

**Table 1. Subgroup and meta regression of sensitivity and specificity of prognostic indicators.**

Category	NO. of Trails	Sensitivity (95%)	I <sup>2</sup> (%), P	P-reg	Specificity (95%)	I <sup>2</sup> (%), P	P-reg
<b>SII</b>							
Overall	6	0.61(0.48-0.73)	96.2, <0.001		0.60(0.45-0.73)	96.3, <0.001	
Country							
China	5	0.64(0.52-0.76)	96.6, <0.001	0.42	0.57(0.42-0.72)	96.9, <0.001	0.41
Non-China	1	0.46(0.15-0.76)	NR		0.71(0.41-1.00)	NR	
Sample size							
≤298	3	0.65(0.48-0.81)	94.7, <0.001	0.43	0.67(0.49-0.85)	93.0, <0.001	0.28
>298	3	0.59(0.42-0.76)	97.7, <0.001		0.54(0.35-0.74)	97.7, <0.001	
Cut-off value							
≤410	3	0.73(0.66-0.81)	84.1, 0.002	<0.001	0.42(0.38-0.47)	54.7, 0.110	<0.001
>410	3	0.47(0.37-0.57)	90.2, <0.001		0.76(0.72-0.81)	0.0, 0.541	
Treatment							
Surgery	6	0.61(0.48-0.73)	96.2, <0.001	NR	0.60(0.45-0.73)	96.3, <0.001	NR
CRT	0	NR	NR		NR	NR	
Pathology							
SCC	5	0.64(0.52-0.76)	96.6, <0.001	0.42	0.57(0.42-0.72)	96.9, <0.001	0.41
Mixed	1	0.46(0.15-0.76)	NR		0.71(0.41-1.00)	NR	
Clinical stage							
0-III	5	0.61(0.47-0.74)	96.9, <0.001	0.88	0.54(0.40-0.68)	95.9, <0.001	0.10
0-IV	1	0.60(0.30-0.91)	NR		0.78(0.56-1.00)	NR	
Follow-up							
≤36	2	0.66(0.61-0.70)	53.0, 0.145	0.07	0.57(0.52-0.62)	97.6, <0.001	0.94
>36	2	0.57(0.54-0.61)	98.7, <0.001		0.52(0.48-0.56)	98.8, <0.001	
NR	2	0.71(0.65-0.76)	97.0, <0.001		0.55(0.46-0.63)	90.0, 0.002	
Age							
≤63.0	3	0.59(0.42-0.76)	97.7, <0.001	0.93	0.54(0.35-0.74)	97.7, <0.001	0.67
>63.0	2	0.55(0.48-0.62)	77.6, 0.035		0.76(0.70-0.82)	17.4, 0.271	
NR	1	NR	NR		NR	NR	
Sex ratio							
≤4.55	3	0.59(0.42-0.76)	97.7, <0.001	0.93	0.54(0.35-0.74)	97.7, <0.001	0.67
>4.55	3	0.65(0.48-0.81)	94.7, <0.001		0.67(0.49-0.85)	93.0, <0.001	
<b>PNI</b>							
Overall	7	0.51(0.41-0.61)	95.6, <0.001		0.67(0.56-0.77)	95.0, <0.001	
Country							
China	5	0.52(0.40-0.64)	97.0, <0.001	0.82	0.63(0.51-0.76)	95.8, <0.001	0.09
Non-China	2	0.48(0.29-0.68)	0.0, 0.412		0.76(0.60-0.91)	40.1, 0.196	
Sample size							
≤255	2	0.51(0.31-0.71)	54.7, 0.137	0.99	0.72(0.53-0.91)	0.0, 0.612	0.30
>255	5	0.51(0.39-0.63)	97.0, <0.001		0.66(0.53-0.79)	96.4, <0.001	
Cut-off value							
