

Supplementary Table 1 Comparison of clinicopathological features between the AFP+ and AFP- groups

Clinicopathological Features		AFP+ group (n=75)	AFP- group (n=498)	$\chi^2/t/Z$	P value
Sex	Female	18	154	1.487	0.223
	Male	57	344		
Age# (years)		67(24-85)	65(22-92)	-1.782	0.075
Outcome	Survival	17	349	67.551	<0.001
	Death	55	131		
Tumor location	Upper 1/3 of the stomach	8	145	1.324	0.723
	Middle 1/3 of the stomach	26	115		
	Lower 1/3 of the stomach	18	200		
	≥2 sites are involved	23	38		
Tumor size	<5cm	12	271	8.968	0.003
	≥5cm	22	170		
Differentiation	High/high-medium differentiated adenocarcinoma	1	71	49.922	<0.001
	Medium/medium-low differentiated adenocarcinoma	40	207		
	Low/ undifferentiated adenocarcinoma	25	216		
	Hepatoid adenocarcinoma	9	0		
	Others	0	4		
Lymphatic metastasis	No	9	224	29.384	<0.001
	Yes	66	274		
Liver metastasis	No	38	449	79.704	<0.001
	Yes	37	49		
Extrhepatic metastasis	No	43	385	13.761	<0.001
	Yes	32	113		
Time of liver metastasis	Simultaneous liver metastasis	36	34	10.844	0.001

	Heterochronous liver metastasis	1	15		
TNM stage	I-II	14	276	35.228	<0.001
	III-IV	61	222		
T stage	1-2	8	206	6.853	0.009
	3-4	26	235		
N stage	0-1	12	279	10.407	0.001
	2-3	22	162		
Vascular invasion	No	8	240	12.074	0.001
	Yes	26	201		
Nerve invasion	No	17	233	0.102	0.75
	Yes	17	208		
NLR*		4.834±3.148	3.320±2.899	-5.636	<0.001
PLR*		248.489±124.460	170.935±94.825	-5.327	<0.001
MLR*		0.415±0.212	0.292±0.173	-5.544	<0.001
SII*		1298.983±1108.197	757.811±726.551	-5.666	<0.001
SIRI*		2.283±2.103	1.323±1.300	-5.885	<0.001
PNI*		41.626±6.354	46.214±6.343	-5.838	<0.001

The median age of patients at diagnosis was 67 years in the AFP+ group, which was not significantly different from the median age of 65 years at diagnosis in the AFP- group. Besides, there was no statistical difference between the two groups in terms of gender and tumor location. The incidence of tumor metastasis in AFP+ group was significantly higher than that in AFP- group, regardless of lymph node metastasis rate (88.0% VS 55.0%), liver metastasis rate (49.3% VS 9.8%), or extrahepatic metastasis rate (42.7% VS 22.7%). The proportion of patients with stage III-IV in the AFP+ group (81.3% vs. 44.6%) was significantly higher than that in the AFP- group. In both groups of the patients with liver metastasis (AFP+ group: n=37; AFP- group: n=49), the rate of simultaneous liver metastasis was significantly higher in the AFP+ group (97.3% vs 69.4%) than that in the AFP- group. In both groups of patients undergoing gastric surgery (AFP+ group: n=34; AFP- group: n=441), patients in the AFP+ group had significantly higher levels in terms of tumor size, T stage, N stage, and vascular invasion rate than those of patients in the AFP- group, while there was no significant difference in the rate of nerve invasion.

Abbreviations: AFP, alpha-fetoprotein; NLR, neutrophil-to-lymphocyte ratio; PLR, platelet-to-lymphocyte ratio; MLR, monocyte-to-lymphocyte ratio; SII, systemic immune-inflammation index; SIRI,

systemic inflammation response index; PNI, prognostic nutritional index

NOTE: The greater curvature and the lesser curvature of the stomach were divided into three equal parts, connecting each corresponding point, and thus the stomach was divided into three regions. The upper 1/3 of the stomach included the cardia and fundus and the middle 1/3 contained the body of the stomach. The lower 1/3 of the stomach included the antrum and pylorus. The time of liver metastasis was only counted for patients with liver metastasis. Tumor size, T stage, N stage, vascular nerve and nerve invasion were counted for patients who underwent gastric surgery.

#: The data were expressed as median (min-max). *: The data were expressed as mean \pm standard deviation.

