

Table S1 The search strategy in detail

Database	Search Strategy	Results
Pubmed	((“Liver Neoplasms”[Title/Abstract]) OR (“Neoplasms, Hepatic”[Title/Abstract]) OR (“Neoplasms, Liver”[Title/Abstract]) OR (“Liver Neoplasm”[Title/Abstract]) OR (“Neoplasm, Liver”[Title/Abstract]) OR (“Hepatic Neoplasms”[Title/Abstract]) OR (“Hepatic Neoplasm”[Title/Abstract]) OR (“Neoplasm, Hepatic”[Title/Abstract]) OR (“Cancer of Liver”[Title/Abstract]) OR (“Hepatocellular Cancer”[Title/Abstract]) OR (“Hepatocellular Carcinoma”[Title/Abstract]) OR (“HCC”[Title/Abstract]) OR (“Cancers, Hepatocellular”[Title/Abstract]) OR (“Hepatocellular Cancers”[Title/Abstract]) OR (“Hepatic Cancer”[Title/Abstract]) OR (“Cancer, Hepatic”[Title/Abstract]) OR (“Cancers, Hepatic”[Title/Abstract]) OR (“Hepatic Cancers”[Title/Abstract]) OR (“Liver Cancer”[Title/Abstract]) OR (“Cancer, Liver”[Title/Abstract]) OR (“Cancers, Liver”[Title/Abstract]) OR (“Liver Cancers”[Title/Abstract]) OR (“Cancer of the Liver”[Title/Abstract]) OR (“Cancer, Hepatocellular”[Title/Abstract])) AND ((“balloon-occluded transcatheter arterial chemoembolization”[Title/Abstract]) OR (“B-TACE”[Title/Abstract]) OR (“balloon-occluded”[Title/Abstract]) OR (“balloon occluded”[Title/Abstract]))	132
Web of science	(TS=(“Liver Neoplasms”) OR TS=(“Neoplasms, Hepatic”) OR TS=(“Neoplasms, Liver”) OR TS=(“Liver Neoplasm”) OR TS=(“Neoplasm, Liver”) OR TS=(“Hepatic Neoplasms”) OR TS=(“Hepatic Neoplasm”) OR TS=(“Neoplasm, Hepatic”) OR TS=(“Cancer of Liver”) OR TS=(“Hepatocellular Cancer”) OR TS=(“Hepatocellular Carcinoma”) OR TS=(“HCC”) OR TS=(“Cancers, Hepatocellular”) OR TS=(“Hepatocellular Cancers”) OR TS=(“Hepatic Cancer”) OR TS=(“Cancer, Hepatic”) OR TS=(“Cancers, Hepatic”) OR TS=(“Hepatic Cancers”) OR TS=(“Liver Cancer”) OR TS=(“Cancer, Liver”) OR TS=(“Cancers, Liver”) OR TS=(“Liver Cancers”) OR TS=(“Cancer of the Liver”) OR TS=(“Cancer, Hepatocellular”) AND (TS=(“balloon-occluded Transcatheter arterial chemoembolization”) OR TS=(“balloon-occluded”) OR TS=(“balloon occluded”) OR TS=(“B-TACE”))	193
Cochrane Library	(“Liver Neoplasms” OR “Neoplasms Hepatic” OR “Neoplasms, Liver” OR “Liver Neoplasm” OR “Neoplasm, Liver” OR “Hepatic Neoplasms” OR “Hepatic Neoplasm” OR “Neoplasm, Hepatic” OR “Cancer of Liver” OR “Hepatocellular, Cancer” OR “Hepatocellular Carcinoma” OR “HCC” OR “Cancers, Hepatocellular” OR “Hepatocellular Cancers” OR “Hepatic Cancer” OR “Cancer, Hepatic” OR “Cancers, Hepatic” OR “Hepatic Cancers” OR “Liver Cancer” OR “Cancer, Liver” OR “Cancers, Liver” OR “Liver Cancers” OR “Cancer of the Liver” OR “Cancer, Hepatocellular”) in Title Abstract Keyword AND (“balloon-occluded Transcatheter arterial chemoembolization” OR “B-TACE” OR “balloon-occluded” OR “balloon occluded”) in Title Abstract Keyword	11
Embase	('liver neoplasms':ab,ti OR 'neoplasms hepatic':ab,ti OR 'neoplasms, liver':ab,ti OR 'liver neoplasm':ab,ti OR 'neoplasm, liver':ab,ti OR 'hepatic neoplasms':ab,ti OR 'hepatic neoplasm':ab,ti OR 'neoplasm, hepatic':ab,ti OR 'cancer of liver':ab,ti OR 'hepatocellular, cancer':ab,ti OR 'hepatocellular carcinoma':ab,ti OR hcc:ab,ti OR 'cancers, hepatocellular':ab,ti OR 'hepatocellular cancers':ab,ti OR 'hepatic cancer':ab,ti OR 'cancer, hepatic':ab,ti OR 'cancers, hepatic':ab,ti OR 'hepatic cancers':ab,ti OR 'liver cancer':ab,ti OR 'cancer, liver':ab,ti OR 'cancers, liver':ab,ti OR 'liver cancers':ab,ti OR 'cancer of the liver':ab,ti OR 'cancer, hepatocellular':ab,ti) AND ('balloon-occluded transcatheter arterial chemoembolization':ab,ti OR “b-tace”:ab,ti OR “balloon-occluded”:ab,ti OR “balloon occluded”:ab,ti)	240
CNKI	SU=(肝癌+肝细胞癌+肝恶性肿瘤) * ('B-TACE' +球囊阻塞+球囊封堵)	2
Wanfang	题名或关键词:(肝癌 OR 肝细胞癌 OR 肝恶性肿瘤 OR HCC) and 题名或关键词:(B-TACE OR 球囊阻塞 OR 球囊封堵)	16

