Table SI. Risk of bias assessment.				
Author, year	Bias type	Judgement	Supporting evidence	(Refs.)
Ikeda,2016	Random sequence generation (selection bias)	Low	Randomization was performed centrally using a minimization method with biased-coin assignment	(25)
	Allocation concealment (selection bias)	Low	As above	
	Blinding of participants and personnel (performance bias)	High	As an invasive intervention, HAIC cannot be performed without the patient being aware of it	
	Blinding of outcome assessment (detection bias)	Low	The responses were evaluated centrally by three independent reviewers	
	Incomplete outcome data (attrition bias)	Low	Missing data does not affect the analysis of the results	
	Selective reporting (reporting bias)	Low	All predetermined outcome indicators are reported as intended	

	Other bias	Unclear		
Kudo,2018	Random sequence generation (selection bias)	Low	Randomization was performed centrally via an interactive web response system involving a computer-generated sequence and electronic data capture system software	(24)
	Allocation concealment (selection bias)	Low	As above	
	Blinding of participants and personnel (performance bias)	High	As an invasive intervention, HAIC cannot be performed without the patient being aware of it	
	Blinding of outcome assessment (detection bias)	Unclear	Not mentioned	
	Incomplete outcome data (attrition bias)	Low	The investigators clearly described the reasons for disengagement from follow-up and compensated for the impact of missing results	
	Reporting bias	Low	All predetermined outcome indicators are reported as intended	
	Other bias	Unclear		
Kondo, 2019	Random sequence generation (selection bias)	Low	Random number was generated by SAS 9.3	(23)

	Allocation concealment (selection bias)	Low	Using minimization method with a random element using i) institute, ii) presence of portal vein tumor embolism, iii) presence of extrahepatic lesion	
	Blinding of participants and personnel (performance bias)	High	As an invasive intervention, HAIC cannot be performed without the patient being aware of it	
	Blinding of outcome assessment (detection bias)	Unclear	Not mentioned	
	Incomplete outcome data (attrition bias)	Low	Missing data does not affect the analysis of the results	
	Reporting bias	Low	All predetermined outcome indicators are reported as intended	
	Other bias	Unclear		
He, 2019	Random sequence generation (selection bias)	Low	Randomization was performed centrally via a computer-generated randomization sequence and was stratified according to hospital and portal vein invasion grade	(22)
	Allocation concealment (selection bias)	Low	As above	
	Blinding of participants and	Unclear	Not mentioned	

	personnel (performance bias)			
	Blinding of outcome assessment (detection bias)	Unclear	Not mentioned	
	Incomplete outcome data (attrition bias)	Low	Missing data do not affect the analysis of the results and the investigator clearly describes the reasons for disengagement from follow-up	
	Reporting bias	Low	All predetermined outcome indicators are reported as intended	
	Other bias	Unclear		
Zheng, 2022	Random sequence generation (selection bias)	Low	Randomization was conducted using a random number table and was stratified according to portal vein invasion grade	(21)
	Allocation concealment (selection bias)	Low	As above	
	Blinding of participants and personnel (performance bias)	Unclear	Not mentioned	
	Blinding of outcome	Low	Assessed in consensus by radiologists who were blinded to the treatment protocol	

	assessment (detection bias)			
	Incomplete outcome data (attrition bias)	Low	No personnel missing	
	Reporting bias	Low	Reported as intended ending	
	Other bias	Unclear		
Lee, 2020	Random sequence generation (selection bias)	Unclear	Not mentioned	(27)
	Allocation concealment (selection bias)	Unclear	Not mentioned	
	Blinding of participants and personnel (performance bias)	Unclear	Not mentioned	
	Blinding of outcome assessment (detection bias)	Unclear	Not mentioned	
	Incomplete outcome data (attrition bias)	Low	No personnel missing	

	Reporting bias	Low	All predetermined outcome indicators are reported as intended	
	Other bias	High	No follow-up data	
Park, 2018	Random sequence generation (selection bias)	Low	Block randomization method	(26)
	Allocation concealment (selection bias)	Low	As above	
	Blinding of participants and personnel (performance bias)	High	As an invasive intervention, HAIC cannot be performed without the patient being aware of it	
	Blinding of outcome assessment (detection bias)	Unclear	Not mentioned	
	Incomplete outcome data (attrition bias)	High	Missing data affects the analysis and the reason for the missing data is not described	
	Reporting bias	Low	All predetermined outcome indicators are reported as intended	
	Other bias	Unclear		

HAIC, hepatic artery infusion chemotherapy.