Table S1 – Calculation of power and effect size for the realization of the Cox regression model.

Variable of interest	SD	R2	HR	Power
IL-12	0.461	0.190	0.326	0.94
TNF-α	0.468	0.051	0.226	> 0.99
IL=8	0.468	0.218	4.564	> 0.99

IL: Interleukin; TNF-α: Tumor necrosis factor α; SD: standard deviation of covariate of interest; R2: squared coefficient of multiple correlation with other covariates; HR: hazard ratio (exponentiated b1) associated in covariate of interest.
For this calculation, the software Stata v.14.0 was used under the powercox function.

Table S2 - Pearson's correlation coefficient

Covariable	r*	p
Race	0.073	0.635
IL-12	0.276	0.067
TNF-α	-0.153	0.315
IL-8	-0.01	0.95
Surgery	-0.223	0.14
Radiotherapy	-0.175	0.251
Chemotherapy	0.197	0.194
TNM	-0.077	0.614

* Pearson's correlation coefficient

Table S3 – Characterization of the study population in relation to socio-demographic and lifestyle variables.

Variable / Category	Cases		Controls		P
	n(*)	(%)	n (*)	(%)	
Sex					
Male	59	84.3	58	82.9	0.820
Female	11	15.7	12	17.1	
Race					
White	50	73.5	51	72.9	0.929
Non-white	18	26.5	19	27.1	
Marital status					
Not married	17	24.3	22	31.4	0.346
Married	53	75.7	48	68.6	
Degree of education					
Illiterate / functional illiterate	10	14.3	0	0.0	**<0.001**
Elementary and middle school	56	80.0	54	77.1	
Higher education	4	5.7	16	22.9	
Place residence					
Urban area only	12	17.1	29	41.4	**0.007**
Rural area only	8	11.4	5	7.1	
Both areas	50	71.4	36	51.4	
Alcohol					
Never	3	4.3	12	17.1	**<0.001**
Yes, currently (if it was stopped in the last 12 months)	36	51.4	49	70.0	
Yes, in the past	31	44.3	9	12.9	
Tobacco					
Never	10	14.3	37	52.9	**<0.001**
Yes, currently (if it was stopped in the last 12 months)	47	67.1	11	15.7	
Yes, in the past	13	18.6	22	31.4	
Exposure to pesticide or insecticide					
No	28	40.0	50	73.5	**<0.001**
Yes	42	60.0	18	26.5	
Practice physical activity					
No	49	70.0	36	51.4	**0.024**
Yes	21	30.0	34	48.6	

Utilized test: Chi-square
Statistically significant if $p < 0.05$

Table S4 – Characterization of the case study group in relation to clinicopathological variables.

Variable	Category	n (*)	(%)
Topography of the tumor	Upper third	2	(3.7)
	Middle third	31	(57.4)
	Lower third	2	(3.4)
	SOE	19	(35.2)
Degree of differentiation	Well differentiated	9	(13.8)
	Moderately differentiated	35	(53.8)
	Little differentiated	21	32.3)
T	T1 – T2	11	(17.5)
	T3 – T4	52	(85.5)
N	N0	19	(34.5)
	N positive	36	(65.5)
M	M0	56	(84.8)
	M1	10	(15.2)
TNM staging	I – II	17	(28.8)
	III – IV	42	(71.2)
Total		**70**	**(100)**

(*)Cases with ignored values were excluded from the analysis.
SOE: Tumor located in more than one region of the oesophagus.
TNM staging: System based on the size and / or extent of the primary tumor (T), amount of compromised lymph nodes (N) and presence of metastases (M).

Table S5 – Cutoff for cytokines.

Cytokines	Cutoff	Sensitivity (%)	Specificity (%)	AUC (%)
IL-12p70	1.23	75.6	37.5	59.3
TNF-α	0.825	75.6	42.0	57.7
IL-10	1.34	75.6	33.3	49.5
IL-1β	1.35	77.8	30.0	55.8
IL-6	4.7	77.8	71.0	76.0
IL-8	6.75	73.3	71.0	76.0

AUC: Area under the curve ROC; IL: Interleukin; TNF-α: Tumor necrosis factor α.
Utilized test: ROC curve to find a cutoff point of cytokine levels and then dichotomize at low and high levels.

Table S6 – Descriptive of the categorized cytokines.

Cytokines	Categories (level)	n (%)
IL-12p70	Low (<1.23pg/mL)	49 (70.0)
	High (≥1.23 pg/mL)	21 (30.0)
TNF-α	Low (< 0.825 pg/mL)	48 (68.6)
	High (≥ 0.825 pg/mL)	22 (31.4)
IL-10	Low (< 1.34 pg/mL)	50 (71.4)
	High (≥ 1.34 pg/mL)	20 (28.6)
IL-1β	Low (< 1.35 pg/mL)	52 (74.3)
	High (≥ 1.35 pg/mL)	18 (25.7)
IL-6	Low (< 4.7 pg/mL)	27 (38.6)
	High (≥ 4.7 pg/mL)	43 (61.4)
IL-8	Low (< 6.75 pg/mL)	29 (41.4)
	High (≥ 6.75 pg/mL)	41 (58.6)

n: number; IL: Interleukin; TNF-α: Tumor necrosis factor α; pg/mL: picogram per millilitre.

