

Supplementary Table 1. Baseline characteristics of study participants by the level of psychological distress (HADS¹-total score) before diagnosis of non-small cell lung cancer (NSCLC).

		All N (%)	Low distress N (%)	High distress N (%)	p-value ²	
Overall (N (%))		52	42(80.8)	10(19.2)		
Age	(years, mean (SD))	69.5(8.1)	71.0(7.6)	63.3(7.6)	0.006	
Age at diagnosis	65 years and under	16(30.8)	10(62.5)	6(35.5)	0.052	
	66-70 years	9(17.3)	7(77.8)	2(22.2)		
	71 years and above	27(51.9)	25(92.6)	2(7.4)		
Sex	male	26(50.0)	23(88.5)	3(11.5)	0.291	
	female	26(50.0)	19(73.1)	7(26.9)		
Marital status	single/divorced/widowed	17(32.7)	14(82.4)	3(17.6)	1.000	
	married/partnered	35(67.3)	28(80.0)	7(20.0)		
Educational level	primary	23(44.2)	17(73.9)	6(26.1)	0.533	
	secondary	21(40.4)	18(85.7)	3(14.3)		
	university	8(15.4)	7(87.5)	1(12.5)		
Occupation	unemployed/retired	34(65.4)	27(79.4)	7(20.6)	1.000	
	working	18(34.6)	15(83.3)	3(16.7)		
Financial status	enough/bad	24(65.4)	16(66.7)	8(33.3)	0.477	
	very good/good	28(53.8)	26(92.9)	2(7.1)		
Smoking status	never/previous	25(48.1)	23(92.0)	2(8.0)	0.128	
	current	27(51.9)	19(70.4)	8(29.6)		
Use of beta-blockers	yes	6(11.5)	4(66.7)	2(33.3)	0.703	
Use of beta-agonists	yes	19(36.5)	15(78.9)	4(21.1)	1.000	
	Other	3(5.8)	3(100)	0		
Tumor characteristics						
Histology	adenocarcinoma	33(63.5)	26(78.8)	7(21.2)	0.910	
	non-adenocarcinoma	19(36.5)	16(84.2)	3(15.8)		
Pathological stage	IA	24(46.2)	19(79.2)	5(20.8)	1.000	
	non-IA	28(53.8)	23(82.1)	5(17.9)		
	I-II	41(78.8)	33(80.5)	8(19.5)		1.000
	III-IV	11(21.1)	9(81.8)	2(18.9)		
Tumor size (mm)	mean (SD)	24.9(12.9)	25.4(12.3)	22.6(15.6)	0.542	
β ₂ AR levels	high	10(19.2)	5(50.0)	5(50.0)	0.021	

¹Hospital anxiety and depression scale; ²p-values based on Chi-square test or Fisher's exact test when expected cell counts are less than 5.

Supplementary Table 2. Association¹ between psychological distress and tumor cell β_2 AR levels (without adjustments).

		% patients with high tumor cell β_2 AR levels	OR ¹	95%CI ²	p-value ³
Distress					
	HADS ⁴ -T score				
	<13	11.9	ref		
	≥ 13	50.0	7.4	1.6-37.4	0.011
	HADS ⁴ -D score				
	<5	7.1	ref		
	≥ 5	33.3	6.5	1.4-46.8	0.028
	HADS ⁴ -A score				
	<7	15.0	ref		
	≥ 7	33.3	2.8	0.6-12.5	0.168

¹Multiple regression analysis; ²Confidence interval; ³P-values based on Chi-squared test when expected cell counts are less than 5; ⁴Hospital anxiety and depression scale.

Supplementary Table 3. Association¹ between psychological distress and tumor cell β_2 AR levels: a sensitivity analysis that excluded six participants with psychological distress (HADS) data available after lung cancer diagnosis but not before.

	% patients with high tumor cell β_2 AR levels ²	OR ¹	95%CI ³	p-value ⁴
Psychological distress				
HADS ⁵ -T score				
<13	9.5	ref		
≥ 13	43.9	7.5	0.9-78.0	0.066
HADS ⁵ -D score				
<5	3.8	ref		
≥ 5	28.8	10.2	1.5-207.0	0.042
HADS ⁵ -A score				
<7	10.8	ref		
≥ 7	29.7	3.5	0.5-29.5	0.225

¹Multiple regression analysis, adjusted for age and sex; ²Adjusted for age and sex; ³Confidence interval; ⁴P-values based on Chi-squared test when expected cell counts are less than 5; ⁵Hospital anxiety and depression scale.

Supplementary Table 4. Association¹ between psychological distress with tumor cell β_2 AR levels: a sensitivity analysis that excluded four participants who received neo-adjuvant treatment before surgery.

	% patients with high tumor cell β_2 AR levels ²	OR ¹	95%CI ³	p-value ⁴
Psychological distress				
HADS ⁵ -T score				
<13	10.7	ref		
≥ 13	54.8	10.1	1.5-91.4	0.022
HADS ⁵ -D score				
<5	7.6	ref		
≥ 5	31.7	5.7	1.2-41.8	0.047
HADS ⁵ -A score				
<7	14.1	ref		
≥ 7	35.2	3.3	0.5-25.0	0.225

¹Multiple regression analysis, adjusted for age and sex; ²Adjusted for age and sex; ³Confidence interval; ⁴P-values based on Chi-squared test when expected cell counts are less than 5; ⁵Hospital anxiety and depression scale.

Supplementary Table 5. Association¹ between psychological distress with tumor cell β_2 AR levels: a sensitivity analysis that excluded 11 participants with pathological stage III-IV.

	% patients with high tumor cell β_2 AR levels ²	OR ¹	95%CI ³	p-value ⁴
Psychological distress				
HADS ⁵ -T score				
<13	11.2	ref		
≥ 13	55.8	10.0	1.5-94.5	0.025
HADS ⁵ -D score				
<5	9.1	ref		
≥ 5	31.6	4.6	0.90-35.0	0.086
HADS ⁵ -A score				
<7	14.9	ref		
≥ 7	36.8	3.3	0.5-25.6	0.228

¹Multiple regression analysis, adjusted for age and sex; ²Adjusted for age and sex; ³Confidence interval; ⁴P-values based on Chi-squared test when expected cell counts are less than 5; ⁵Hospital anxiety and depression scale.