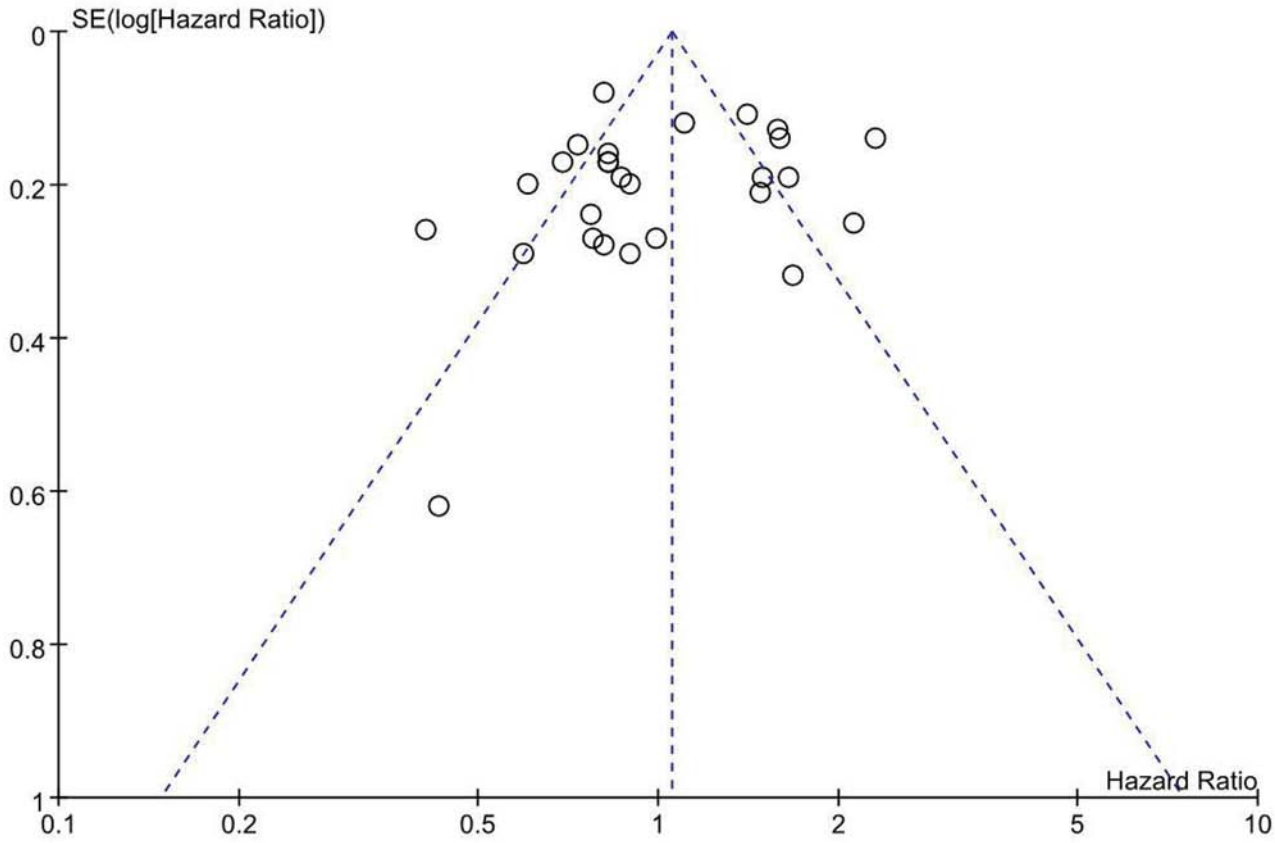
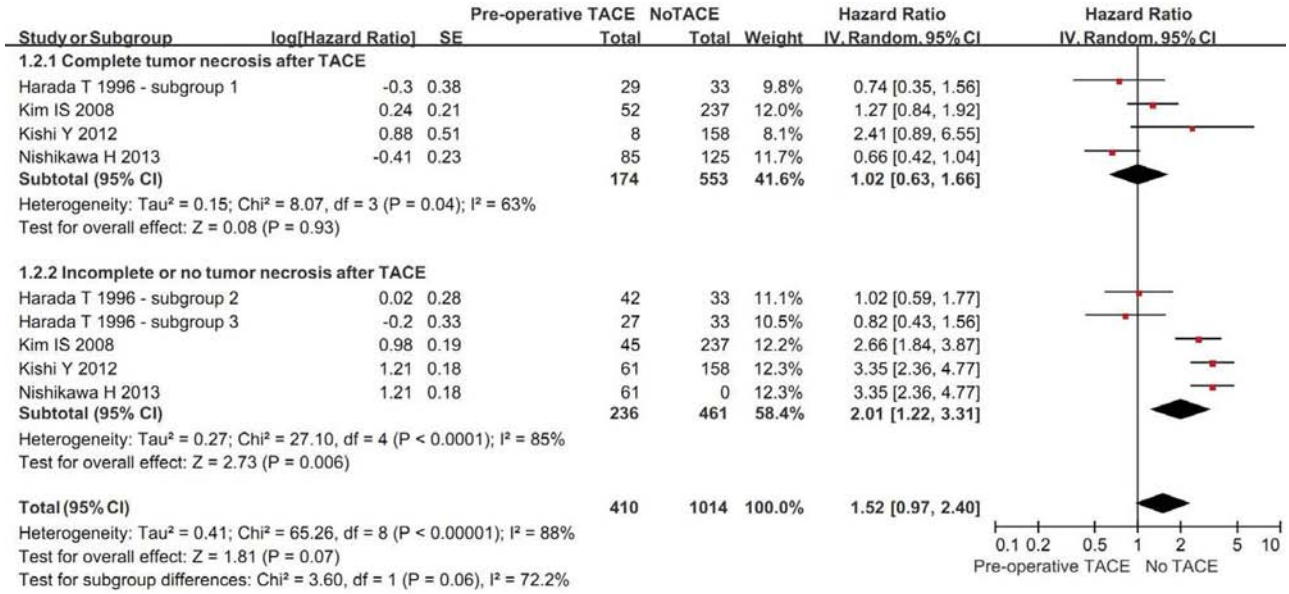
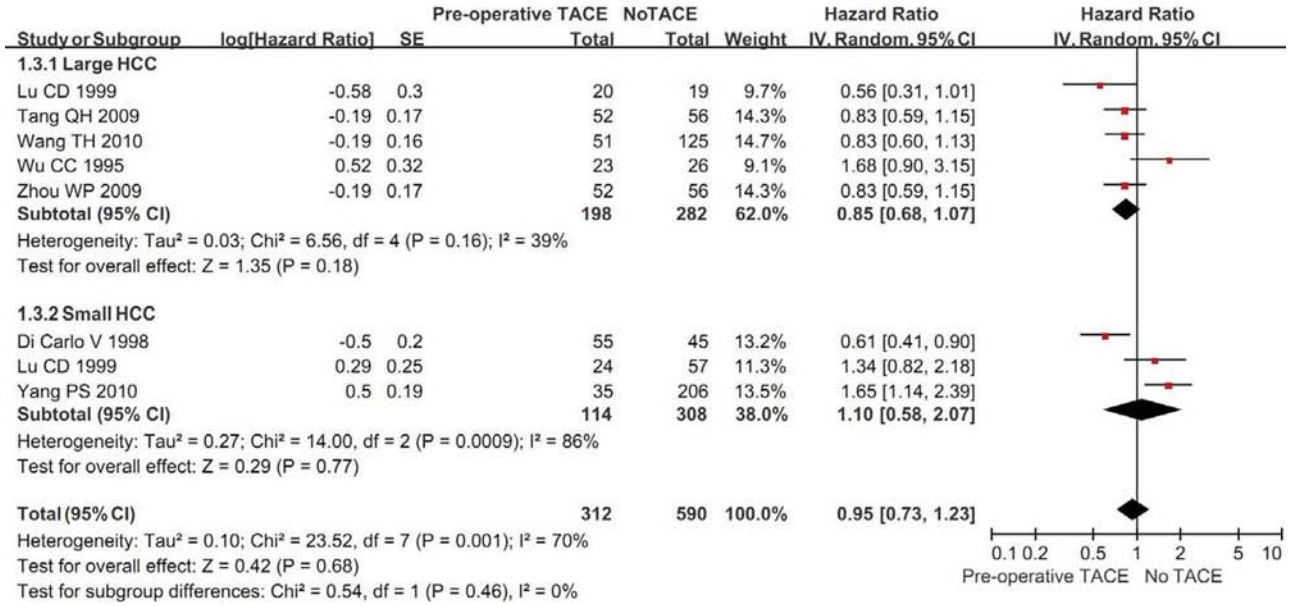
SUPPLEMENTARY FIGURES AND TABLES



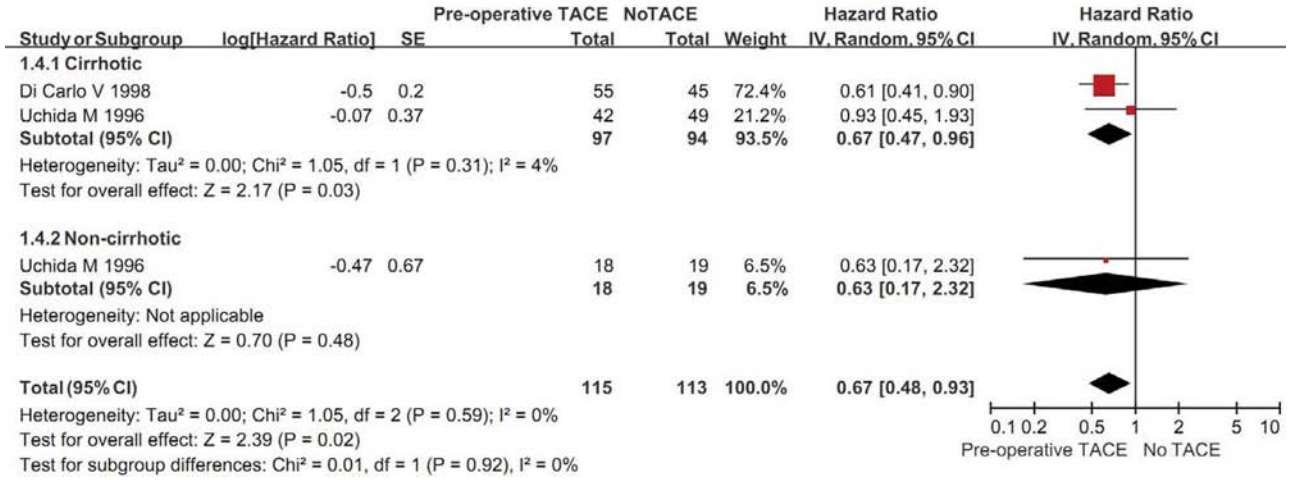
Supplementary Figure S1: Funnel plot regarding the comparison of overall survival between hepatic resection with and without pre-operative TACE groups.