Table S7 - Relative expression of mRNA in tumor tissues induced by Kyse-30 and Kyse-410 cell lines.

Gene	Kyse-30 tumors	Kyse-410 tumors	p value
CXCL1	2163 ± 455.1 (n=9)	4775 ± 1380 (n=6)	**0.0253**
VEGF	62759 ± 7422 (n=5)	36033 ± 1512 (n=3)	0.3938
CCL2	1631 ± 247.1 (n=5)	547.5 ± 64.52 (n=3)	0.0794
CXCL2	Not detected	Not detected	

Quantitation of the mRNA levels of the genes by qPCR were calculated using the 2-ΔCT method. ΔCT was calculated by subtracting the CT (control: ubiquitin) from the CT (target gene).

Figure S1 – Flowchart of inclusion of patients in the study.

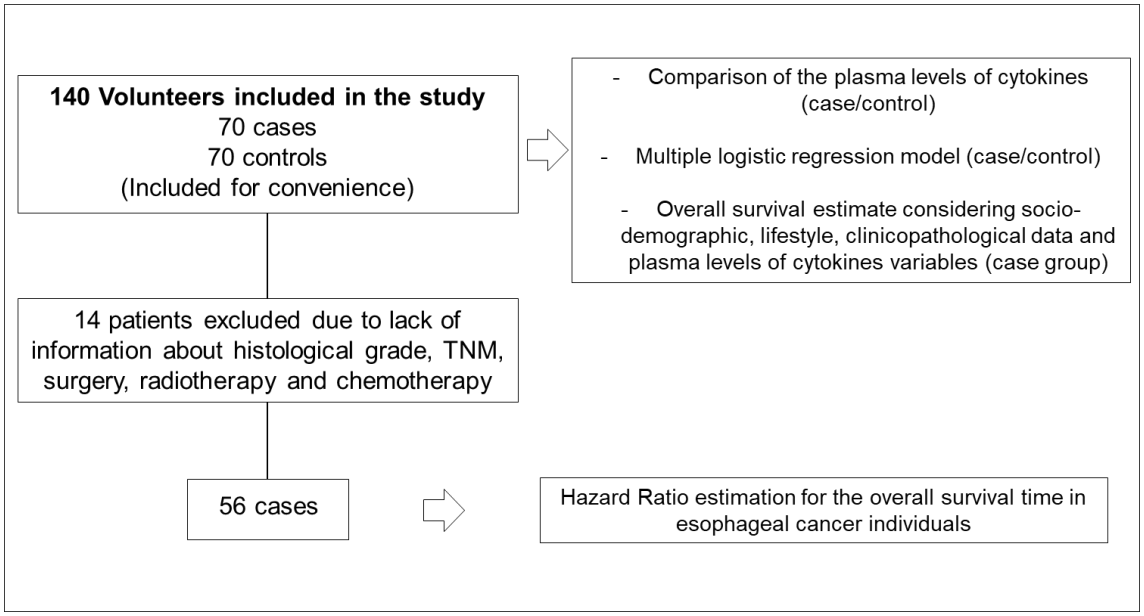


Figure S2 - Kaplan-Meier curve of overall survival of individuals with esophageal cancer (n = 70).

