Characteristic	Univariate		Multivariate	
	Odds ratio (95% CI)	p-value	Odds ratio (95% CI)	p-value
$> 60 \text{ vs.} \le 60$	1.45 (0.54-3.86)	0.458		
Sex				
Male vs. female	0.77 (0.23-2.58)	0.668		
ECOG PS				
2-3 vs. 0-1	1			
Smoking history				
Current or former vs. never	0.79 (0.36-1.72)	0.557		
HPV status				
HPV + vs. HPV-	1.14 (0.32-4.09)	0.837		
Unknown vs. HPV–	0.46 (0.14-1.52)	0.199		
Primary tumor location				
Oropharynx vs. non-oropharynx	1.71 (0.61-4.78)	0.309		
Histologic grade				
Poorly vs. moderate vs. well	1.13 (0.66-1.96)	0.654		
Sum of target lesions (mm)				
$> 40 \text{ vs.} \le 40$	0.85 (0.32-2.26)	0.742		
Prior lines of systemic therapy				
0	$1^{a)}$			
1	1.70 (0.34-8.56)	0.523		
2	0.39 (0.50-3.10)	0.376		
$\geq$ 3	1.39 (0.20-9.71)	0.738		
Neutrophil to lymphocyte ratio <sup>b)</sup>				
$> 4 \text{ vs.} \le 4$	0.32 (0.12-0.88)	0.027	0.30 (0.11-0.84)	0.022
Immune-checkpoint inhibitors				
Anti–PD-1	$1^{a)}$			
Anti–PD-L1	0.73 (0.19-2.83)	0.644		
Anti-PD1/anti-PD-L1+anti-CTLA4	0.85 (0.25-2.89)	0.791		

**S1 Table.** Logistic regression analyses for response to ICIs in 124 evaluable patients with R/M HNSCC

ECOG, Eastern Cooperative Oncology Group; HPV, human papillomavirus; ICI, immune checkpoint inhibitor; PD-1, programmed cell death protein-1; PD-L1, programmed death-ligand 1; PS, performance status. <sup>a)</sup>Reference, <sup>b)</sup>The neutrophil-to-lymphocyte ratio is defined as the absolute neutrophil count divided by the absolute lymphocyte count.