

## Supplementary material

### Supplementary figures

Figure S1. Forest plot of relative factors associated with sBM occurrence. OR (odds ratio), 95% CI (confidence interval).

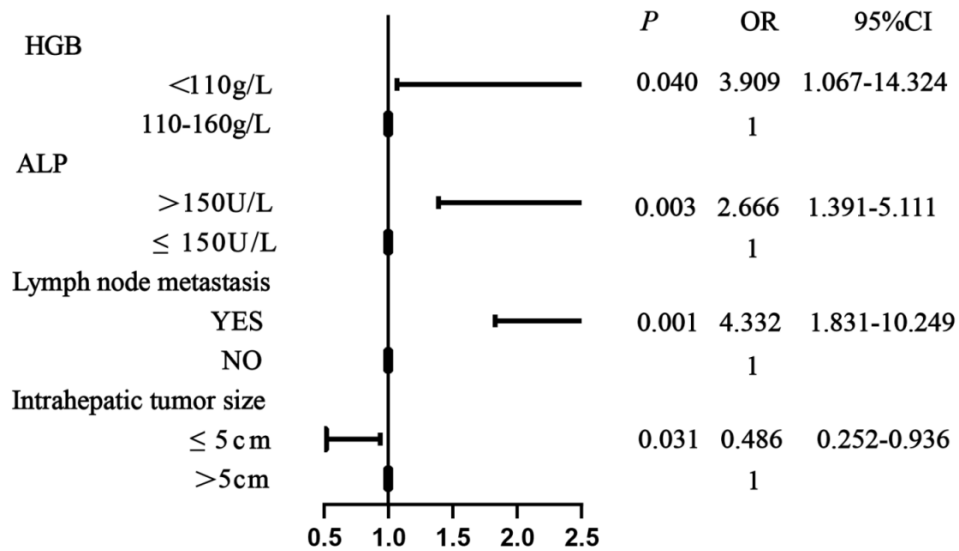


Figure S2. Forest plot of relative factors associated with mBM occurrence. OR (odds ratio), 95% CI (confidence interval).

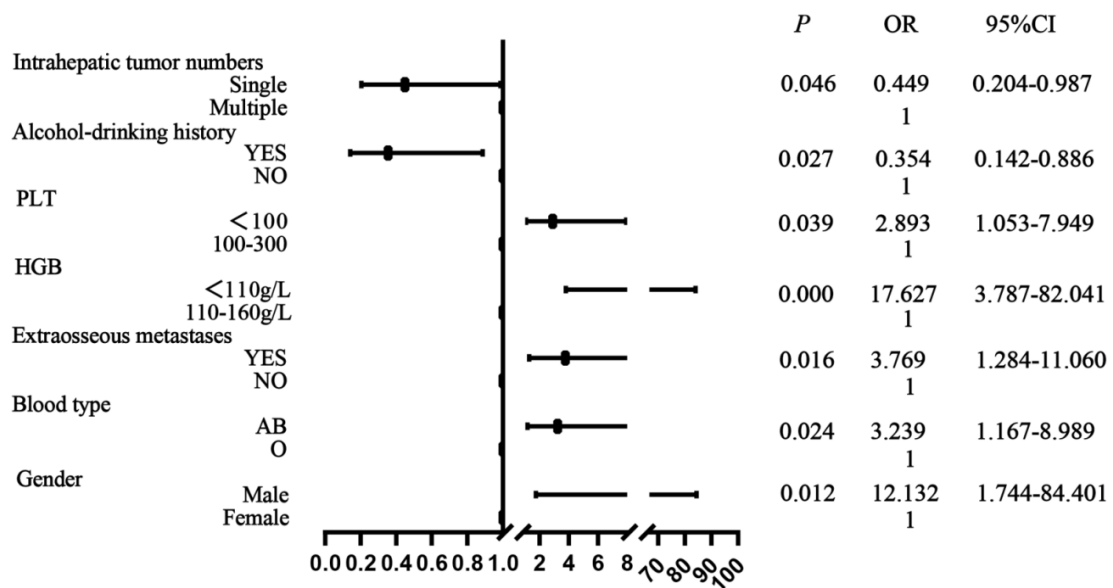
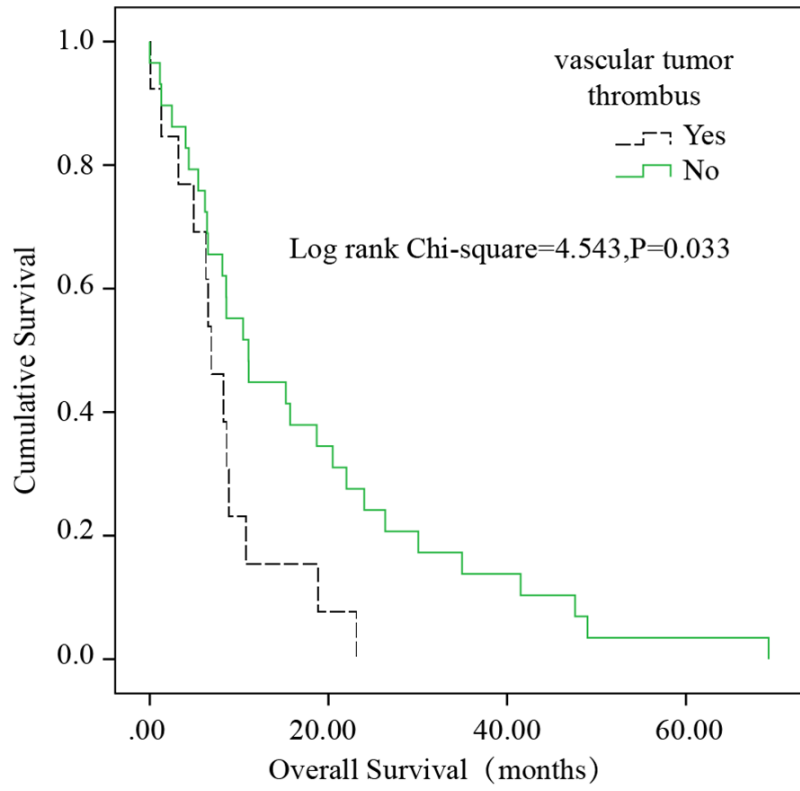


Figure S3. Overall survival analysis of HCC patients with BM according to vascular tumor thrombus.



## Supplementary tables

Table S1. The localization of extraosseous metastatic sites.

Localization	Number of extraosseous	Percentage
Lung	18	53.0%
Adrenal gland	3	8.8%
Abdominal wall	3	8.8%
Peritoneum and retroperitoneum	5	14.7%
Chest wall	2	5.9%
Spleen	2	5.9%
Brain	1	2.9%
Total	34	100%

Table S2. The distribution of spinal metastasis after HCC diagnosis in mBM group.

Spine	Total occurrences	Time after HCC diagnosis(months)			
	N=64	6	6-12	12-24	>24
Cervical	5	1 (20.0%)	1 (20.0%)	2 (40.0%)	1(20.0%)
Thoracic	23	16 (69.6%)	3 (13.0%)	1 (4.4%)	3(13.0%)
Lumbar	21	13 (61.9%)	2 (9.5%)	3 (14.3%)	3(14.3%)
Sacrum	15	10 (66.7%)	2 (13.3%)	2 (13.3%)	1(6.7%)