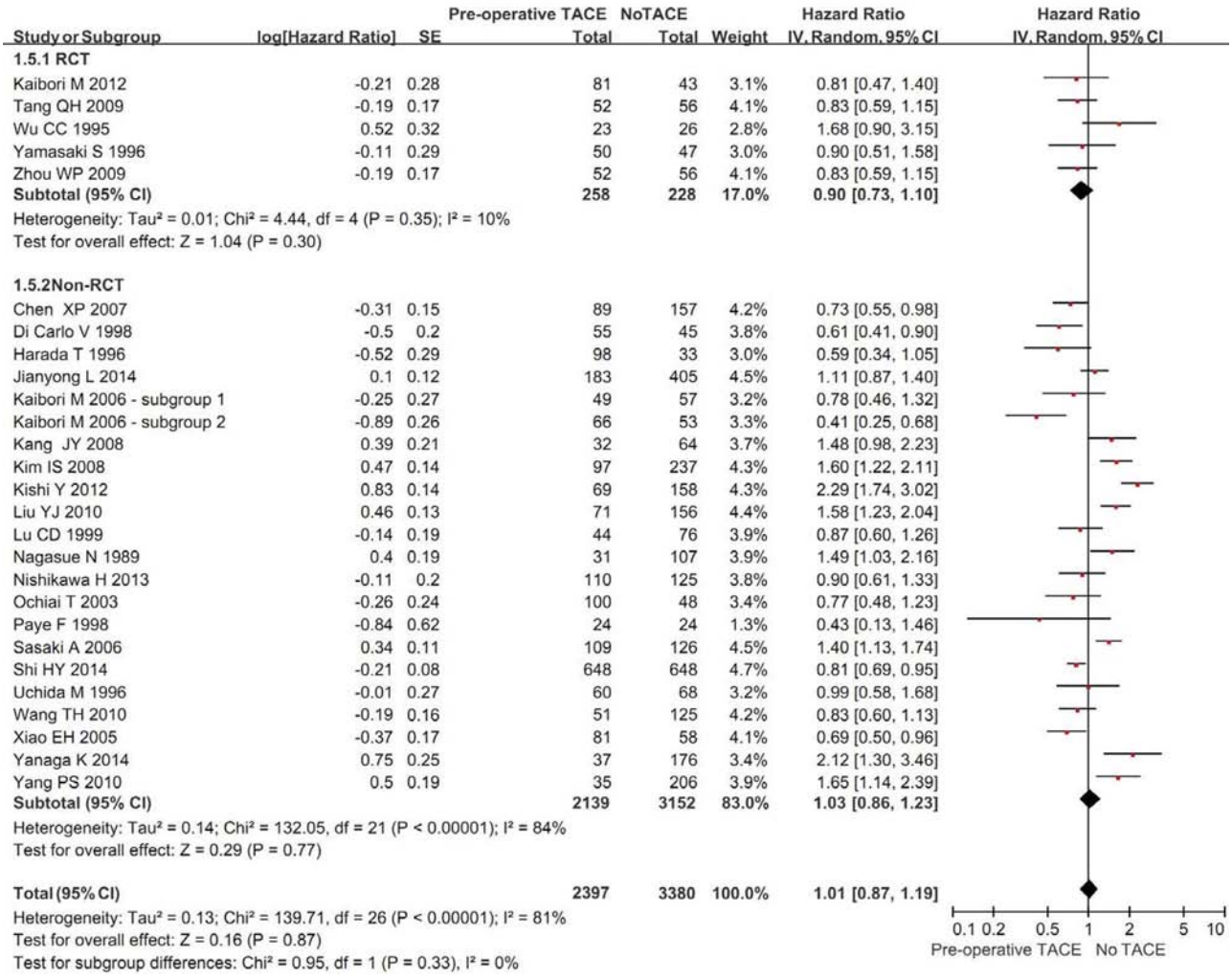
Supplementary Figure S2: Subgroup meta-analysis comparing the overall survival between hepatic resection with and without pre-operative TACE groups according to the tumor necrosis.



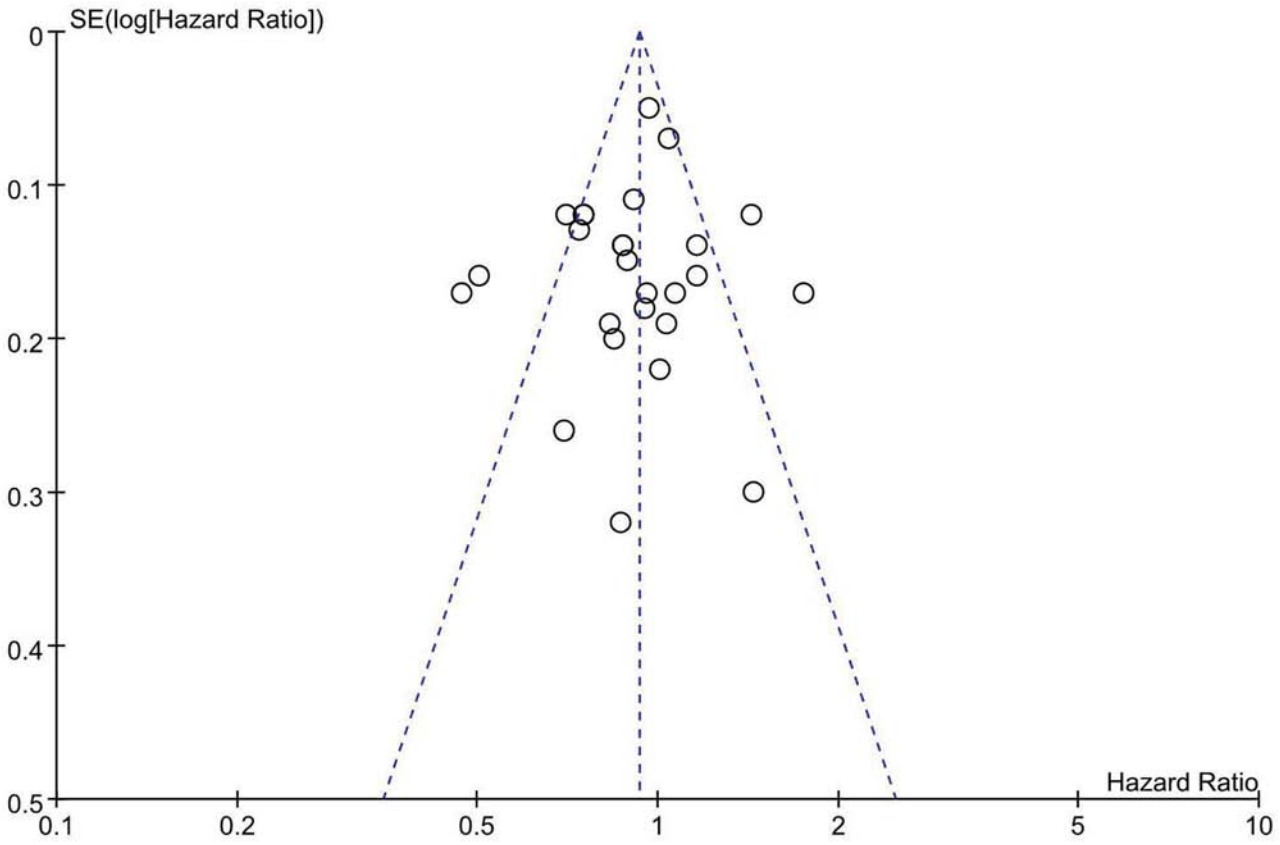
Supplementary Figure S3: Subgroup meta-analysis comparing the overall survival between hepatic resection with and without pre-operative TACE groups according to the tumor size.



