

Table SI. The detailed search strategies of the corresponding databases.

Database	Search strategies	Number of studies
PubMed	(‘hepatocellular carcinoma’[MeSH] OR ‘liver cancer’[ti,ab] OR HCC[ti,ab]) AND (‘liver resection’[MeSH] OR ‘surgical resection’[ti,ab]) AND (‘preoperative radiotherapy’[ti,ab] OR ‘neoadjuvant radiotherapy’[ti,ab]) AND (‘vascular invasion’[MeSH] OR ‘portal vein tumor thrombus’[ti,ab] OR ‘microvascular invasion’[ti,ab])	87
Embase	(‘hepatocellular carcinoma’/exp OR ‘liver cancer’:ti,ab OR ‘HCC’:ti,ab) AND (‘liver resection’/exp OR ‘surgical resection’:ti,ab) AND (‘preoperative radiotherapy’:ti,ab OR ‘neoadjuvant radiotherapy’:ti,ab) AND (‘vascular invasion’/exp OR ‘portal vein tumor thrombus’:ti,ab OR ‘microvascular invasion’:ti,ab)	112
Cochrane	[mh ‘hepatocellular carcinoma’] OR (liver cancer):ti,ab,kw OR (HCC):ti,ab,kw AND [mh ‘liver resection’] OR (surgical resection):ti,ab,kw AND (‘preoperative radiotherapy’ OR ‘neoadjuvant radiotherapy’):ti,ab,kw AND [mh ‘vascular invasion’]	38
CNKI	Su=(‘hepatocellular carcinoma’+‘liver cancer’+‘HCC’) AND SU=(‘hepatectomy’+‘surgical excision’) AND SU=(neoadjuvant radiotherapy’+‘preoperative radiotherapy’) AND SU=(vascular invasion’+‘portal vein tumor thrombus’+‘microvascular invasion’)	56
Wanfang	Su=(‘hepatocellular carcinoma’ OR ‘liver cancer’ OR ‘HCC’) AND Su=(‘hepatectomy’ OR ‘surgical excision’) AND Su=(‘neoadjuvant radiotherapy’ OR ‘preoperative radiotherapy’) AND Su=(‘vascular invasion’ OR ‘portal vein tumor thrombus’ OR ‘microvascular invasion’)	42
VIP	M=(‘hepatocellular carcinoma’ OR ‘liver cancer’ OR ‘HCC’) AND M=(‘hepatectomy’ OR ‘surgical excision’) AND M=(‘neoadjuvant radiotherapy’ OR ‘preoperative radiotherapy’) AND M=(‘vascular invasion’ OR ‘portal vein tumor thrombus’ OR ‘microvascular invasion’)	37

For CNKI, Wangfang and VIP databases, the Chinese search terms were used. Ti, title; ab, abstract; kw, key words; Su, subject; M, title or keyword.