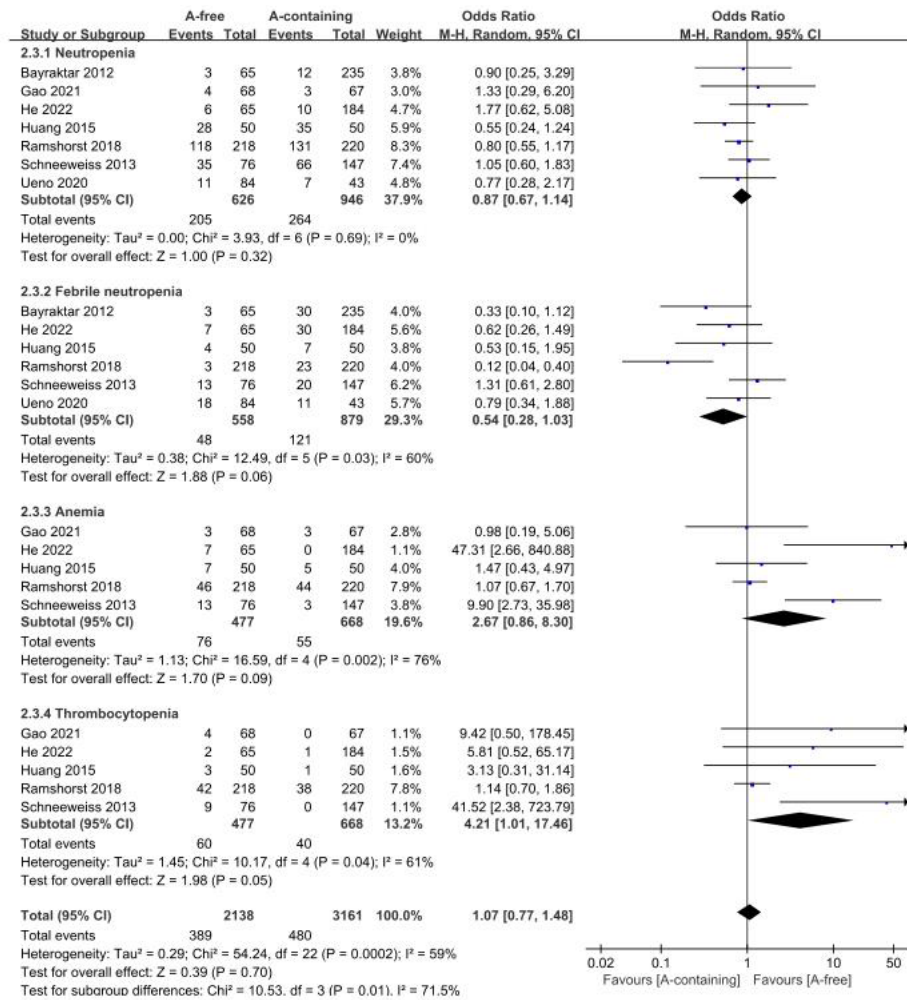


Figure S2 Forest plot showing the pooled odds ratios of the rate of hematological adverse events during neoadjuvant treatment.