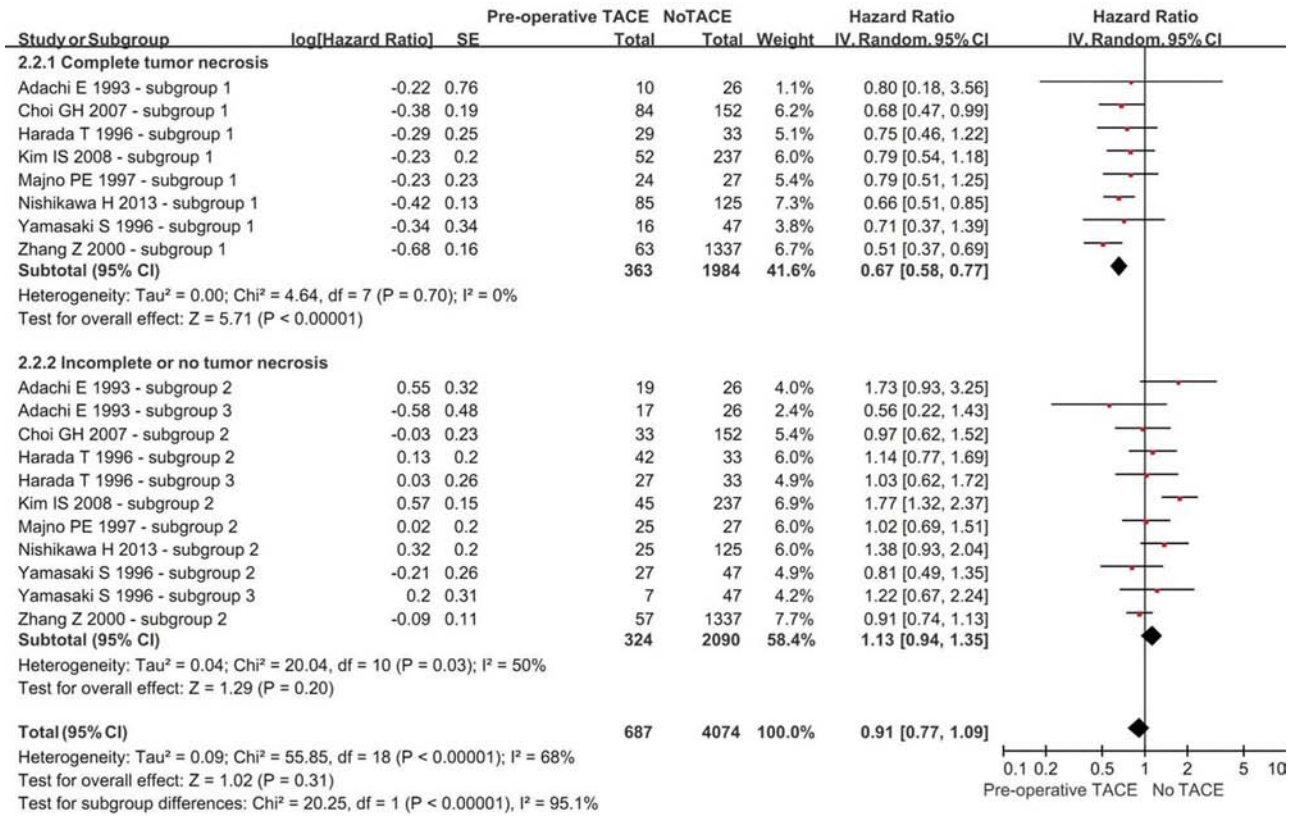
Supplementary Figure S4: Subgroup meta-analysis comparing the overall survival between hepatic resection with and without pre-operative TACE groups according to the presence of liver cirrhosis.



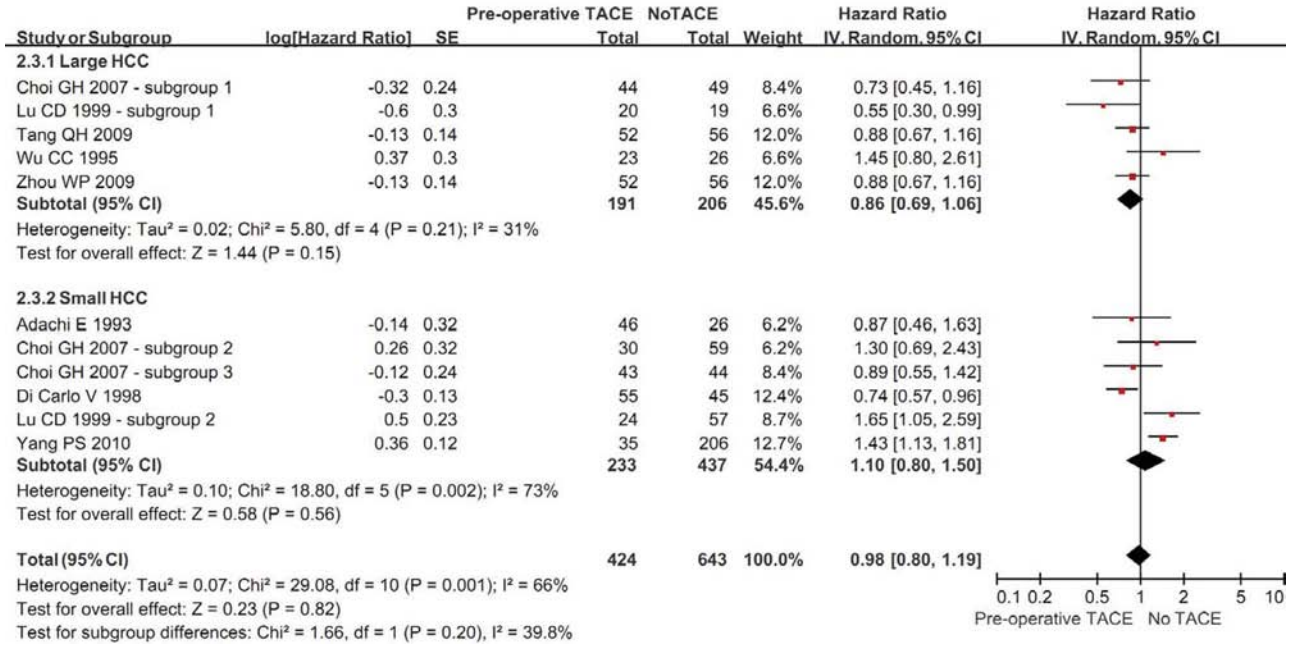
Supplementary Figure S5: Subgroup meta-analysis comparing the overall survival between hepatic resection with and without pre-operative TACE groups according to the study design.



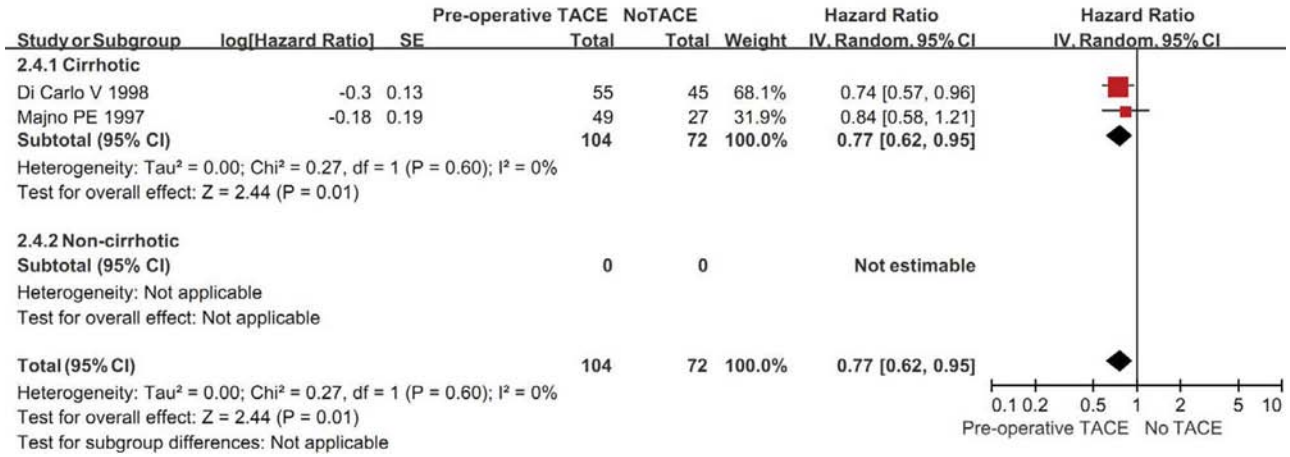
Supplementary Figure S6: Funnel plot regarding the comparison of disease-free survival between hepatic resection with and without pre-operative TACE groups.



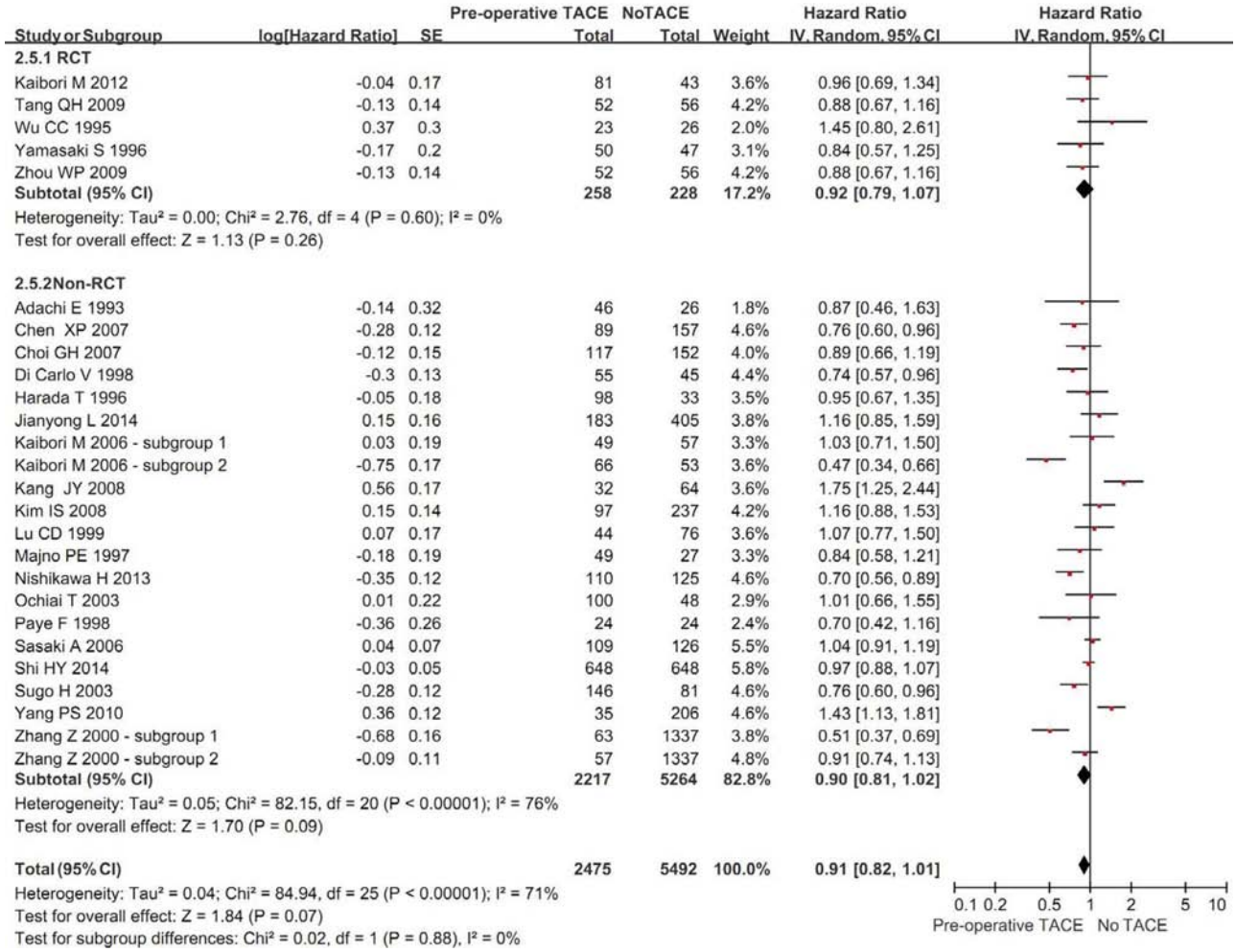
Supplementary Figure S7: Subgroup meta-analysis comparing the disease-free survival between hepatic resection with and without pre-operative TACE groups according to the tumor necrosis.