≤46	2	0.44(0.26-0.62)	75.3, 0.044	0.51	0.80(0.67-0.93)	0.0, 0.963	0.01

>46	5	0.53(0.42-0.65)	96.5, <0.001		0.62(0.50-0.73)	95.4, <0.001	
<b>Treatment</b>							
Surgery	5	0.54(0.44-0.65)	94.2, <0.001	0.30	0.65(0.52-0.78)	95.3, <0.001	0.22
Mixed	1	NR	NR		NR	NR	
NR	1	NR	NR		NR	NR	
<b>Pathology</b>							
SCC	5	0.52(0.40-0.64)	97.0, <0.001	0.82	0.63(0.51-0.76)	95.8, <0.001	0.09
Mixed	2	0.48(0.29-0.68)	0.0, 0.412		0.76(0.60-0.91)	40.1, 0.196	
<b>Clinical stage</b>							
0-III	4	0.58(0.47-0.68)	94.8, <0.001	0.17	0.60(0.47-0.73)	93.7, <0.001	0.01
0-IV	3	0.41(0.29-0.53)	84.8, 0.001		0.76(0.65-0.87)	5.0, 0.349	
<b>Follow-up</b>							
≤36	5	0.48(0.36-0.60)	96.1, <0.001	0.64	0.69(0.57-0.82)	94.3, <0.001	0.30
>36	2	0.57(0.39-0.75)	89.2, 0.002		0.62(0.42-0.83)	97.4, <0.001	
<b>Age</b>							
≤63.4	3	0.51(0.35-0.67)	98.2, <0.001	0.88	0.75(0.62-0.88)	97.1, <0.001	0.99
>63.4	2	0.48(0.41-0.55)	0.0, 0.412		0.76(0.70-0.81)	40.1, 0.196	
NR	2	0.44(0.38-0.50)	85.4, 0.009		0.79(0.71-0.86)	0.0, 0.737	
<b>Sex ratio</b>							
≤4.75	4	0.56(0.44-0.68)	97.2, <0.001	0.43	0.59(0.47-0.71)	96.0, <0.001	0.75
>4.75	3	0.45(0.31-0.59)	50.8, 0.131		0.77(0.67-0.88)	11.6, 0.323	
<b>NLR</b>							
Overall	11	0.51(0.47-0.54)	77.1, <0.001		0.70(0.64-0.76)	79.1, <0.001	
<b>Country</b>							
China	8	0.51(0.47-0.55)	83.8, <0.001	0.98	0.70(0.64-0.77)	71.5, 0.001	0.04
Non-China	3	0.50(0.41-0.60)	0.0, 0.800		0.71(0.60-0.81)	91.4, <0.001	
<b>Sample size</b>							
≤297	6	0.56(0.50-0.61)	0.0, 0.462	0.14	0.70(0.62-0.78)	78.8, <0.001	0.03
>297	5	0.48(0.43-0.53)	88.5, <0.001		0.72(0.64-0.79)	83.6, <0.001	
<b>Cut-off value</b>							
≤2.5	3	0.47(0.42-0.53)	33.5, 0.223	0.76	0.75(0.70-0.80)	65.6, 0.055	0.06
>2.5	7	0.51(0.46-0.55)	84.2, <0.001		0.71(0.64-0.78)	75.8, <0.001	
NR	1	NR	NR		NR	NR	
<b>Treatment</b>							
Surgery	7	0.48(0.43-0.52)	0.0, 0.619	0.31	0.71(0.63-0.78)	75.8, <0.001	0.05
Mixed	4	0.53(0.48-0.58)	89.3, <0.001		0.71(0.61-0.81)	85.8, 0.001	
<b>Pathology</b>							
SCC	8	0.51(0.47-0.55)	83.8, <0.001	0.98	0.70(0.64-0.77)	71.5, 0.001	0.04
Mixed	3	0.50(0.41-0.60)	0.0, 0.800		0.71(0.60-0.81)	91.4, <0.001	
<b>Clinical stage</b>							
0-III	6	0.54(0.50-0.58)	55.0, 0.049	0.14	0.70(0.62-0.78)	78.8, <0.001	0.02
