

**Table 2.10. Prevalence of HPV DNA in case series of grade 3 vaginal intraepithelial neoplasia (VAIN3) (>3 cases)**

Reference, study location	Method of detection and types tested	No. of cases, type and location	Overall HPV positivity (% <sup>a</sup> )	Type-specific HPV positivity (% <sup>b</sup> )						Multiple infections (%)	Comments
				6/11	16	18	31	33	Others (Type)		
Minucci <i>et al.</i> (1995), Italy	N/A	88 VAIN I	N=73 (83%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		56 VAIN II	N=51 (91%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		54 VAIN III	N=44 (81.5%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sugase & Matsukura <i>et al.</i> (1997), Japan	Southern blot with PBM-58 & PCR HPV 16, 18, 30, 31, 35, 40, 42, 43, 51, 52, 53, 54, 56, 58,59, 61, 62, 64, 66, 67, 69, 71.	53 VAIN I	N= 71 (100%)	N=0 (0%)	N=4 (7.6%)	N=1 (1.9%)	N=3 (5.6%)	N=0 (0%)	N=5 (9.4%) (HPV62) N=4 (7.6%) (HPV51) N=4 (7.6%) (HPV59) N=4 (7.6%) (HPV42) N=3 (5.6%) (HPV56) N=3 (5.6%) (HPV58) N=3 (5.6%) (HPV52) N=3 (5.6%) (HPV67) N=3 (5.6%) (HPVx) N=2 (3.7%) (HPV64) N=2 (3.7%) (HPV66) N=2 (3.7%) (HPV54) N=2 (3.7%) (HPV53) N=2 (3.7%) (HPV61) N=1 (1.9%) (HPV49) N=1 (1.9%) (HPV30) N=1 (1.9%) (HPV71)	N=0 (0%)	Fresh tissue (smears)
		15 VAIN II		N=0 (0%)	N=1 (6.7%)	N=0 (0%)	N=0 (0%)	N=0 (0%)	N=3 (20%) (HPV58) N=2 (13.3%) (HPV64) N=2 (13.3%) (HPV67) N=2 (13.3%) (HPV53) N=1 (6.7%) (HPV35) N=1 (6.7%) (HPV56) N=1 (6.7%) (HPV40) N=1 (6.7%) (HPV43) N=1 (6.7%) (HPVx)	N=0 (0%)	
		3 VAIN III		N=0 (0%)	N=2 (66.7%)	N=0 (0%)	N=0 (0%)	N=0 (0%)	N=1 (33.3%) (HPV51)	N=0 (0%)	
van Beurden <i>et al.</i> (1998), Netherlands	CPI and CPIIG and sequencing	1 VAIN II	N=8 (100%)	N/A	N=6 (75%)	N/A	N/A	N=1 (12.5%)	N=1 (12.5%) (HPVx)	N/A	Formalin-fixed paraffin-embedded tissue samples. Simultaneous CIN lesions or invasive cervical neoplasia.
		7 VAIN III									