Supplementary Table 2 Comparison of clinicopathological features between low and high groups of NLR/PLR /MLR

Clinicopathological features	NLR		PLR		MLR		χ^2	P value
	Low group	High group	Low group	High group	Low group	High group		
	(n=19)	(n=56)	(n=21)	(n=54)	(n=52)	(n=23)		
Sex (Female/Male)	5/14	13/43	6/15	12/42	11/41	7/16	0.000/0.334/0.753	1.000/0.563/0.386
Age (<60/≥60 years)	4/15	11/45	6/15	9/45	10/42	5/18	0.000/0.699/0.000	1.000/0.403/1.000
Outcome (Survival/Death)	11/7	6/48	11/9	6/46	17/32	0/23	18.172/15.127/10.446	<0.001/<0.001/0.001
AFP (<20-54/54-485/≥485ng/ml)	8/4/7	17/21/18	11/5/5	14/20/20	21/15/16	4/10/9	1.833/4.762/3.888	0.400/0.092/0.143
Tumor location* (A/B/C/D)	6/3/7/3	17/15/19/5	6/7/8/0	17/11/18/8	14/14/21/3	9/4/5/5	1.534/4.321/6.413	0.689/0.230/0.090
Tumor size (<5/≥5cm)	5/9	7/13	7/4	5/18	9/16	3/6	—	1.000/0.026/1.000
Differentiation* (a/b/c/d)	0/12/4/3	1/28/21/6	0/11/8/2	1/29/17/7	1/30/16/5	0/10/9/4	2.450/0.806/2.341	0.564/0.910/0.548
Lymphatic metastasis (No/Yes)	5/14	4/52	6/15	3/51	8/44	1/22	3.290/5.562/0.943	0.070/0.018/0.332
Liver metastasis (No/Yes)	11/8	27/29	13/8	25/29	26/26	12/11	0.532/1.474/0.030	0.466/0.225/0.862
Extrahepatic metastasis (No/Yes)	13/6	30/26	15/6	28/26	34/18	9/14	1.279/2.369/4.493	0.258/0.124/0.034
Time of liver metastasis (Simultaneous/ Heterochronous)	7/1	29/0	8/0	28/1	25/1	11/0	—	0.216/1.000/1.000
TNM stage (I-II/ III-IV)	6/13	8/48	7/14	7/47	11/41	3/20	1.771/2.900/0.260	0.183/0.089/0.406
T stage (1-2/3-4)	4/10	4/16	5/6	3/20	6/19	2/7	—	0.689/0.079/1.000
N stage (0-1/2-3)	5/9	7/13	6/5	6/17	9/16	3/6	—	1.000/0.138/1.000
Vascular invasion (No/Yes)	4/10	4/16	5/6	3/20	6/19	2/7	—	0.689/0.079/1.000
Nerve invasion (No/Yes)	6/8	11/9	5/6	12/11	12/13	5/4	—	0.728/1.000/1.000

Supplementary Table 3 Comparison of clinicopathological features between low and high groups of SII/SIRI/PNI

Clinicopathological features	SII		SIRI		PNI		χ^2	P value
	Low group	High group	Low group	High group	Low group	High group		
	(n=29)	(n=46)	(n=28)	(n=47)	(n=46)	(n=29)		
Sex (Female/Male)	7/22	11/35	6/22	12/35	11/35	7/22	0.0/162/0	0.982/0.687/0.982
Age (<60/≥60 years)	7/22	8/38	5/23	10/37	8/38	7/22	0.506/0.128/0.506	0.477/0.72/0.477
Outcome (Survival/Death)	14/14	3/41	12/14	5/41	4/41	13/14	17.69/11/466/14.421	<0.001/0.001/<0.001
AFP (<20-54/54-485/≥485ng/ml)	13/8/8	12/17/17	11/7/10	14/18/15	12/10/7	13/15/18	2.811/1.482/2.136	0.245/0.477/0.344
Tumor location* (A/B/C/D)	9/9/9/2	14/9/17/6	9/6/10/3	14/12/16/5	13/10/16/7	10/8/10/1	1.734/0.287/2.716	0.622/0.971/0.454
Tumor size (<5/≥5cm)	7/9	5/13	4/14	8/8	5/14	7/8	—	0.475/0.151/0.288
Differentiation* (a/b/c/d)	0/16/10/3	1/24/15/6	0/17/6/5	1/23/19/4	0/22/18/6	1/18/7/3	0.788/4.193/3.442	1/0.209/0.305
Lymphatic metastasis (No/Yes)	6/23	3/43	6/22	3/44	3/43	6/23	2.172/2.472/2.172	0.141/0.116/0.141
Liver metastasis (No/Yes)	16/13	22/24	17/11	21/26	23/23	15/14	0.384/1.805/0.021	0.535/0.179/0.884
Extrahepatic metastasis (No/Yes)	20/9	23/23	20/8	23/24	25/21	18/11	2.615/3.629/0.433	0.106/0.057/0.510
Time of liver metastasis (Simultaneous/ Heterochronous)	12/1	24/0	10/1	26/0	1/22	14/0	—	0.351/0.297/1.000
TNM stage (I-II/ III-IV)	7/22	7/39	7/21	7/40	6/40	8/21	0.932/1.180/2.478	0.334/0.277/0.115
T stage (1-2/3-4)	5/11	3/15	4/14	4/12	3/16	5/10	—	0.429/1.000/0.417
N stage (0-1/2-3)	6/10	6/12	5/13	7/9	5/14	7/8	—	1.000/0.475/0.288
Vascular invasion (No/Yes)	5/11	3/15	3/15	5/11	2/17	6/9	—	0.429/0.429/1.000
Nerve invasion (No/Yes)	8/8	9/9	8/10	9/7	9/10	8/7	—	1.000/0.732/1.000

