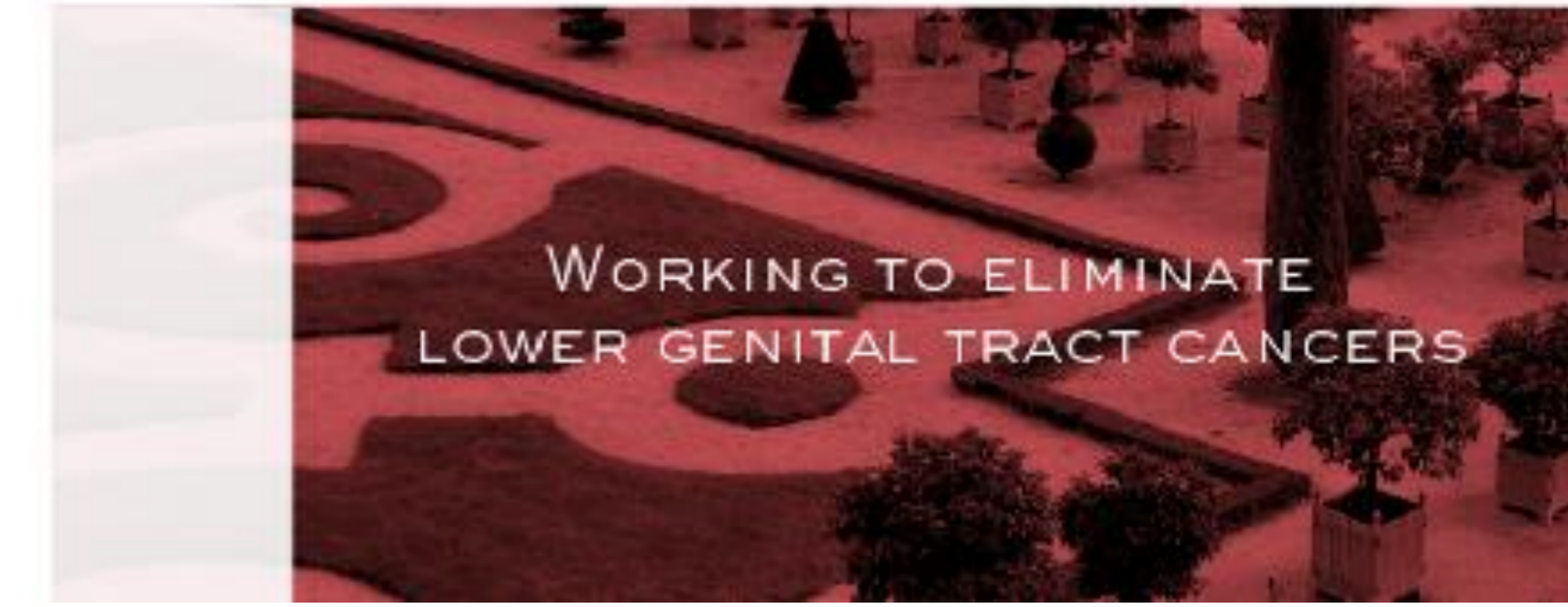


Explore the necessity of colposcopy and ECC in the HPV16/18 positive population

Wei Z¹, Mingzhu L¹, Lihui W¹, Jingran L¹, Chao Z¹, Yu Z¹
 Obstetrics and Gynecology of Peking University People's Hospital. District,
 Beijing 100044, China



