

**Supplementary**

**Table S1** Association of clinical and pathological characteristics with HPV and the expression p53 and ki67

Variables	Subgroup	HPV (N=52)		P value	p53 (N=33)		P value	Ki67 (N=39)		P value
		Negative	Positive		Negative	Positive		Negative	Positive	
Histological subtype	Usual	2	17	0.82	2	1	0.25	2	17	0.34
	warty	2	14		8	2		3	7	
	Mixed	1	8		6	1		2	4	
	Basaloid	0	4		6	7		0	4	
	In situ	0	1		0	0		0	0	
Tumor size	≤0.1-5.0 cm	7	32	0.17	15	8	1.0	6	25	1.0
	≥5.1-10 cm	0	13		7	3		1	7	
Histological grade	I	0	7	0.71	5	1	0.36	2	4	0.55
	II	5	28		12	9		4	19	
	III	2	9		5	1		1	9	
	NI	0	1		0	0		0	0	
Perineural invasion	Negative	4	29	0.9	14	9	0.43	5	18	0.67
	Positive	3	15		8	2		7	32	
	NI	0	1		0	0		0	0	
Lymphatic invasion	Positive	2	13	1.0	5	5	0.24	1	6	0.4
	Negative	5	32		17	6		11	1	
Primary tumor (pT)	pT1a	2	8	0.68	5	2	0.64	3	4	0.38
	pT1b	0	3		1	1		0	3	
	pT2	2	16		10	3		3	10	
	pT3	3	17		6	5		1	13	
	pTx	0	1		0	0		0	1	
Metastasis	Positive	3	38	0.029	17	9	1.0	6	25	1.0
	Negative	4	7		5	2		1	7	
HPV	Positive	-	-		14	9	1.0	6	28	0.89
	Negative	-	-		4	2		1	4	