

| Supplemental Table 1 | | | |
|---|------------|-----------------------------|---------|
| Variable | | Odds Ratio | p-value |
| lesion number (reference = solitary) | Multiple | 1.31, 95%-CI: [0.57; 2.91] | 0.51 |
| | Diffuse | 3.26, 95%-CI: [0.99; 10.77] | 0.05 |
| lesion size (in cm) (continuous) | | 1.11, 95%-CI: [1.01; 1.22] | 0.04 |
| Depth location (in cm) (continuous) | | 1.16, 95%-CI: [1.04; 1.31] | 0.01 |
| Lesion echogenicity (reference = Hyperechoic) | Isoechoic | 1.46, 95%-CI: [0.65; 3.2] | 0.35 |
| | Hypoechoic | 0.44, 95%-CI: [0.13; 1.22] | 0.14 |
| macro-invasion of the liver vessels | | 0.7, 95%-CI: [0.19; 2.34] | 0.58 |
| portal vein thrombosis | | 3.42, 95%-CI: [1.04; 10.72] | 0.04 |

Supplemental Table 1 shows the results of the multivariable logistic regression analysis for tumour characteristics with $p < 0.1$. Lesion size and depth location were included as continuous variables.

Supplemental Table 2

| CEUS LI-RADS category | Number of HCCs (n; %) |
|-----------------------|-----------------------|
| CEUS LR-1 | 1 (2.2%) |
| CEUS LR-2 | 0 |
| CEUS LR-3 | 12 (26.7%) |
| CEUS LR-4 | 22 (48.9%) |
| CEUS LR-5 | 0 |
| CEUS LR-M | 6 (13.3%) |
| CEUS LR-TIV | 3 (0.7%) |
| CEUS LR-NC | 1 (2.2%) |

Supplemental Table 2 shows the classification of HCCs with no APHE according to CEUS LI-RADS (n=45).

HCC, hepatocellular carcinoma; APHE, arterial phase hyperenhancement; CEUS LI-RADS, Contrast-Enhanced UltraSound Liver Imaging Reporting and Data System.

| Supplemental Table 3: Tumour characteristics of HCCs according to histological grading | | | | | |
|--|------------------|-------------------|------------------|--------------------|----------|
| | G1 HCC (n=71) | G2 HCC (n=173) | G3 HCC (n=51) | Total (n=295**) | p-value* |
| Lesion number | | | | | 0.1188 |
| Solitary | 44 (62%) | 109 (63%) | 34 (66.7%) | 187 (63.4%) | |
| Multiple | 25 (35.2%) | 49 (28.3%) | 10 (19.6%) | 84 (28.5%) | |
| Diffuse | 2 (2.8%) | 15 (8.7%) | 7 (13.7%) | 24 (8.1%) | |
| Lesion size | | | | | 0.07736 |
| ≤ 5 cm | 48 (67.6%) | 117 (67.6%) | 26 (51%) | 191 (64.7%) | |
| >5 cm | 23 (32.4%) | 56 (32.4%) | 25 (49%) | 104 (35.3%) | |
| Depth location | | | | | 0.925 |
| Depth ≤ 5 cm | 30 (42.3%) | 73 (42.2%) | 20 (39.2%) | 123 (41.7%) | |
| Depth > 5 cm | 41 (57.7%) | 100 (57.8%) | 31 (60.8%) | 172 (58.3%) | |
| Macro-invasion of liver vessels (B-mode, colour-mode) | 5 (7%) | 27 (15.6%) | 9 (17.6%) | 41 (13.9) | 0.1488 |
| Bland portal vein thrombosis | 2 (2.8%) | 23 (13.3%) | 6 (11.8%) | 31 (10.5%) | 0.03517 |
| Enhancing tumour thrombus | 2 (2.8%) | 15 (8.7%) | 2 (3.9%) | 19 (6.4%) | 0.1059 |

* Pearson's Chi-squared test or Fisher's Exact Test for low frequencies

** patients with no histological grading available (n=21) were excluded.