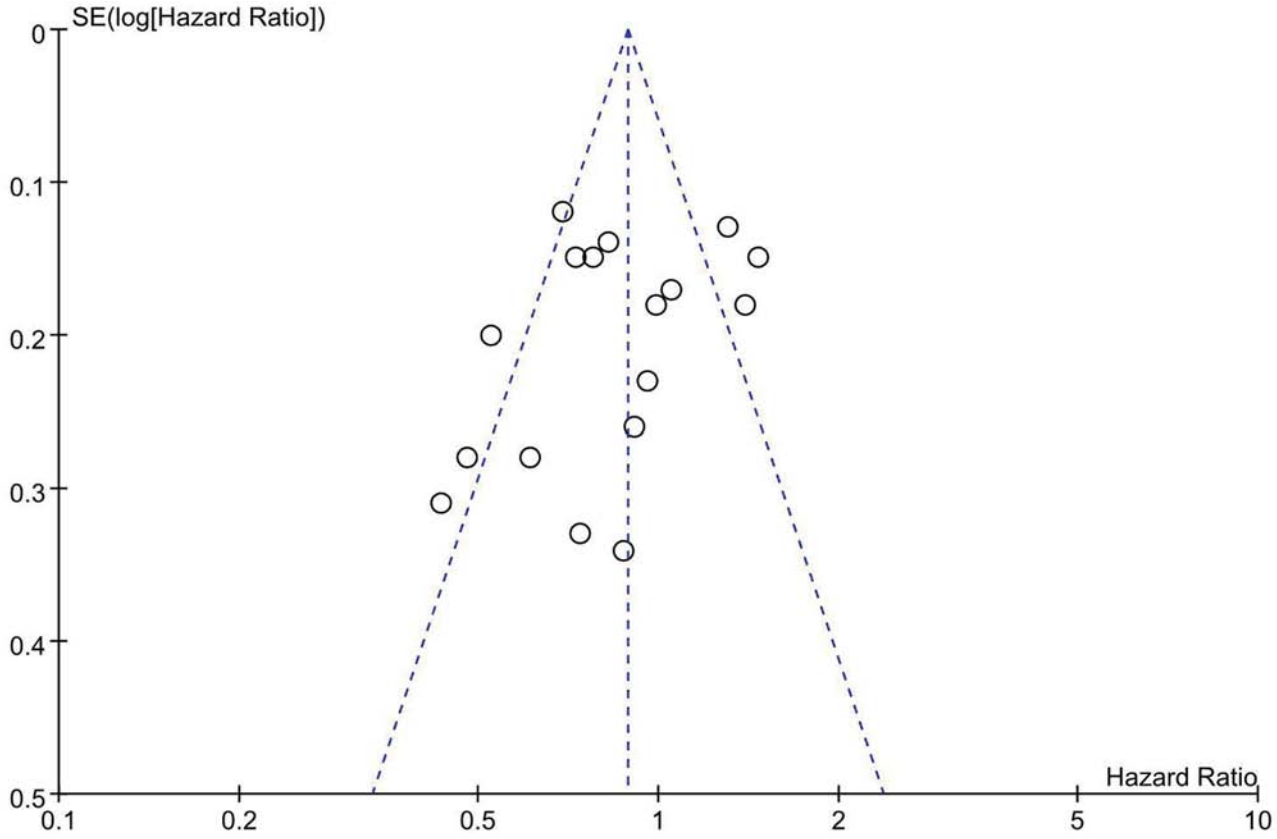
Supplementary Figure S8: Subgroup meta-analysis comparing the disease-free survival between hepatic resection with and without pre-operative TACE groups according to the tumor size.



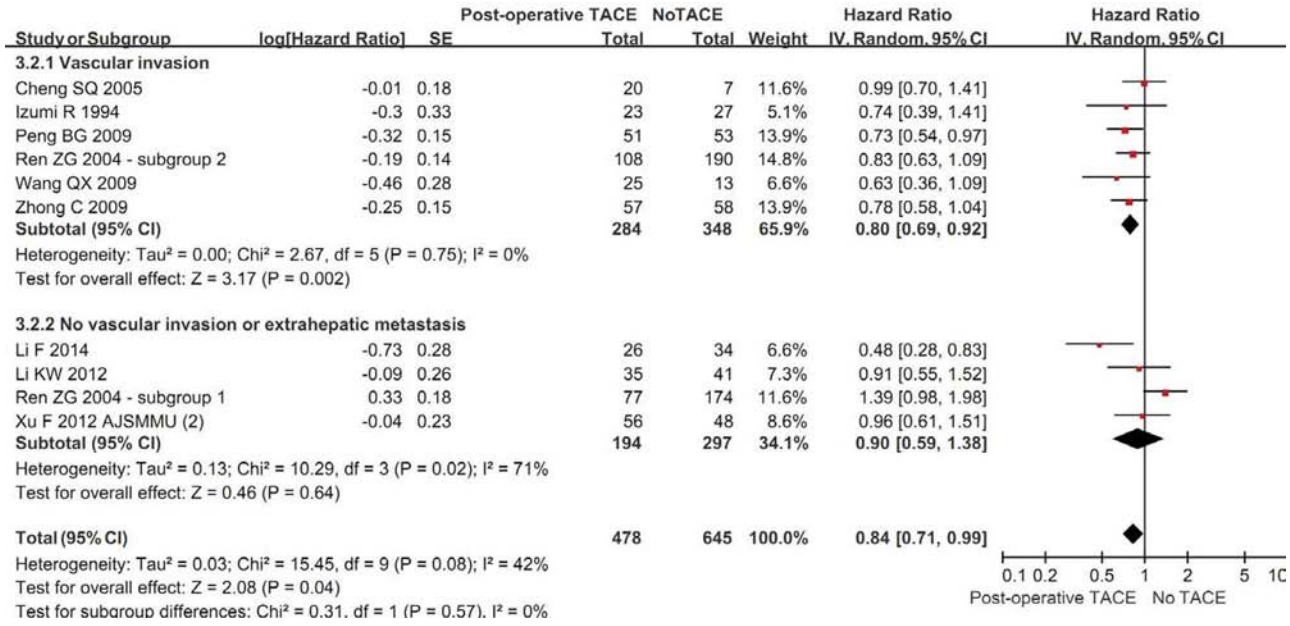
Supplementary Figure S9: Subgroup meta-analysis comparing the disease-free survival between hepatic resection with and without pre-operative TACE groups according to the presence of liver cirrhosis.



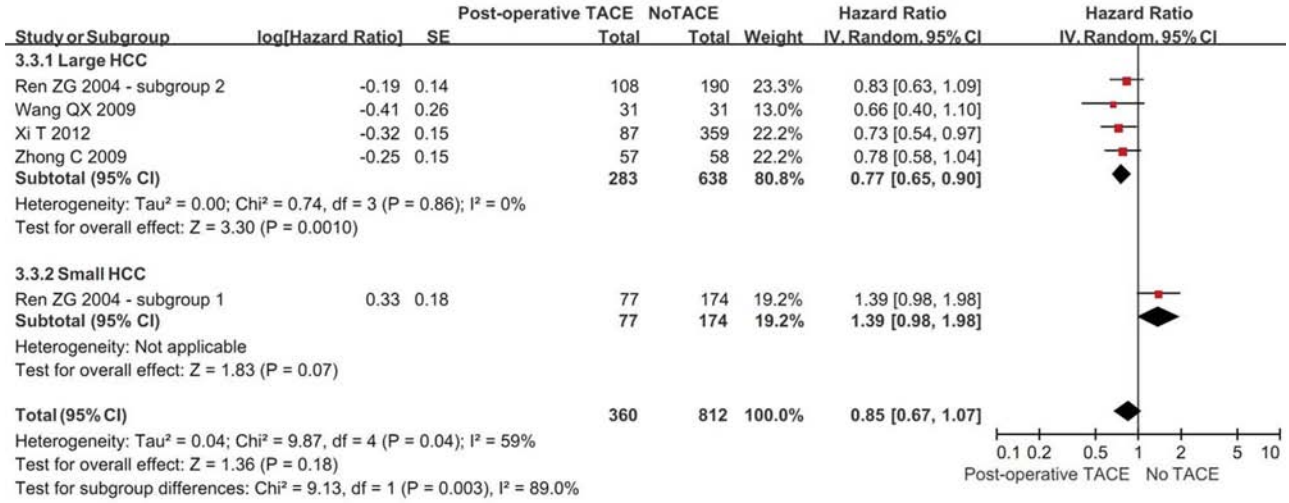
Supplementary Figure S10: Subgroup meta-analysis comparing the disease-free survival between hepatic resection with and without pre-operative TACE groups according to the study design.