0-IV	5	0.46(0.42-0.50)	0.0, 0.642		0.71(0.63-0.79)	83.6, <0.001	
<b>Follow-up</b>							
≤37	4	0.47(0.44-0.51)	65.3, 0.034	NR	0.68(0.61-0.73)	86.9, <0.001	NR

>37	2	0.44(0.38-0.52)	0.0, 0.497		0.76(0.71-0.81)	76.6, 0.039	
NR	5	0.54(0.52-0.57)	80.7, <0.001		0.68(0.65-0.72)	70.5, 0.009	
<b>Age</b>							
≤61.1	4	0.47(0.43-0.51)	37.4, 0.187	0.92	0.72(0.68-0.76)	0.0, 0.861	0.07
>61.1	6	0.53(0.47-0.59)	70.9, 0.004		0.73(0.66-0.80)	84.6, <0.001	
NR	1	NR	NR		NR	NR	
<b>Sex ratio</b>							
≤5.12	5	0.50(0.44-0.55)	78.3, 0.001	0.91	0.70(0.62-0.78)	83.1, <0.001	0.03
>5.12	6	0.51(0.46-0.56)	53.3, 0.058		0.71(0.63-0.78)	79.3, <0.001	
<b>CAR</b>							
Overall	6	0.50(0.38-0.62)	94.8, <0.001		0.84(0.71-0.91)	89.2, <0.001	
<b>Country</b>							
China	4	0.45(0.32-0.59)	95.9, <0.001	0.31	0.87(0.81-0.94)	90.1, <0.001	0.64
Non-China	2	0.60(0.41-0.80)	81.0, 0.022		0.68(0.51-0.85)	38.4, 0.203	
<b>Sample size</b>							
≤283	4	0.60(0.51-0.69)	66.7, 0.029	0.04	0.82(0.70-0.94)	86.7, <0.001	0.61
>283	2	0.33(0.23-0.43)	94.4, <0.001		0.85(0.71-0.98)	95.7, <0.001	
<b>Cut-off value</b>							
≤0.13	4	0.56(0.44-0.68)	87.9, <0.001	0.28	0.77(0.67-0.86)	85.4, <0.001	0.46
>0.13	2	0.37(0.21-0.53)	96.1, <0.001		0.94(0.88-1.00)	0.0, 0.665	
<b>Treatment</b>							
Surgery	2	0.45(0.24-0.66)	98.2, <0.001	0.71	0.85(0.72-0.98)	91.2, 0.001	0.66
Mixed	4	0.53(0.38-0.67)	81.3, 0.001		0.81(0.69-0.93)	87.8, <0.001	
<b>Pathology</b>							
SCC	4	0.53(0.38-0.67)	81.3, 0.001	0.65	0.81(0.69-0.93)	87.8, <0.001	0.25
Mixed	2	0.45(0.24-0.66)	98.2, <0.001		0.85(0.72-0.98)	91.2, 0.001	
<b>Clinical stage</b>							
0-III	3	0.46(0.29-0.63)	97.2, <0.001	0.62	0.91(0.88-0.95)	0.0, 0.814	0.22
0-IV	3	0.54(0.37-0.71)	88.1, <0.001		0.71(0.66-0.76)	29.6, 0.242	
<b>Follow-up</b>							
≤40	1	NR	NR	NR	NR	NR	NR
>40	1	NR	NR		NR	NR	
NR	4	0.60(0.55-0.65)	66.7, 0.029		0.80(0.74-0.85)	86.7, <0.001	
<b>Age</b>							
≤62.2	3	0.39(0.28-0.50)	93.8, <0.001	0.08	0.87(0.77-0.97)	92.3, <0.001	0.08
>62.2	3	0.62(0.50-0.74)	63.3, 0.066		0.78(0.63-0.92)	89.5, <0.001	
<b>Sex ratio</b>							
≤5.5	4	0.56(0.44-0.68)	87.9, <0.001	0.28	0.77(0.67-0.86)	85.4, <0.001	0.46
>5.5	2	0.37(0.21-0.53)	96.1, <0.001		0.94(0.88-1.00)	0.0, 0.665	