**Table 2.10. Prevalence of HPV DNA in case series of grade 3 vaginal intraepithelial neoplasia (VAIN3) (>3 cases)**

Reference, study location	Method of detection and types tested	No. of cases, type and location	Overall HPV positivity (% <sup>a</sup> )	Type-specific HPV positivity (% <sup>b</sup> )						Multiple infections (%)	Comments
				6/11	16	18	31	33	Others (Type)		
Daling <i>et al.</i> (2002), USA	MY09/11 for 6/11, 16, 18/45, 31	74 In Situ SCC	N=61 (82.4%)	N=6 (9.8%)	N=40 (65.5%)	N=6 (9.8%) (HPV18/45)	N=4 (6.5%) (HPV30s, 31/33/35)		N=1 (1.6%) (HPV58) N=1 (1.6%) (HPV66) N=1 (1.6%) (HPV73) N=8 (13.1%) (HPVx)	N=4 (6.5%) (HPV16&6/11) N=1 (1.6%) (HPV16&33) N=1 (1.6%) (HPV16&66) N=1 (1.6%) (HPV16&x) N=1 (1.6%) (HPV6/11&30)	Formalin-fixed paraffin-embedded tissue samples.
Hampl <i>et al.</i> (2006), Germany	MY09/11, GP5+/GP6+ and type-specific for HPV6, 11, 16, 18, 31, 33, 35, 40, 42, 44, 45, 51, 52, 53, 55, 56, 58, 61, 66, 67, 68, 73, 74, 91, IS887/MM4 and HPV1A18.	11 VAIN II/III	N=10 (90.9%)	N=0 (0%)	N=7 (70%)	N=0 (0%)	N=0 (0%)	N=0 (0%)	N=0 (0%)	N=1 (10%)	Formalin-fixed paraffin-embedded tissue samples.
Srodon <i>et al.</i> (2006), USA	PGMY and SPF 10	17 VAIN I	N=17 (100%)	N=0 (0%)	N=1 (5.9%)	N=4 (23.5%)	N=0 (0%)	N=0 (0%)	N=4 (23.5%) (HPV51) N=3 (17.6%) (HPV81) N=2 (11.8%) (HPV66) N=2 (11.8%) (HPV56) N=1 (5.9%) (HPV39) N=1 (5.9%) (HPV52) N=1 (5.9%) (HPV58) N=1 (5.9%) (HPV67) N=1 (5.9%) (HPV42) N=1 (5.9%) (HPV43) N=1 (5.9%) (HPV54) N=1 (5.9%) (HPV62) N=1 (5.9%) (HPV67)	N=5 (29.4%)	Formalin-fixed paraffin-embedded tissue samples. N=13 (76.4%) of VaIN I had HR HPV. N=15 (93.75%) of VaIN III had HR HPV.
		16 VAIN III	N=15 (93.75%)	N=0 (0%)	N=8 (53.3%)	N=0 (0%)	N=2 (13.3%)	N=0 (0%)	N= 3 (20%) (HPV58) N=1 (6.7%) (HPV35) N=1 (6.7%) (HPV51) N=1 (6.7%) (HPV52) N=1 (6.7%) (HPV66) N=1 (6.7%) (CP6108)	N=2 (13.3%)	
Frega <i>et al.</i> (2007), Italy	Type specific for HPV16 and HPV18.	6	N=6 (100%)	N=0 (0%)	N=5 (83.3%)	N=1 (16.7%)	N/A	N/A	N/A	N/A	Biopsies.

**Table 2.10. Prevalence of HPV DNA in case series of grade 3 vaginal intraepithelial neoplasia (VAIN3) (>3 cases)**

Reference, study location	Method of detection and types tested	No. of cases, type and location	Overall HPV positivity (% <sup>a</sup> )	Type-specific HPV positivity (% <sup>b</sup> )						Multiple infections (%)	Comments
				6/11	16	18	31	33	Others (Type)		
Hampl <i>et al.</i> (2007), Germany	MY09/11, GP5+/GP6+ and type-specific for HPV6, 11, 16, 18, 31, 33, 35, 40, 42, 44, 45, 51, 52, 53, 55, 56, 58, 61, 66, 67, 68, 73, 74, 91, IS887/MM4 and HPV1A18.	3 VIN I	N=3 (100%)	N=0 (0%)	N=0 (0%)	N=0 (0%)	N=0 (0%)	N=0 (0%)	N=1 (33.4%) (HPV42) N=1 (33.4%) (HPV56)	N=1 (33.4%) (HPV42&56)	Formalin-fixed paraffin-embedded tissue samples. 52 patients with multicentric preneoplastic lesions (anus, vulva, vagina and cervix).
		11 VIN II	N=10 (90.9%)	N=0 (0%)	N=6 (60%)	N=0 (0%)	N=1 (10%)	N=3 (30%)	N=1 (10%) (HPV66)	N=2 (20%) (HPV16&42) N=1 (10%) (HPV6&91) N=1 (10%) (HPV16&31)	
		5 VIN III	N=5 (100%)	N=0 (0%)	N=5 (100%)	N=0 (0%)	N=0 (0%)	N=0 (0%)	N=0 (0%)	N=1 (16.7%) (HPV16&56)	

a. percentages given are percentages of HPV positives among all samples.

b. percentages given are percentages of HPV types among HPV positives cases.