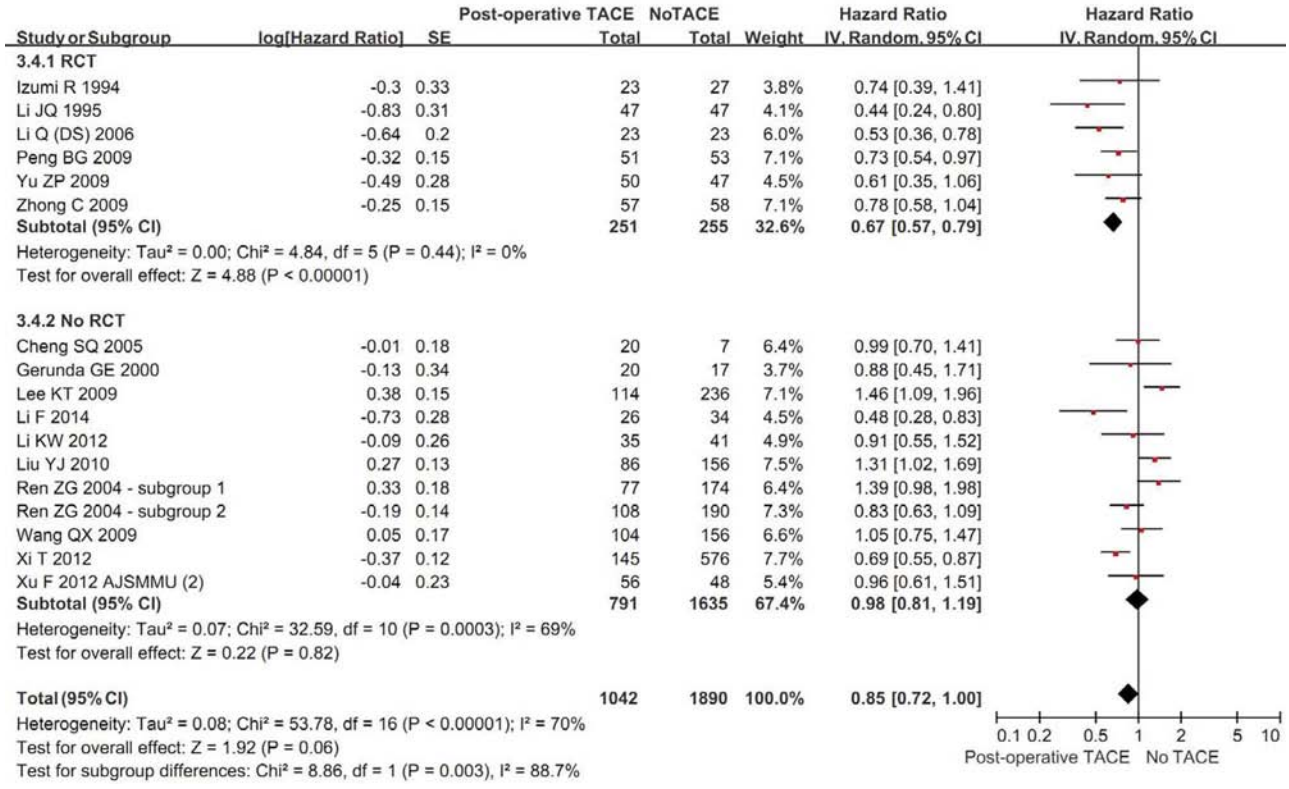
Supplementary Figure S11: Funnel plot regarding the comparison of overall survival between hepatic resection with and without post-operative TACE groups.



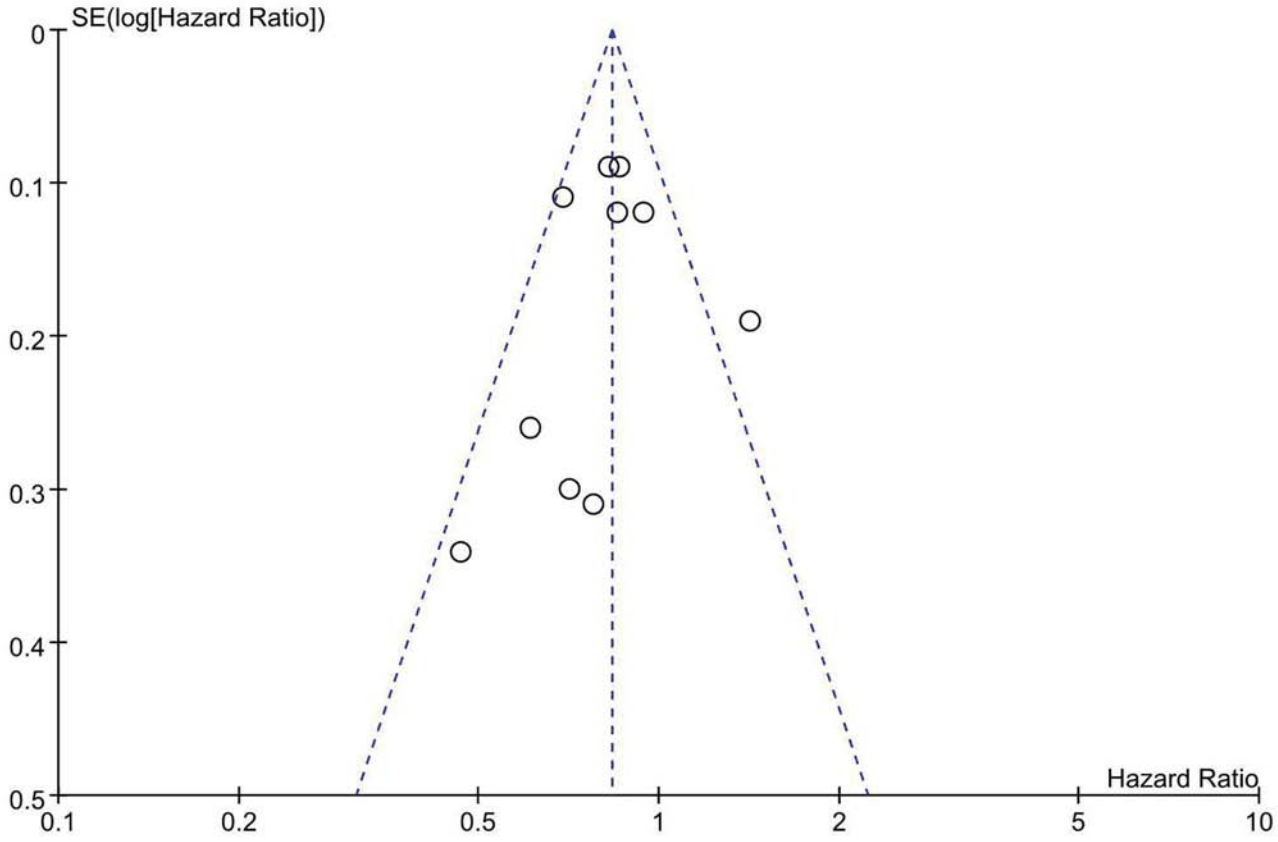
Supplementary Figure S12: Subgroup meta-analysis comparing the overall survival between hepatic resection with and without post-operative TACE groups according to the vascular invasion.



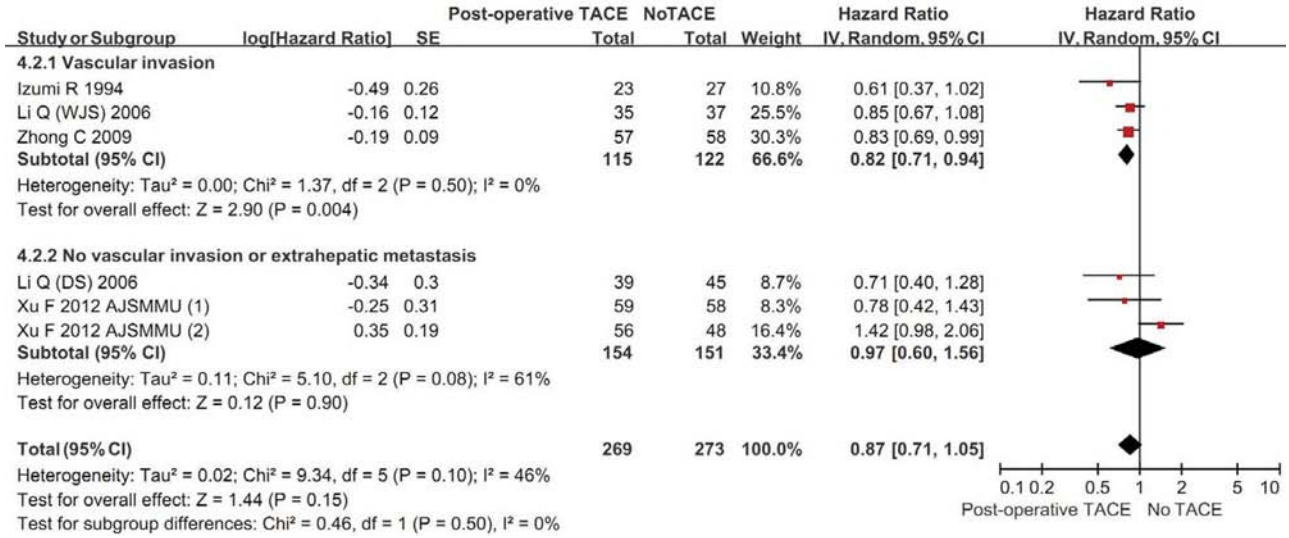
Supplementary Figure S13: Subgroup meta-analysis comparing the overall survival between hepatic resection with and without post-operative TACE groups according to the tumor size.