<b>PLR</b>							
Overall	11	0.53(0.47-0.59)	88.6, <0.001		0.65(0.60-0.70)	78.9, <0.001	
<b>Country</b>							
China	9	0.50(0.45-0.56)	87.5, <0.001	0.02	0.68(0.64-0.72)	78.8, <0.001	0.64
Non-China	2	0.67(0.55-0.78)	74.5, 0.048		0.52(0.39-0.64)	0.0, 0.331	

<b>Sample size</b>							
≤303	4	0.62(0.54-0.70)	61.2, 0.052	0.02	0.58(0.49-0.68)	37.6, 0.186	0.44
>303	7	0.49(0.43-0.54)	89.5, <0.001		0.68(0.64-0.73)	84.0, <0.001	
<b>Cut-off value</b>							
≤143	5	0.48(0.41-0.56)	93.1, <0.001	0.54	0.62(0.55-0.69)	87.4, <0.001	0.16
>143	5	0.57(0.53-0.60)	28.3, 0.233		0.70(0.66-0.73)	55.1, 0.064	
NR	1	NR	NR		NR	NR	
<b>Treatment</b>							
Surgery	9	0.52(0.46-0.59)	90.4, <0.001	0.44	0.66(0.60-0.71)	83.1, <0.001	0.20
Mixed	2	0.57(0.43-0.71)	0.0, 0.875		0.65(0.52-0.79)	0.0, 0.808	
<b>Pathology</b>							
SCC	10	0.51(0.46-0.56)	86.7, <0.001	0.01	0.67(0.63-0.71)	77.4, <0.001	0.31
Mixed	1	0.73(0.59-0.88)	NR		0.47(0.29-0.65)	NR	
<b>Clinical stage</b>							
0-III	10	0.51(0.46-0.56)	86.7, <0.001	0.01	0.67(0.63-0.71)	77.4, <0.001	0.31
0-IV	1	0.73(0.59-0.88)	NR		0.47(0.29-0.65)	NR	
<b>Follow-up</b>							
≤39	4	0.47(0.45-0.50)	86.9, <0.001	NR	0.62(0.59-0.66)	84.7, <0.001	NR
>39	3	0.47(0.43-0.52)	92.0, <0.001		0.71(0.67-0.76)	73.0, 0.025	
NR	4	0.58(0.55-0.62)	80.1, 0.002		0.66(0.62-0.71)	71.9, 0.014	
<b>Age</b>							
≤61.2	7	0.49(0.43-0.56)	89.8, <0.001	0.58	0.68(0.63-0.73)	83.6, <0.001	<0.001
>61.2	3	0.62(0.57-0.67)	71.0, 0.032		0.58(0.50-0.65)	49.8, 0.137	
NR	1	NR	NR		NR	NR	
<b>Sex ratio</b>							
≤4.55	5	0.46(0.39-0.52)	90.0, <0.001	0.20	0.65(0.58-0.72)	84.5, <0.001	0.04
>4.55	6	0.60(0.53-0.66)	67.9, 0.008		0.67(0.60-0.74)	73.3, 0.002	
<b>GPS</b>							
Overall	6	0.48(0.43-0.54)	44.1, 0.111		0.79(0.72-0.85)	20.0, 0.282	
<b>Country</b>							
China	2	0.51(0.44-0.58)	0.0, 0.372	0.51	0.75(0.67-0.82)	0.0, 0.920	<0.001
Non-China	4	0.47(0.39-0.54)	62.6, 0.045		0.83(0.75-0.90)	23.9, 0.268	
<b>Sample size</b>							
≤237	3	0.41(0.34-0.49)	0.0, 0.663	0.03	0.86(0.78-0.94)	0.0, 0.464	<0.001
>237	3	0.52(0.49-0.56)	0.0, 0.486		0.75(0.70-0.80)	0.0, 0.918	
<b>Cut-off value</b>							
1-2 VS 0	3	0.47(0.39-0.54)	62.0, 0.072	0.51	0.81(0.73-0.89)	59.8, 0.083	<0.001