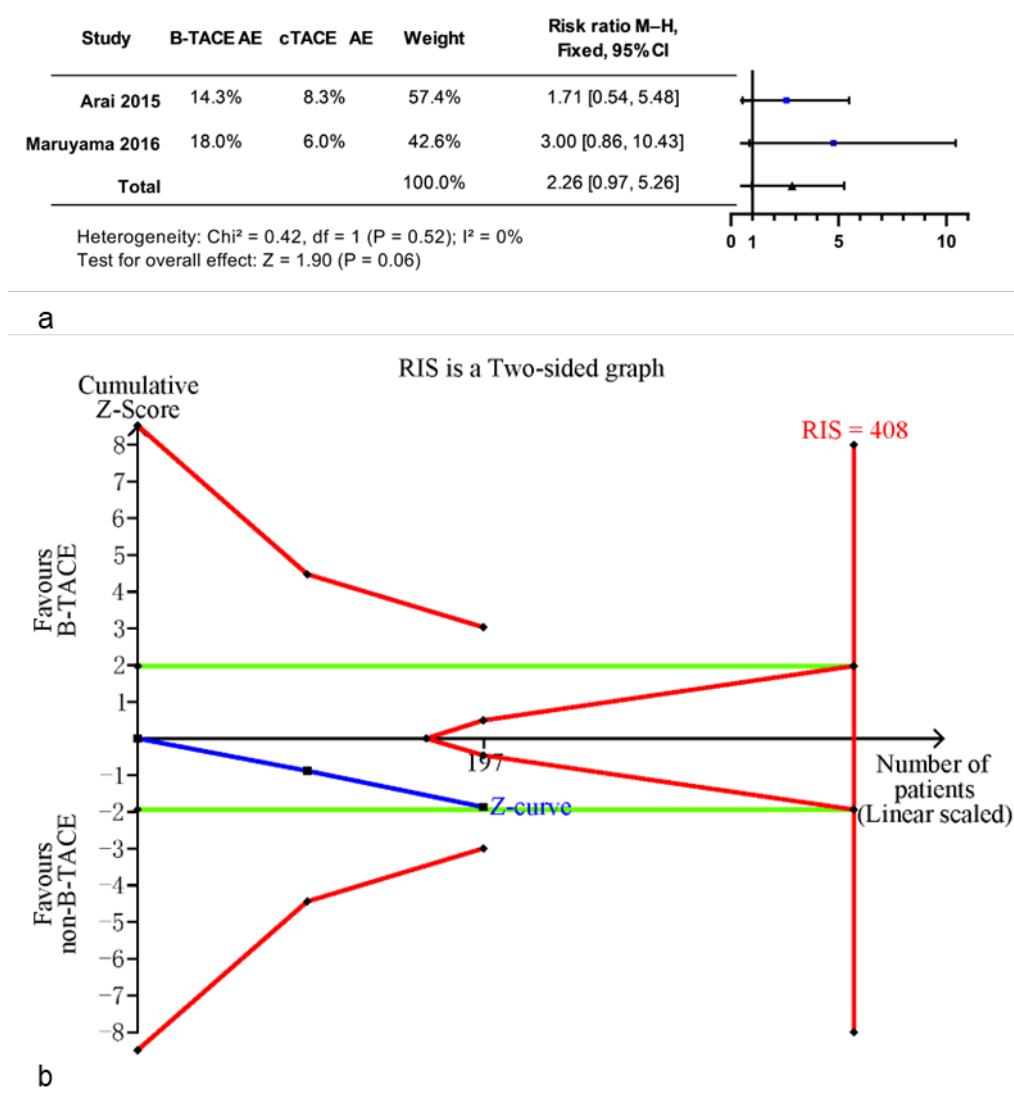


Fig. S1 a Comparison of the incidence of AEs $\geq$ grade 3. **b** TSA of the incidence of AEs $\geq$ grade 3. We performed a TSA to compare the incidence of AEs $\geq$ grade 3 between the B-TACE and cTACE groups. The red region on the right side of the horizontal axis indicates the area of futility. The red lines on the left represent the trial sequential boundaries for benefit or harm, whereas the flat green lines denote the conventional boundaries for benefit or harm. A RIS of 408 patients was determined by using an event proportion of 7.0% in the control arm