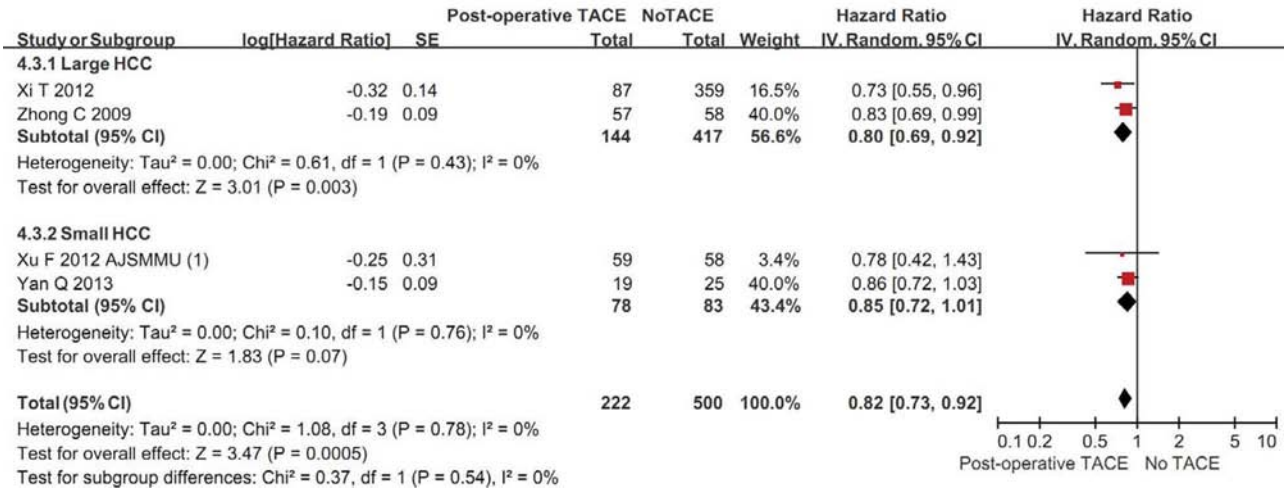
Supplementary Figure S14: Subgroup meta-analysis comparing the overall survival between hepatic resection with and without post-operative TACE groups according to the study design.



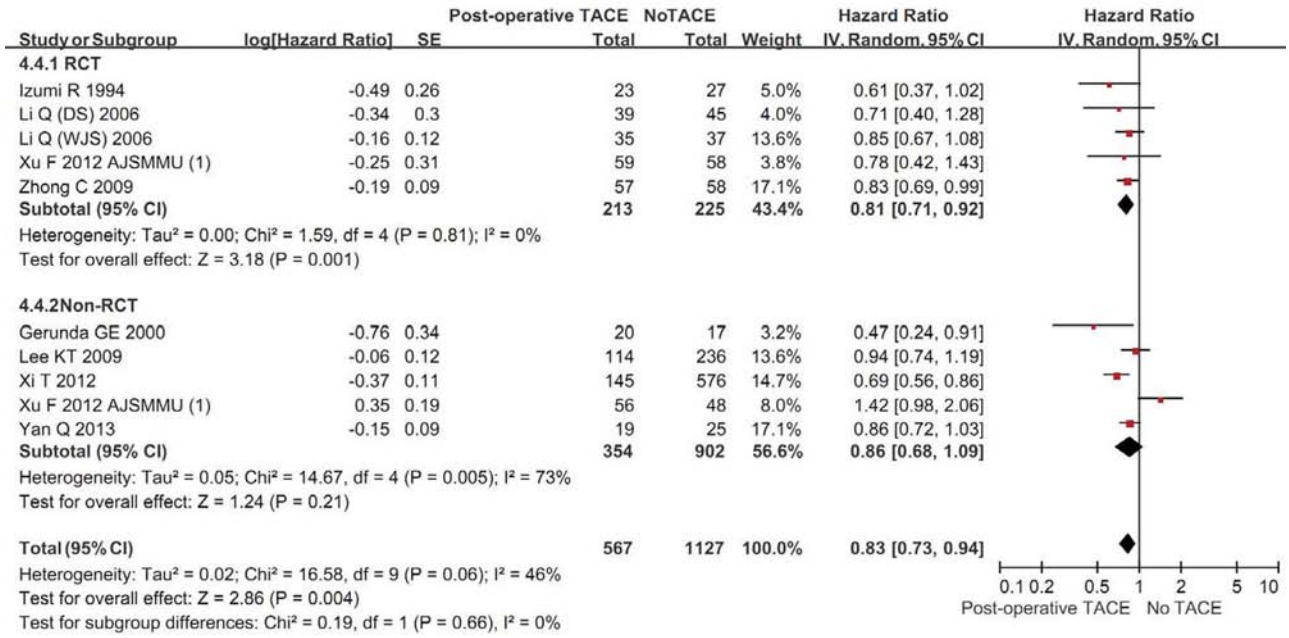
Supplementary Figure S15: Funnel plot regarding the comparison of disease-free survival between hepatic resection with and without post-operative TACE groups.



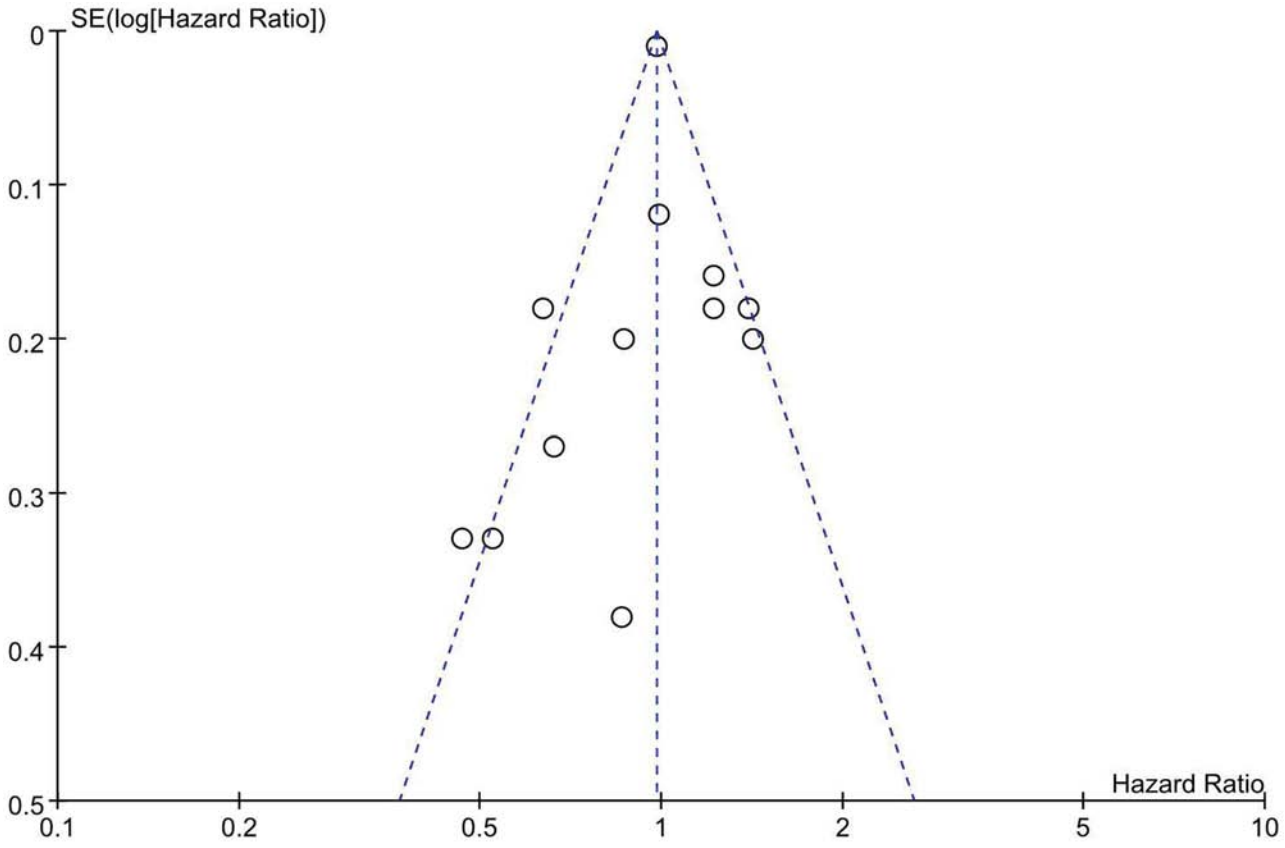
Supplementary Figure S16: Subgroup meta-analysis comparing the disease-free survival between hepatic resection with and without post-operative TACE groups according to the vascular invasion.



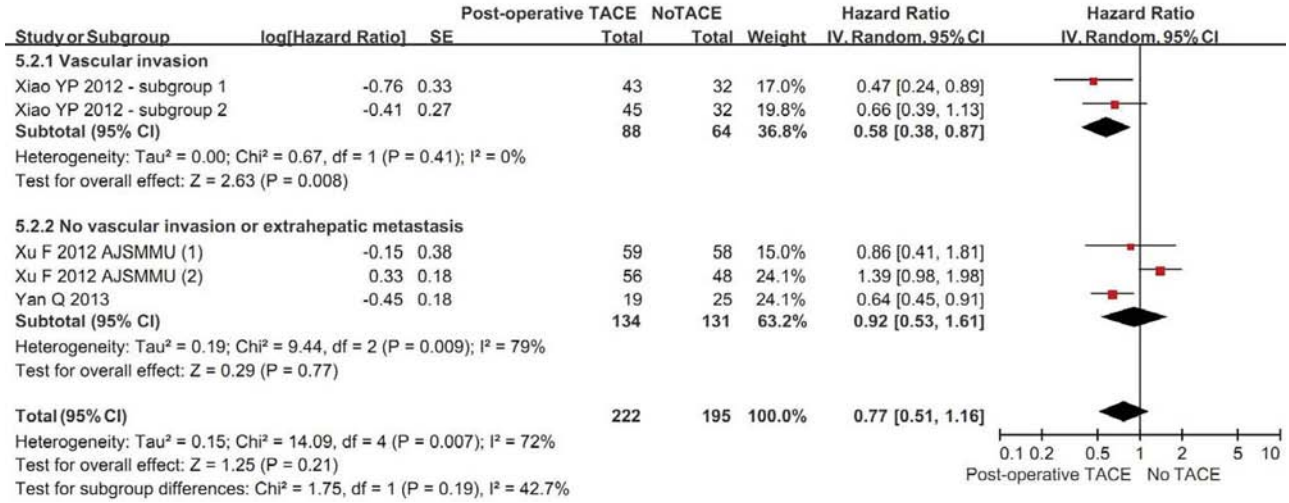
Supplementary Figure S17: Subgroup meta-analysis comparing the disease-free survival between hepatic resection with and without post-operative TACE groups according to the tumor size.