2 VS 0	3	0.50(0.44-0.57)	35.4, 0.213		0.77(0.69-0.85)	0.0, 0.651	
<b>Treatment</b>							
Surgery	6	0.48(0.43-0.54)	44.1, 0.111	NR	0.79(0.72-0.85)	20.0, 0.282	NR
Mixed	0	NR	NR		NR	NR	
<b>Pathology</b>							
SCC	2	0.51(0.46-0.56)	0.0, 0.372	0.94	0.75(0.68-0.80)	0.0, 0.920	0.01
Mixed	3	0.48(0.40-0.55)	48.8, 0.142		0.79(0.71-0.86)	0.0, 0.714	

NR	1	NR	NR		NR	NR	
Clinical stage							
0-III	4	0.47(0.41-0.54)	43.1, 0.153	0.78	0.79(0.72-0.86)	47.3, 0.127	0.05
0-IV	2	0.51(0.42-0.60)	56.9, 0.128		0.80(0.69-0.91)	0.0, 0.458	
Follow-up							
≤40	1	NR	NR	NR	NR	NR	NR
>40	1	NR	NR		NR	NR	
NR	4	0.50(0.46-0.54)	56.5, 0.076		0.78(0.73-0.83)	41.7, 0.161	
Age							
≤62.1	1	NR	NR		NR	NR	
>62.1	3	0.51(0.47-0.56)	48.8, 0.142	0.65	0.78(0.70-0.85)	0.0, 0.714	0.01
NR	2	0.47(0.37-0.57)	61.2, 0.108		0.81(0.72-0.90)	79.6, 0.027	
Sex ratio							
≤5.48	2	0.51(0.42-0.60)	56.9, 0.128	0.78	0.80(0.69-0.91)	0.0, 0.458	0.05
>5.48	4	0.47(0.41-0.54)	43.1, 0.153		0.79(0.72-0.86)	47.3, 0.127	
<b>LMR</b>							
Overall	7	0.54(0.48-0.61)	84.9, <0.001		0.60(0.54-0.65)	73.5, 0.001	
Country							
China	6	0.53(0.47-0.59)	85.8, <0.001	0.20	0.60(0.55-0.66)	77.4, 0.001	0.94
Non-China	1	0.63(0.47-0.79)	NR		0.55(0.37-0.72)	NR	
Sample size							
≤280	3	0.61(0.53-0.69)	0.0, 0.832	0.04	0.56(0.47-0.65)	49.7, 0.137	0.61
>280	4	0.50(0.44-0.56)	88.8, <0.001		0.62(0.56-0.68)	82.3, 0.001	
Cut-off value							
≤3.57	4	0.56(0.48-0.64)	76.3, 0.006	0.40	0.58(0.52-0.64)	75.8, 0.006	0.38
>3.57	3	0.52(0.42-0.62)	91.2, <0.001		0.63(0.55-0.72)	40.0, 0.189	
Treatment							
Surgery	4	0.51(0.44-0.58)	88.2, <0.001	0.11	0.63(0.57-0.69)	78.0, 0.003	0.53
Mixed	3	0.59(0.51-0.67)	0.0, 0.740		0.56(0.48-0.63)	49.6, 0.137	
Pathology							
SCC	7	0.54(0.48-0.61)	84.9, <0.001	NR	0.60(0.54-0.65)	73.5, 0.001	NR
Mixed	0	NR	NR		NR	NR	
Clinical stage							
0-III	7	0.54(0.48-0.61)	84.9, <0.001	NR	0.60(0.54-0.65)	73.5, 0.001	NR
0-IV	0	NR	NR		NR	NR	
Follow-up							
≤39	2	0.52(0.41-0.64)	74.1, 0.050	0.93	0.59(0.48-0.69)	38.1, 0.204	0.34
>39	4	0.52(0.48-0.56)	90.3, <0.001		0.64(0.59-0.68)	79.3, 0.002	
NR	1	NR	NR		NR	NR	
Age							
≤61.5	4	0.50(0.44-0.56)	88.8, <0.001	0.68	0.62(0.56-0.68)	82.3, 0.001	0.06
>61.5	2	0.61(0.53-0.67)	0.0, 0.554		0.60(0.51-0.70)	26.0, 0.245	