4-6 JUNE 2026
 VERSAILLES - FRANCE
 PALAIS DES CONGRES



Objective

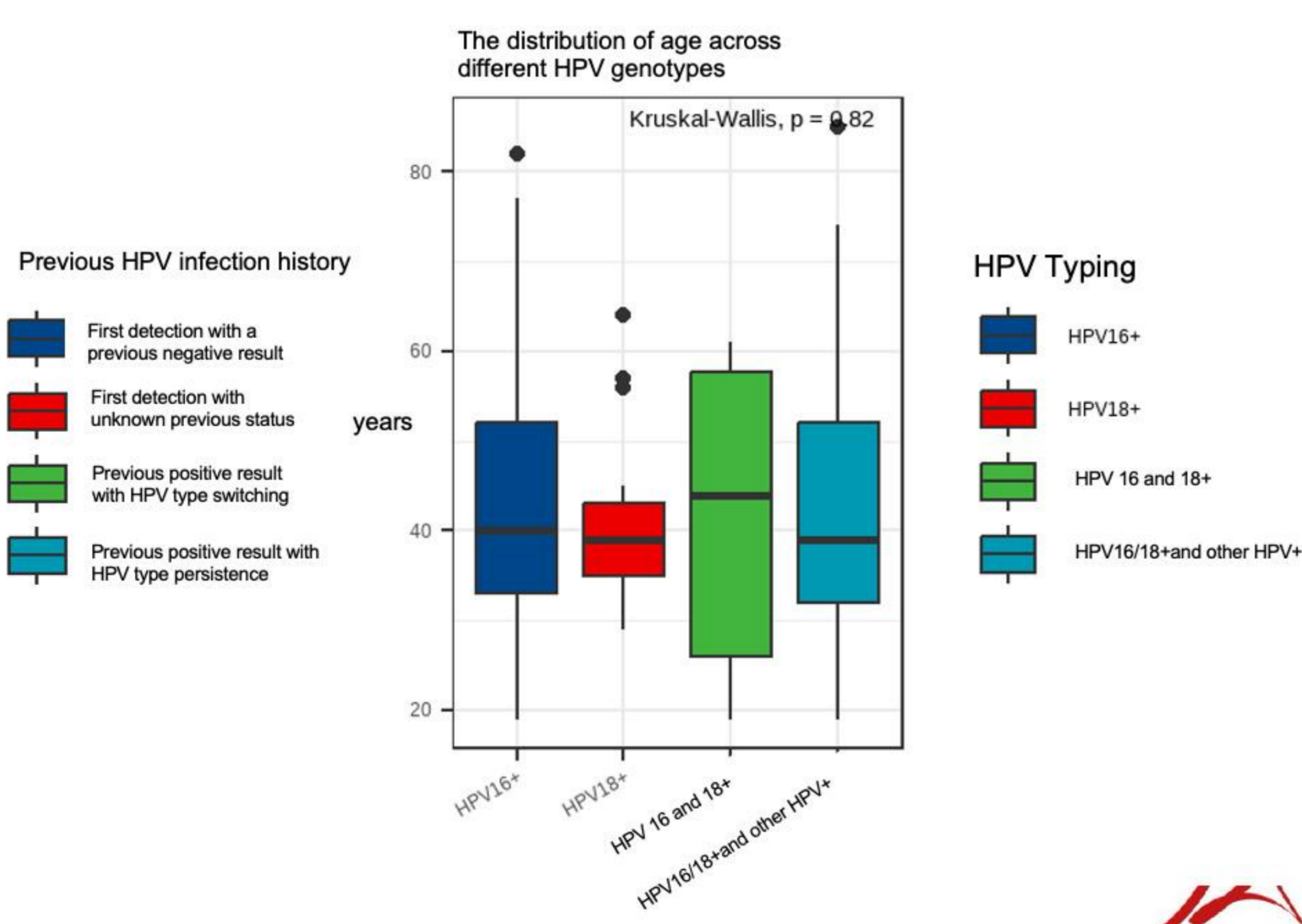
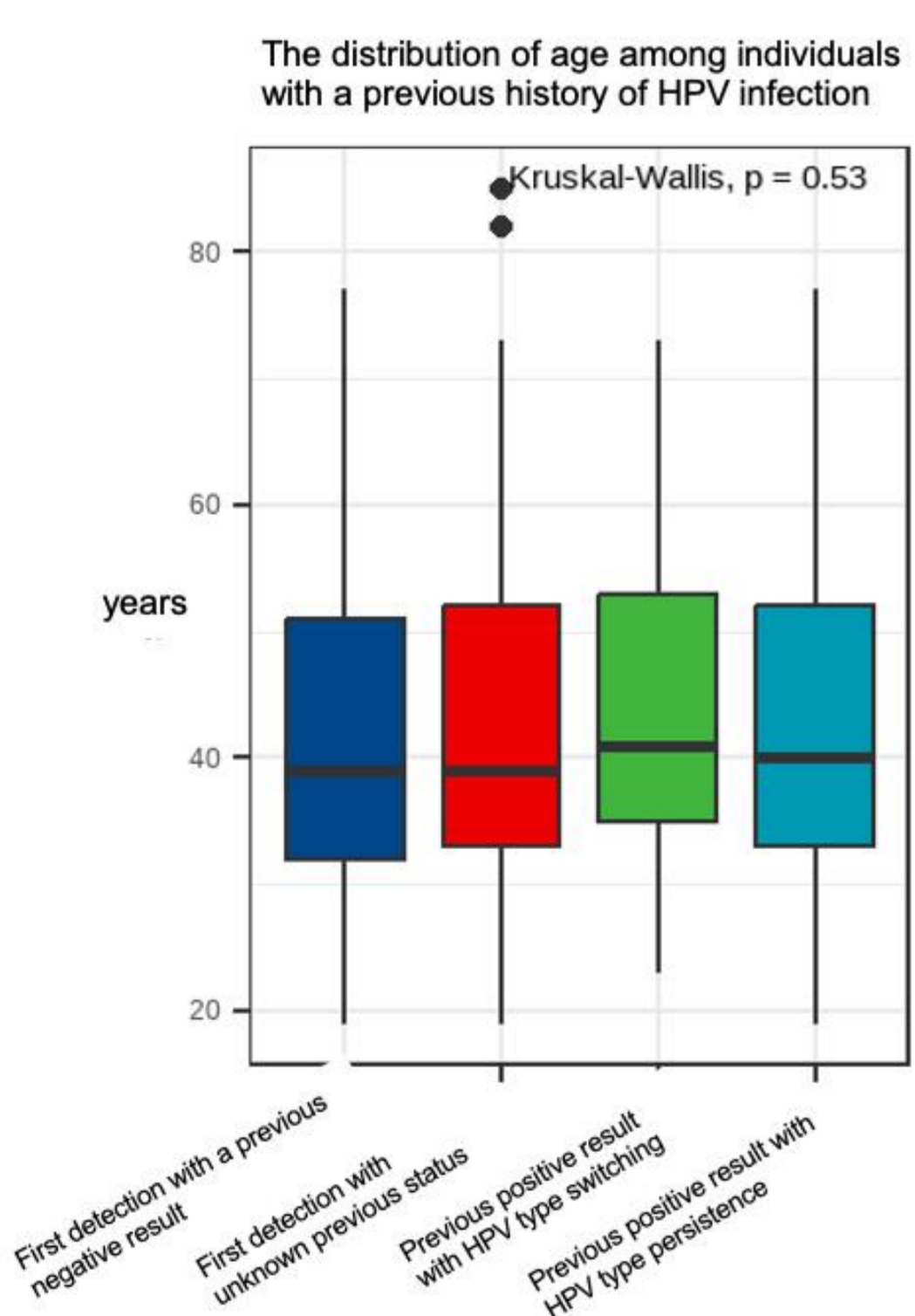
To explore whether individuals positive for HPV 16 and/or HPV 18 require immediate referral for colposcopy and endocervical curettage (ECC) testing, and to assess the necessity of such procedures.