B-TACE Balloon-occluded TACE, cTACE conventional TACE, AE Adverse event, CI confidence interval, RIS required information size

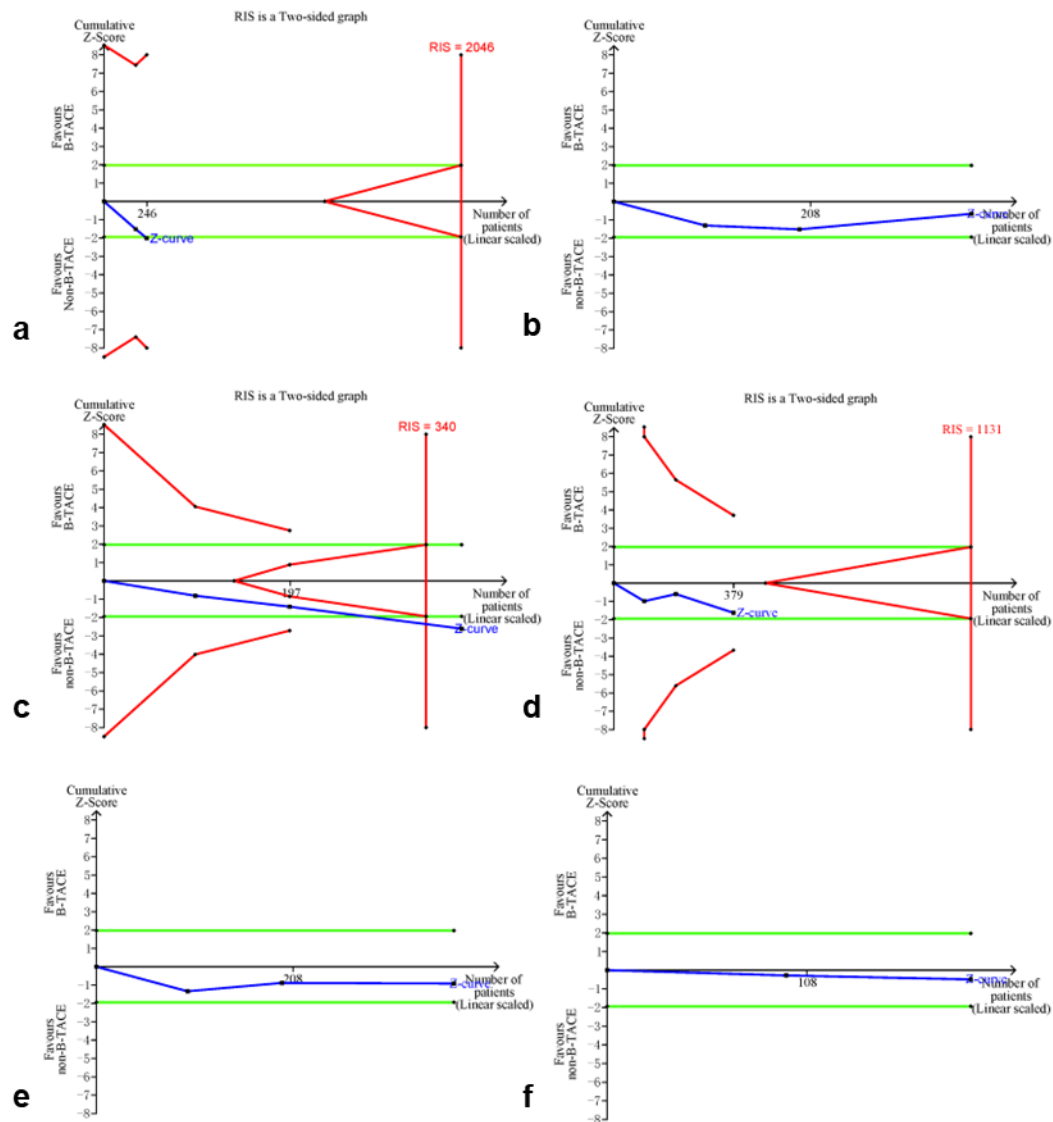


Fig. S2 The TSA of the studies compared the incidence of AEs (any grade) between the B-TACE and cTACE groups. The red region on the right side of the horizontal axis indicates the area of futility. The red lines on the left represent the trial sequential boundaries for benefit or harm, whereas the flat green lines denote the conventional boundaries for benefit or harm. **a** TSA of post-embolization syndrome. A RIS of 2,046 patients were calculated using an event proportion of 16.0% in the control arm. **b** TSA of fever. The boundary TSA was ignored because of too little information use. **c** TSA of nausea or vomiting. A RIS of 340 patients were calculated using an event proportion of 12.0% in the control arm. **d** TSA of abdominal pain. A RIS of 1,131 patients were calculated using an event proportion of 17.0% in the control arm. **e** TSA of elevation of ALT. The boundary TSA was ignored because of too little information use. **f** TSA of elevation of total-bilirubin. The boundary TSA was ignored because of too little information use

RIS required information size