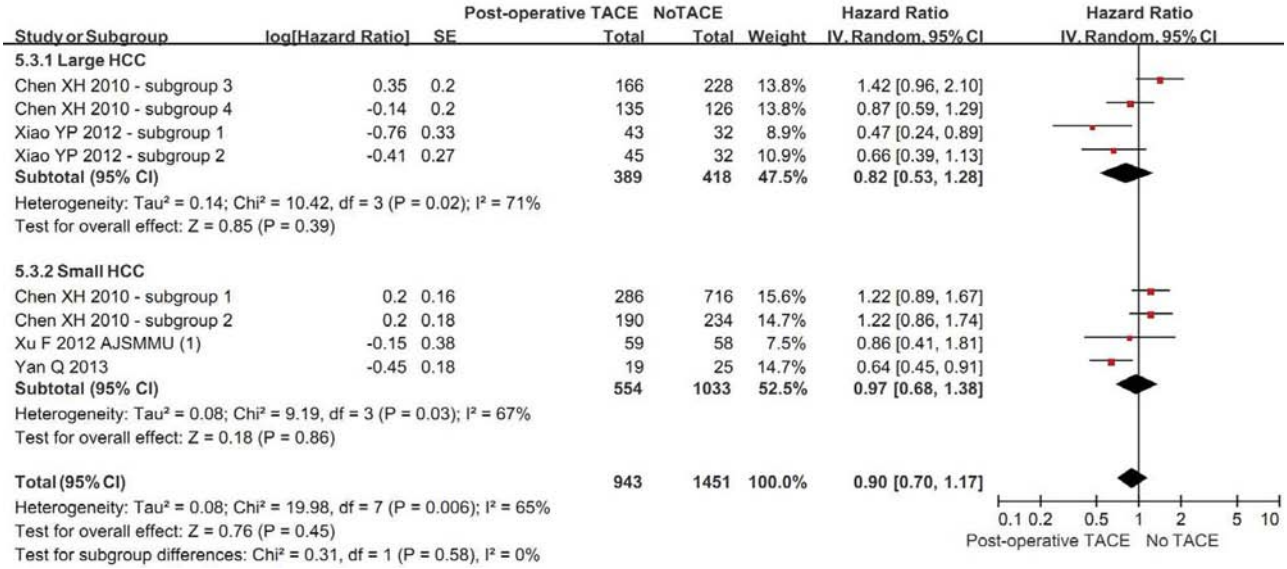
Supplementary Figure S18: Subgroup meta-analysis comparing the disease-free survival between hepatic resection with and without post-operative TACE groups according to the study design.



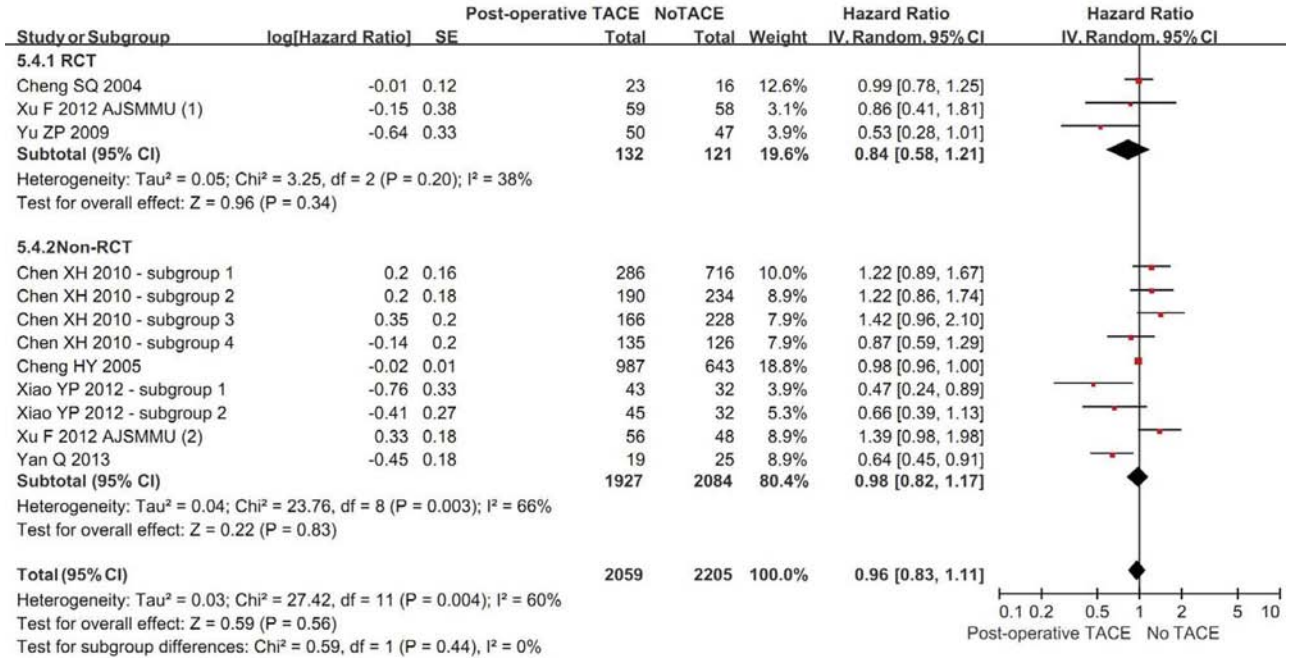
Supplementary Figure S19: Funnel plot regarding the comparison of rate free of recurrence between hepatic resection with and without post-operative TACE groups.



Supplementary Figure S20: Subgroup meta-analysis comparing the rate free of recurrence between hepatic resection with and without post-operative TACE groups according to the vascular invasion.



Supplementary Figure S21: Subgroup meta-analysis comparing the rate free of recurrence between hepatic resection with and without post-operative TACE groups according to the tumor size.



Supplementary Figure S22: Subgroup meta-analysis comparing the rate free of recurrence between hepatic resection with and without post-operative TACE groups according to the study design.

Supplementary Table S1: Quality assessment of non-randomized studies using NEWCASTLE - OTTAWA QUALITY ASSESSMENT SCALE COHORT STUDIES

First Author, Journal (Year)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total score
Adachi E, Cancer (1993)	1 point	1 point	0 point	0 point	1 point	0 point	1 point	0 point	4 points
Chen XH, Zhonghua Yi Xue Za Zhi (2010)	1 point	1 point	0 point	0 point	2 points	1 point	0 point	1 point	4 points
Chen XP, Dig Surg (2007)	0 point	0 point	0 point	1 point	2 points	0 point	1 point	0 point	5 points
Cheng HY, Zhonghua Zhong Liu Za Zhi (2005)	1 point	1 point	0 point	0 point	0 point	0 point	0 point	0 point	2 points
Cheng SQ, Zhonghua Zhong Liu Za Zhi (2005)	1 point	1 point	0 point	1 point	2 points	0 point	1 point	1 point	7 points
Choi GH, World J Surg (2007)	1 point	1 point	0 point	1 point	2 points	1 point	1 point	1 point	8 points
Di Carlo V, Hepato-gastroenterology (1998)	0 point	0 point	0 point	0 point	2 points	0 point	1 point	0 point	3 points
Gerunda GE, Liver Transpl (2000)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Hanazaki K, J Am Coll Surg (2000)	1 point	1 point	0 point	0 point	0 point	1 point	1 point	0 point	4 points
Harada T, Ann Surg (1996)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Jianyong L, Ann Hepatol (2014)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Kaibori M, Anticancer Research (2006)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Kim IS, Aliment Pharmacol Ther (2008)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	1 point	7 points
Kishi Y, Hepato-gastroenterology (2012)	1 point	1 point	0 point	0 point	1 point	1 point	1 point	0 point	5 points
Lee KT, J Surg Oncol (2009)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Li F, Ir J Med Sci (2014)	1 point	1 point	0 point	0 point	2 points	0 point	1 point	0 point	5 points

(*Continued*)

First Author, Journal (Year)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total score
Li KW, Hepato-gastroenterology (2012)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Liu YJ, Zhonghua Fang She Xue Za Zhi (2010)	1 point	1 point	0 point	0 point	2 points	0 point	1 point	0 point	5 points
Lu CD, World J Surg (1999)	1 point	1 point	0 point	0 point	2 points	0 point	1 point	0 point	5 points
Majno PE, Ann Surg (1997)	1 point	1 point	0 point	0 point	0 point	0 point	1 point	0 point	3 points
Nagasue N, Surgery (1989)	1 point	1 point	0 point	0 point	1 point	0 point	1 point	0 point	4 points
Nishikawa H, Int J Oncol (2013)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Ochiai T, Hepato-gastroenterology (2003)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Park JH, Cardiovasc Intervent Radiol (1993)	1 point	1 point	0 point	0 point	0 point	1 point	1 point	0 point	4 points
Sasaki A, Eur J Surg Oncol (2006)	1 point	1 point	0 point	0 point	0 point	1 point	1 point	0 point	4 points
Sugo H, World J Surg (2003)	1 point	1 point	0 point	0 point	1 point	1 point	1 point	0 point	5 points
Uchida M, World J Surg (1996)	1 point	1 point	0 point	0 point	2 points	0 point	1 point	0 point	5 points
Wang TH, Chinese J Cancer Prevention and Treatment (2010)	1 point	1 point	0 point	0 point	2 points	0 point	1 point	0 point	5 points
Wang QX, Zhonghua Wai Ke Za Zhi (2009)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Xi T, Hepato-gastroenterology (2012)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Xiao EH, Zhonghua Zhong Liu Za Zhi (2005)	0 point	0 point	0 point	0 point	0 point	0 point	1 point	0 point	1 point
Xiao YP, World Chinese J Digestology (2012)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points

(*Continued*)

