

Table SI. Baseline characteristics of the included studies.

First author, year	Imaging	ML model	Grouping	Sample size [no of females (%)]	Diagnosis of cirrhosis, yes/no	Viral hepatitis, yes/no	Extent of resection, minor/major	Major vascular invasion, n	Microvascular invasion, n	Perineural invasion, n	Histologic grade, grade 1-2/grade 3-4	N staging, NO/N 1-X	Adjuvant therapy, n	Early recurrence, n	Data type	(Ref.)
Alaimo <i>et al</i> , 2023	Not mentioned	Random forest	i) Training cohort; ii) Testing cohort	i) 376 [146 (38.8)]; ii) 160 [59, (36.9)]	i) 56/320; ii) 26/134	i) 128/48; ii) 71/89	i) 212/164; ii) 81/79	i) 48; ii) 20	i) 108; ii) 53	i) 60; ii) 30	i) 333/43; ii) 147/13	i) 94/28; ii) 42/118	i) 79; ii) 34	i) 189; ii) 81	Diagnosis (all)	(21)
Sony <i>et al</i> , 2023	CT scan	LightGBM	i) Derivation cohort; ii) Internal validation cohort; iii) External validation cohort; iv) External validation cohort-1; v) External validation cohort-2	i) 140 [53, (37.9)]; ii) 36 [14, (38.9)]; iii) 74 [37, (54.4)]; iv) 61 [32, (52.5)]	i) 34/106; ii) 9/27; iii) 24/50; iv) 9/52	i) 45/95; ii) 13/23; iii) 25/49; iv) 12/49	-	i) 56; ii) 16; iii) 25; iv) 19	-	-	-	-	i) 20; ii) 4; iii) 8; iv) 7	Diagnosis (all)	(22)	

Jolissaint <i>et al</i> , 2022	CT scan	Random forest	2 i) Training cohort; ii) Validation cohort	i) 97 [55, (56.70)]; ii) 41 [20, (47.78)]	-	-	-	-	-	-	-	-	-	-	-	Diagnosis (all)	(23)
Guo <i>et al</i> , 2022	Ultrasound	CEUS-clinical nomogram	i) Training group; ii) Validation group	i) 30 [7, (23.33)]; ii) 23 [4, (17.39)]	i) 15/15; ii) 17/6	i) 25/5; ii) 14/9	-	-	-	-	-	-	-	-	-	Diagnosis (only AUC)	(24)
Liang <i>et al</i> , 2018	3.0-T MRI scanner	Logistic regression	i) Training cohort; ii) Independent validation cohort	i) 139 [54, (38.85)]; ii) 70 [24, (34.29)]	-	-	-	-	-	-	-	-	-	-	-	Diagnosis (only AUC)	(25)

AUC, area under the curve; F, female; ML, machine learning; n, number; CEUS, contrast-enhanced ultrasound.

Table SII. Summary of Newcastle-Ottawa Scale score.

First author, year	Representa- tiveness of the exposed cohort	Selection of non-exposed cohorts	Exposure determination	None of the subjects had developed the disease under study at the start of the study	Comparability of exposed and non-exposed cohorts (design and analysis phase)	Result determination method	Is the follow-up period long enough for the disease under study?	Completeness of follow-up	Total score (out of 10)	(Ref.)
Alaimo <i>et al</i> , 2023	1	1	1	0	1	1	1	1	7	(21)
Sonyet <i>et al</i> , 2023	1	0	1	0	1	1	1	1	6	(22)
Jolissaint <i>et al</i> , 2022	1	1	1	0	1	1	1	1	7	(23)
Guo <i>et al</i> , 2022	1	1	1	0	1	1	1	1	7	(24)
Liang <i>et al</i> , 2018	1	1	1	0	1	1	1	1	7	(25)