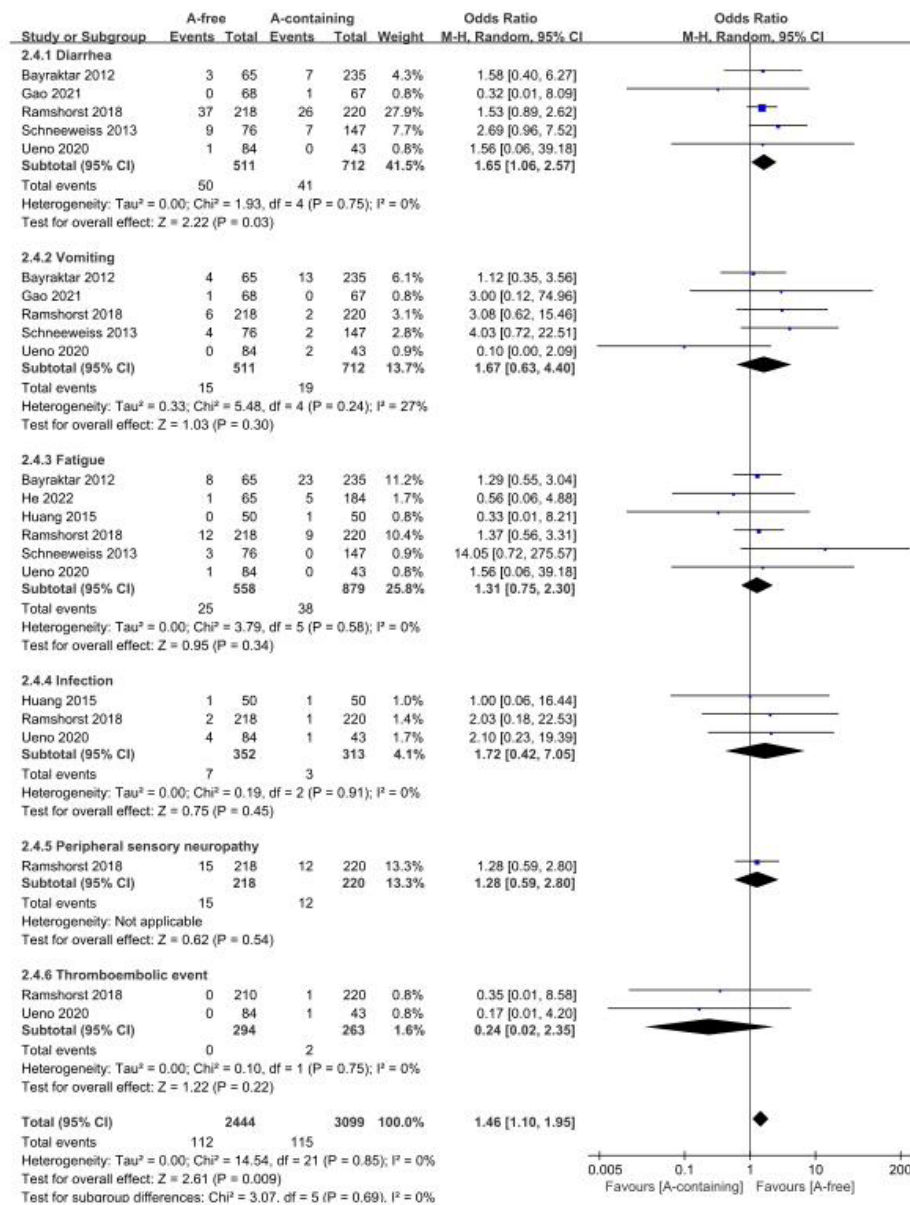


Figure S3 Forest plot showing the pooled odds ratios of the rate of other adverse events during neoadjuvant treatment.

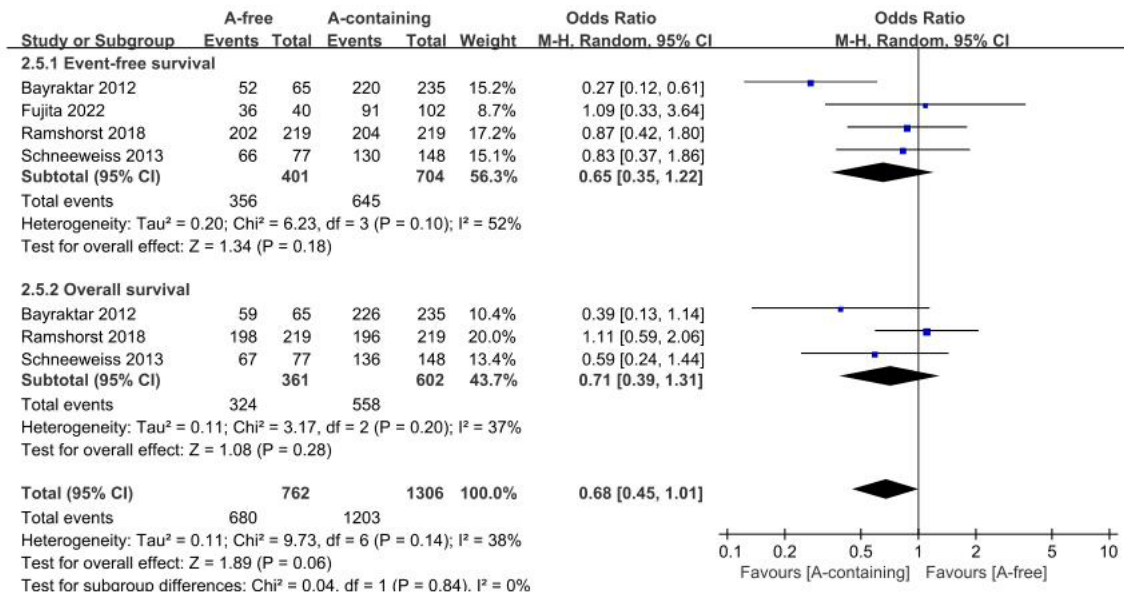


Figure S4 Forest plot showing the pooled odds ratios of event-free survival (EFS) and overall survival (OS).

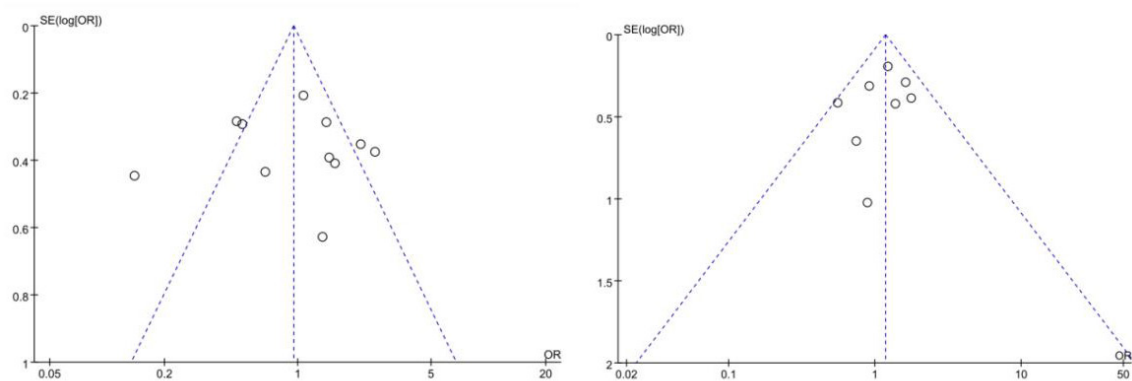


Figure S5 Funnel plot to assess the publication bias of the included studies in group of pathologic complete response (pCR) and breast-conserving surgery (BCS).