First Author, Journal (Year)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total score
Xu F, Academic J Second Military Medical University (2012) 2	0 point	0 point	0 point	1 point	1 point	1 point	1 point	1 point	5 points
Yan Q, Chin Med J (2013)	1 point	1 point	0 point	0 point	2 points	1 point	1 point	0 point	6 points
Yanaga K, HPB (2014)	0 point	0 point	0 point	0 point	0 point	0 point	0 point	0 point	0 point
Yang PS, Liver Transpl (2010)	0 point	0 point	0 point	0 point	0 point	0 point	1 point	0 point	1 point
Zhang Z, Cancer (2000)	1 point	1 point	0 point	0 point	0 point	0 point	1 point	0 point	3 points

Supplementary Table S2: Quality assessment of non-randomized studies using NEWCASTLE - OTTAWA QUALITY ASSESSMENT SCALE CASE CONTROL STUDIES

First Author, Journal (Year)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total score
Kang JY, Korean J Hepatol (2010)	0 point	0 point	0 point	1 point	2 points	1 point	1 point	0 point	5 points
Paye F, Arch Surg (1998)	0 point	1 point	0 point	1 point	2 points	1 point	1 point	0 point	6 points
Ren ZG, World J Gastroenterol (2004)	0 point	0 point	0 point	1 point	1 point	1 point	1 point	0 point	4 points
Shi HY, J Surg Oncol (2014)	1 point	1 point	1 point	1 point	0 point	0 point	0 point	0 point	4 points

Supplementary Table S3: Quality assessment of randomized studies using the Cochrane Collaboration's risk of bias tool

First Author, Journal (Year)	Cheng SQ, Zhonghua Zhong Liu Za Zhi (2004)	
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	High risk.	Quote: "57 patients with HCC were randomly divided into three groups according to the order of hospitalization".
Allocation concealment (selection bias)	Unclear risk.	Not described.
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Unclear risk.	Not described.
Selective reporting (reporting bias)	Low risk.	Both recurrence and survival were reported. Review authors do not believe that bias will be introduced.
First Author, Journal (Year)	**Izumi R, Hepatology (1994)**	
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Unclear risk.	Not described.
Allocation concealment (selection bias)	Unclear risk.	Not described.
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Unclear risk.	Not described.
Selective reporting (reporting bias)	Low risk.	Both DFS and survival were reported. Review authors do not believe that bias will be introduced.
First Author, Journal (Year)	**Kaibori M, Dig Dis Sci (2012)**	
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Unclear risk.	Quote: "They would be randomly selected for one of the above three groups". Comment: The authors did not mention the detailed methods for radnom sequence generation.
Allocation concealment (selection bias)	Low risk.	Quote: "They were randomized by the envelope method".
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Unclear risk.	Not described.
Selective reporting (reporting bias)	Low risk.	Both recurrence and survival were reported. Review authors do not believe that bias will be introduced.

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First Author, Journal (Year)		Li JQ, J Cancer Res Clin Oncol (1995)
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Unclear risk.	Quote: "140 patients were recruited to a randomized study". Comment: The authors did not mention the detailed methods for radnom sequence generation.
Allocation concealment (selection bias)	Unclear risk.	Not described.
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Unclear risk.	Not described.
Selective reporting (reporting bias)	Low risk.	Both recurrence and survival were reported. Review authors do not believe that bias will be introduced.
First Author, Journal (Year)		**Li Q, Dig surg (2006)**
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Low risk.	Quote: "Random drawing of lots".
Allocation concealment (selection bias)	Unclear risk.	Not described.
Blinding of participants and personnel (performance bias)	High risk.	Quote: "a single-blind method".Comment: Review author did not recognize the detailed information regarding blinding of participants and personnel.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Unclear risk.	Not described.
Selective reporting (reporting bias)	Low risk.	DFS was estimated according to the Methods. DFS was clearly reported in the Results. Review authors do not believe that bias will be introduced.
First Author, Journal (Year)	**Li Q, World J Surg (2006)**	
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Low risk.	Quote: "The study cohort consisted of 112 patients with HCC and PVTT randomly divided into three groups". "The random drawing of lots".
Allocation concealment (selection bias)	Unclear risk.	Not described.
Blinding of participants and personnel (performance bias)	High risk.	Quote: "a single-blind method".Comment: Review author did not recognize the detailed information regarding blinding of participants and personnel.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.

(*Continued*)

Incomplete outcome data addressed (attrition bias)	Unclear risk.	Not described.
Selective reporting (reporting bias)	Low risk.	DFS was estimated according to the Methods. DFS was clearly reported in the Results. Review authors do not believe that bias will be introduced.

First Author, Journal (Year)	**Peng BG, Am J Surg (2009)**	
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Low risk.	Quote: "All patients were randomly assigned intothe control group and the TACE group". "computer-generated random numbers".
Allocation concealment (selection bias)	Low risk.	Quote: "Randomization was performed by means of sealed opaque envelopes containing computer-generated random numbers".
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Low risk.	Quote: "Twelve patients in the TACE group and 10 patients in the control group were lost during follow-up."Comments: Patients lost to follow-up balanced in numbers between groups, with similar reasons for missing data between groups.
Selective reporting (reporting bias)	High risk.	Quote: "When there was evidence of recurrence, enhanced computerized axial tomography (CAT) was employed to confirm the diagnosis". Comments: Desipte recurrence was mentioned in the Methods section, the recurrence data during follow-up were not reported.

First Author, Journal (Year)	**Tang QH, Academic J Second Military Medical University (2009)**	
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Low risk.	Quote: "prospectively randomized into surgical resection group or preoperative TACE group" "computer-generated random numbers".
Allocation concealment (selection bias)	High risk.	Quote: "numbered according to the date of hospitalization".
Blinding of participants and personnel (performance bias)	High risk.	Quote: "patients, their relatives, nurses did not know the the detailed treatment".
Blinding of outcome assessment (detection bias)	Low risk.	Quote: "Data were analyzed by two statisticians independently". "Statisticians did not know the assignment of groups".
Incomplete outcome data addressed (attrition bias)	High risk.	Quote: "52 patients were assigned to TACE+surgery group, but 5 patients did not undergo surgery after TACE due to the extrahepatic metastasis (n = 4) and liver function deterioration (n = 1)." "56 patients were assigned to surgery group, all of them underwent surgery".
Selective reporting (reporting bias)	Low risk.	Both DFS and survival were reported. Review authors do not believe that bias will be introduced.

(*Continued*)

First Author, Journal (Year)		Wu CC, Br J Surg (1995)
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Unclear risk.	Quote: "The 52 patients were randomized into two groups". Comment: The authors did not mention the detailed methods for radnom sequence generation.
Allocation concealment (selection bias)	Unclear risk.	Not described.
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Unclear risk.	Not described.
Selective reporting (reporting bias)	Low risk.	Both DFS and survival were reported. Review authors do not believe that bias will be introduced.
First Author, Journal (Year)		**Xu F, Academic J Second Military Medical University (2012)**
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Low risk.	Quote: "117 patients were randomly divided into 2 groups". "computer-generated random numbers".
Allocation concealment (selection bias)	High risk.	Quote: "a list of random numbers, in which the first 60 were assigned to the TACE+surgery group, and the other 60 were assigned to the TACE group".
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Low risk.	Quote: "None of patients were lost to follow-up".
Selective reporting (reporting bias)	Low risk.	DFS was estimated according to the Methods. DFS was clearly reported in the Results. Review authors do not believe that bias will be introduced.
First Author, Journal (Year)		**Yamasaki S, Jpn J Cancer Res (1996)**
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Unclear risk.	Not described.
Allocation concealment (selection bias)	Unclear risk.	Quote: "Patients were randomized using the envelop method".Comment: it remains unclear about whether or not envelop was sealed or opaque.
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.

(*Continued*)

Incomplete outcome data addressed (attrition bias)	Unclear risk.	Not described.
Selective reporting (reporting bias)	Low risk.	Both cancer-free survival and survival rates were reported. Review authors do not believe that bias will be introduced.
First Author, Journal (Year)		**Yu ZP, J Pract Med (2009)**
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Unclear risk.	Not described.
Allocation concealment (selection bias)	Unclear risk.	Not described.
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Low risk.	Quote: "all patients have been followed for more than 2 years".
Selective reporting (reporting bias)	Low risk.	Both intrahepatic recurrence and survival rates were reported. Review authors do not believe that bias will be introduced.
First Author, Journal (Year)		**Zhong C, J Cancer Res Clin Oncol (2009)**
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Unclear risk.	Quote: "A total of 118 patients were initially randomized to undergo partial hepatectomy and adjuvant TACE (HT arm) or partial hepatectomy alone (HA arm) by drawing consecutive sealed envelopes".Comment: The authors did not mention the detailed methods for radnom sequence generation.
Allocation concealment (selection bias)	Low risk.	Quote: "drawing consecutive sealed envelopes".
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Low risk.	Quote: "1 patient in hepatectomy alone group was lost to follow-up".
Selective reporting (reporting bias)	Low risk.	Both DFS and survival were reported. Review authors do not believe that bias will be introduced.
First Author, Journal (Year)		**Zhou WP, Ann Surg (2009)**
Entry	**Judgment**	**Support for judgment**
Random sequence generation (selection bias)	Unclear risk.	Quote: "All eligible patients were randomly assigned to either the preoperative TACE group or the control group by drawing sealed, consecutively numbered, and opaque envelopes after completing the preoperative evaluation". Comment: The authors did not mention the detailed methods for radnom sequence generation.

(*Continued*)

Allocation concealment (selection bias)	Low risk.	Quote: “drawing sealed, consecutively numbered, and opaque envelopes”.
Blinding of participants and personnel (performance bias)	Unclear risk.	Not described.
Blinding of outcome assessment (detection bias)	Unclear risk.	Not described.
Incomplete outcome data addressed (attrition bias)	Low risk.	Quote: “Five patients were lost to follow-up after discharge from hospital”. “A total of 108 patients were left for final analysis”
Selective reporting (reporting bias)	Low risk.	Both DFS and survival were reported. Review authors do not believe that bias will be introduced.