

## Supplementary Tables

**Table S1.** Patients' colposcopic features summary statistics<sup>a</sup> by VAIN grade at diagnosis.

Characteristic		All patients N = 245	VAIN Grade			p-value
			VAIN 1 N = 52	VAIN 2 N = 55	VAIN 3 <sup>b</sup> N = 138	
Grade	G1	134 (55.6)	45 (88.2)	41 (74.6)	48 (35.6)	< 0.001
	G2	107 (44.4)	6 (11.8)	14 (25.4)	87 (64.4)	
Lesion type	Flat	145 (61.4)	41 (80.4)	38 (70.4)	66 (50.4)	< 0.001
	Papillary	91 (38.6)	10 (19.6)	16 (29.6)	65 (49.6)	
Multifocality	Unifocal	139 (57.9)	34 (65.4)	29 (53.7)	76 (56.7)	0.44
	Multifocal	101 (42.1)	18 (34.6)	25 (46.3)	58 (43.3)	
Vascularity	No	191 (81.3)	51 (98.1)	51 (92.7)	89 (69.5)	< 0.001
	Yes	44 (18.7)	1 (1.9)	4 (7.3)	39 (30.5)	
Vaginal localization	Vault	94 (38.7)	15 (28.9)	21 (38.2)	58 (42.7)	0.13
	Upper third	109 (44.9)	24 (46.2)	24 (43.6)	61 (44.9)	
	Middle third	26 (10.7)	10 (19.2)	8 (14.6)	8 (5.9)	
	Lower third	14 (5.8)	3 (5.8)	2 (3.6)	9 (6.6)	

<sup>a</sup> N (column %); <sup>b</sup> Excluding N = 10 VAIN3 with stromal microinvasion; VAIN = Vaginal Intraepithelial Neoplasia.

**Table S2.** Missing data distribution<sup>a</sup> by VAIN grade at diagnosis.

Characteristic	VAIN					p-value
	All patients N = 255	VAIN 1	VAIN 2	VAIN 3 <sup>b</sup>		
		N = 52	N = 55	N = 148		
Current/former smoker	3 (1.2)	0	2 (3.6)	1 (0.7)	0.23	
Parity	22 (8.6)	3 (5.8)	10 (18.2)	9 (6.1)	<b>0.03</b>	
Immunosuppression	2 (0.8)	0	0	2 (1.4)	1.00	
Previous cancer	2 (0.8)	1 (1.9)	0	1 (0.7)	0.41	
Previous CIN	2 (0.8)	0	0	2 (1.4)	1.00	
Previous VIN	2 (0.8)	1 (1.9)	0	1 (0.7)	0.41	
Previous AIN	2 (0.8)	1 (1.9)	0	1 (0.7)	0.41	
Concomitant AIN	1 (0.4)	0	1 (1.8)	0	0.42	
HR-HPV	95 (37.3)	16 (30.8)	17 (30.9)	62 (41.9)	0.21	
Cytology	26 (10.2)	3 (5.8)	5 (9.1)	18 (12.2)	0.45	
Vaginal localization	2 (0.8)	0	0	2 (1.4)	1.00	
Grade	4 (1.6)	1 (1.9)	0	3 (2.0)	0.65	
Lesion type	10 (3.9)	1 (1.9)	1 (1.8)	8 (5.4)	0.49	
Multifocality	6 (2.4)	0	1 (1.8)	5 (3.4)	0.63	
Vascularity	11 (4.3)	0	0	11 (7.4)	<b>0.02</b>	

<sup>a</sup> N (column %); <sup>b</sup> Including N = 10 VAIN3 with stromal microinvasion; VAIN = Vaginal Intraepithelial Neoplasia; CIN = Cervical Intraepithelial Neoplasia; VIN = Vulvar Intraepithelial Neoplasia; AIN = Anal Intraepithelial Neoplasia; HR-HPV = High-risk Human Papillomavirus.

**Table S3.** Colposcopic Grade association with Lesion type and Vascularity.

		Colposcopic Grade, N (column %)		p-value
		G1	G2	
Lesion type				
Flat		118 (89.4)	27 (24.6)	< 0.001
Papillary		14 (10.6)	83 (75.5)	
Vascularity				
No		129 (97.0)	65 (60.2)	< 0.001
Yes		4 (3.0)	43 (39.8)	