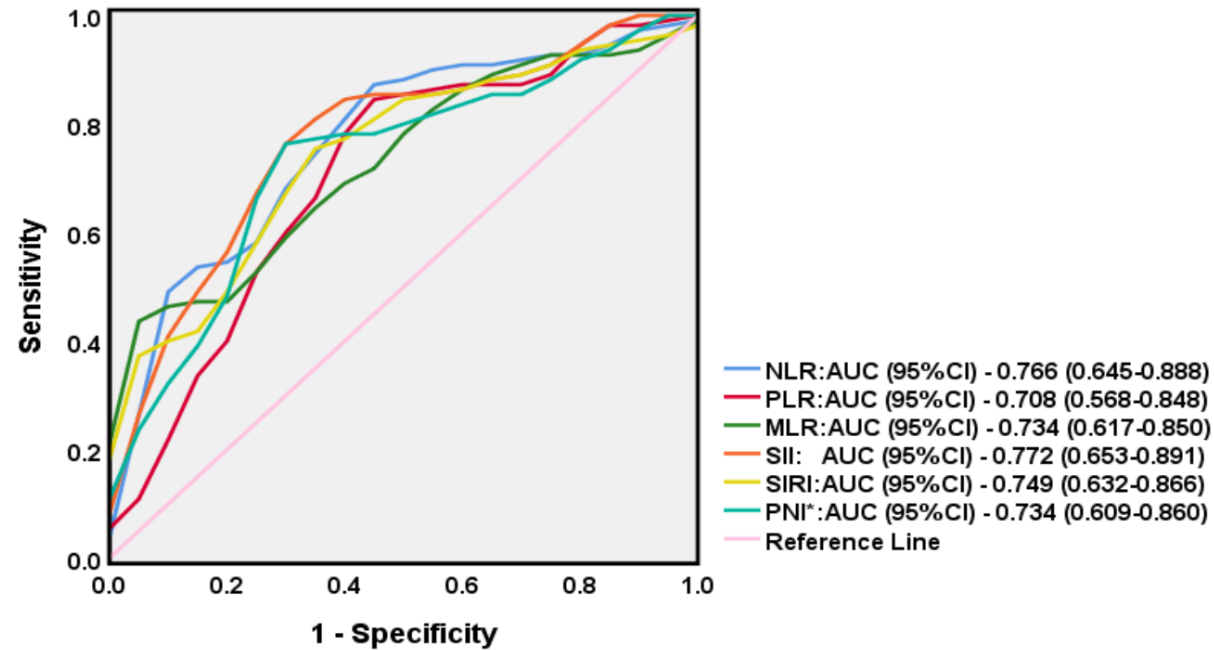
Abbreviations: NLR, neutrophil-to-lymphocyte ratio; PLR, platelet-to-lymphocyte ratio; MLR, monocyte-to-lymphocyte ratio.

NOTE: "Outcome" excluded the people who lost to follow-up. The time of liver metastasis was only counted for patients with liver metastasis. Tumor size, T stage, N stage, vascular nerve and nerve invasion were counted for patients who underwent gastric

surgery.

*: A, B, C and D represented respectively "Upper 1/3 of the stomach", "Middle 1/3 of the stomach", "Lower 1/3 of the stomach" and " ≥ 2 sites are involved".

a, b, c and d represented respectively "High/high-medium differentiated adenocarcinoma", "Medium/medium-low differentiated adenocarcinoma", "Low/ undifferentiated adenocarcinoma" and "Hepatoid adenocarcinoma".



Supplementary Figure 1. ROC curves for NLR, PLR, MLR, SII, SIRI and PN1 alone to predict survival in AFP+ group.

Abbreviations: AFP, alpha-fetoprotein; NLR, neutrophil-to-lymphocyte ratio; PLR, platelet-to-lymphocyte ratio; MLR, monocyte-to-lymphocyte ratio; SII, systemic immune-inflammation index; SIRI, systemic inflammation response index; PN1, prognostic nutritional index.

NOTE: *: A smaller result of PN1 in the ROC curve indicated a more positive detection, so 1/PN1 was used here instead of PN1