NR	1	NR	NR		NR	NR	
Sex ratio							

≤4.32	4	0.50(0.43-0.57)	87.4, <0.001	0.74	0.59(0.51-0.66)	77.3, 0.004	0.29
>4.32	3	0.59(0.51-0.67)	0.0, 0.643		0.60(0.51-0.68)	78.6, 0.009	
<b>mGPS</b>							
Overall	5	0.46(0.30-0.62)	96.0, <0.001		0.80(0.72-0.86)	76.2, 0.002	
<b>Country</b>							
China	3	0.51(0.31-0.71)	97.8, <0.001	0.44	0.76(0.65-0.87)	86.4, 0.001	0.01
Non-China	2	0.39(0.15-0.62)	68.5, 0.075		0.84(0.76-0.93)	42.6, 0.187	
<b>Sample size</b>							
≤212	2	0.66(0.56-0.76)	0.0, 0.320	0.00	0.68(0.57-0.80)	78.3, 0.032	0.43
>212	3	0.32(0.24-0.41)	86.2, 0.001		0.85(0.82-0.89)	10.1, 0.329	
<b>Cut-off value</b>							
1-2 VS 0	4	0.42(0.26-0.58)	95.6, <0.001	0.31	0.84(0.80-0.89)	0.0, 0.503	<0.001
2 VS 0	1	0.64(0.34-0.94)	NR		0.62(0.47-0.77)	NR	
<b>Treatment</b>							
Surgery	3	0.32(0.24-0.41)	86.2, 0.001	0.00	0.85(0.82-0.89)	10.1, 0.329	0.43
Mixed	2	0.66(0.56-0.76)	0.0, 0.320		0.68(0.57-0.80)	78.3, 0.032	
<b>Pathology</b>							
SCC	4	0.50(0.32-0.67)	96.8, <0.001	0.37	0.78(0.70-0.86)	79.6, 0.002	0.01
Mixed	1	0.33(0.02-0.63)	NR		0.87(0.78-0.97)	NR	
<b>Clinical stage</b>							
0-III	4	0.42(0.26-0.58)	95.6, <0.001	0.28	0.84(0.80-0.89)	0.0, 0.503	0.75
0-IV	1	0.64(0.34-0.94)	NR		0.62(0.47-0.77)	NR	
<b>Follow-up</b>							
≤39	3	0.47(0.25-0.68)	92.3, <0.001	0.99	0.79(0.71-0.88)	84.9, 0.001	0.15
>39	1	NR	NR		NR	NR	
NR	1	NR	NR		NR	NR	
<b>Age</b>							
≤61.7	3	0.51(0.31-0.71)	97.8, <0.001	0.59	0.76(0.65-0.87)	86.4, 0.001	0.38
>61.7	2	0.39(0.15-0.62)	68.5, 0.075		0.84(0.76-0.93)	42.6, 0.187	
<b>Sex ratio</b>							
≤4.91	2	0.42(0.17-0.67)	98.4, <0.001	0.67	0.77(0.64-0.90)	93.0, <0.001	0.35
>4.91	3	0.49(0.28-0.70)	93.5, <0.001		0.82(0.73-0.91)	0.0, 0.376	

Abbreviations: OS, overall survival; CSS, cancer-specific survival; DFS, disease-free survival; EC, esophageal carcinoma; NLR, neutrophil-to-lymphocyte ratio; PLR, platelet-to-lymphocyte ratio; LMR, lymphocyte-to-monocyte ratio; CAR, c-reactive protein-to-albumin ratio; SII, systemic inflammation index; PNI, prognostic nutritional index; GPS, Glasgow Prognostic Score; mGPS, modified Glasgow Prognostic Score; Ref, reference; P-reg, the P-value of meta regression; NR, not reported.