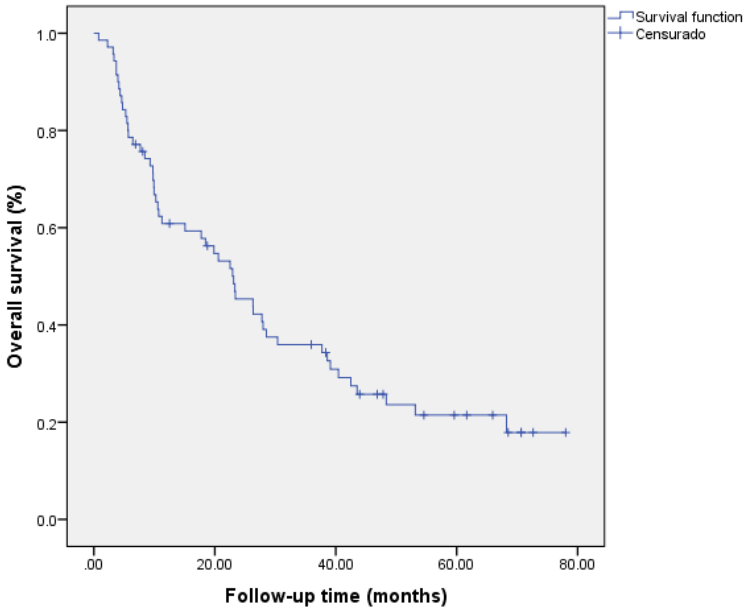
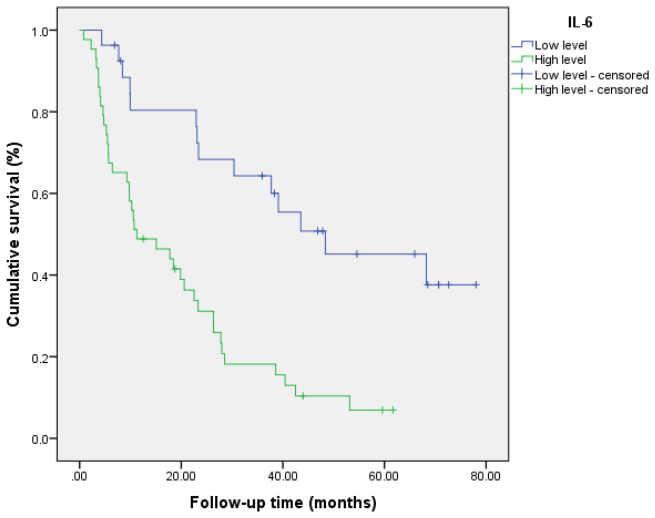
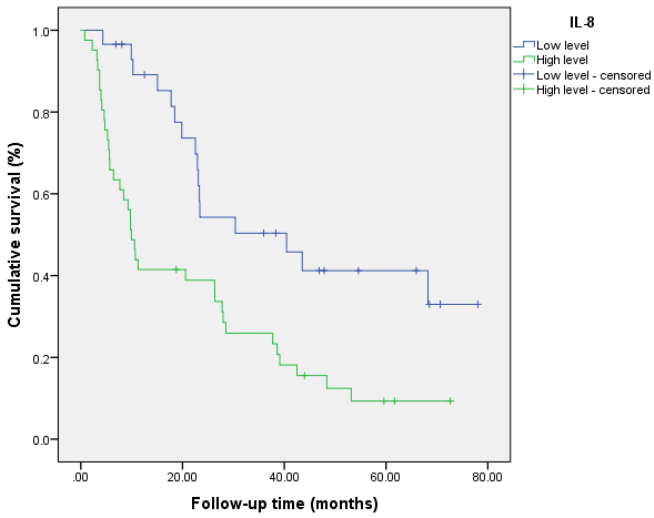
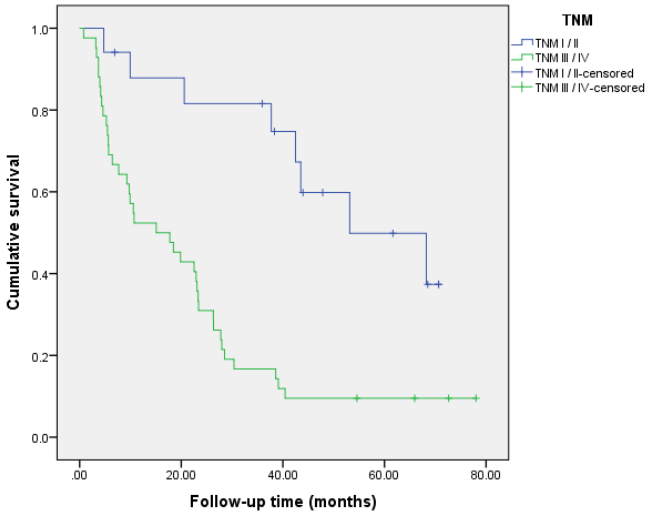


Figure S3 - Kaplan-Meier curves of overall survival correlated with a) IL-6 (n = 70; 43 with high level and 27 with low level), b) IL-8 (n = 70; 41 with high level and 29 with low level), c) TNM (n = 59; 17 with TNM I / II and 42 with TNM III / IV) and d) Surgery (n = 64; 44 did not undergo surgery and 20 underwent surgery).







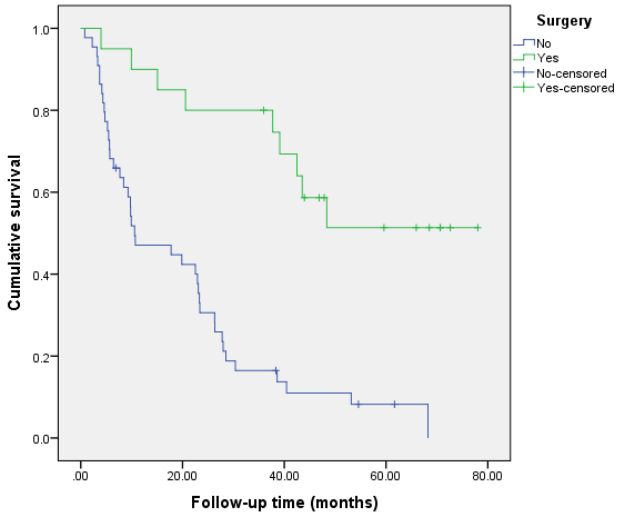


Figure S4 – Gating strategy used for the analysis of intratumoral polymorphonuclear leukocytes (CD11b+ Ly6G+) in Kyse-30 or Kyse-410 tumor-bearing mice.