Methods

A total of 710 patients who tested positive for HPV 16 and/or HPV 18 and underwent colposcopy at Peking University People's Hospital between 2021 and 2024 were enrolled. The colposcopic impressions were compared with cervical pathological results to investigate the necessity of performing colposcopy and ECC in populations positive for HPV 16 and/or HPV 18.

Results

The patients who underwent colposcopy had a median age of 40 years (interquartile range: 33–52 years). The colposcopic pathological results were as follows: normal/inflammatory findings accounted for 50% (351/710), low-grade squamous intraepithelial lesion (LSIL) for 17% (118/710), and high-grade squamous intraepithelial lesion (HSIL) for 32% (227/710). Among the HSIL cases, cervical intraepithelial neoplasia grade 2 (CIN2) was detected in 15% (109/710), cervical intraepithelial neoplasia grade 3 (CIN3) in 16% (114/710), and cervical cancer in 2.5% (18/710).



Results

Univariate analysis showed that pathological diagnosis of CIN2 was associated with age ($P < 0.05$) and lack of regular screening (including first-time detection with a previous negative result and first-time detection with no prior regular screening) ($P < 0.05$). Logistic regression analysis revealed that age [$z = -1.767$, 95% confidence interval (CI): 0.983 (0.963–1.002)], first-time detection with a previous negative result [$z = -0.967$, 95% CI: 0.797 (0.501–1.261)], and first-time detection with no prior regular screening [$z = 1.945$, 95% CI: 1.771 (0.979–3.114)] were significant influencing factors for CIN2.

Univariate analysis (CIN2 endpoint)

Variable	Estimate	Std. Error	z value	Pr(> z)	OR (95% CI)
age	-0.018	0.01	-1.767	0.077	0.983 (0.963-1.002)
Duration of HPV 16/18 infection (yrs)	-0.08	0.081	-0.989	0.323	0.923 (0.775-1.068)
Previous medical history					
No relevant medical history	0.031	0.437	0.071	0.943	1.032 (0.462-2.627)
Cone biopsy	0.006	0.438	0.013	0.99	1.006 (0.394-2.254)
Previous HPV infection history					
First detection, previous negative	-0.227	0.235	-0.967	0.334	0.797 (0.501-1.261)
First detection, previous unknown	0.572	0.294	1.945	0.052	1.771 (0.979-3.114)
Previous positive, type interchange	-0.56	0.493	-1.135	0.256	0.571 (0.192-1.379)
Previous positive, type persistent	0.056	0.259	0.217	0.829	1.058 (0.628-1.741)
Impression from colposcopy evaluation					
Normal/Inflammation LSIL	-2.538	0.289	-8.777	0	0.079 (0.044-0.136)
LSIL	0.324	0.278	1.167	0.243	1.383 (0.789-2.357)
HSIL	2.902	0.307	9.444	0	18.21 (10.11-33.854)
HPV Typing					
HPV16+	0.11	0.25	0.44	0.66	1.116 (0.69-1.84)
HPV16/18+and other HPV+ TCT	-0.057	0.255	-0.223	0.824	0.945 (0.566-1.543)
TCT					
NILM	-1.726	0.248	-6.948	0	0.178 (0.109-0.288)
ASC-US	0.656	0.309	2.122	0.034	1.927 (1.031-3.485)
LSIL	0.903	0.395	2.286	0.022	2.468 (1.103-5.271)
HSIL	3.534	0.766	4.613	0	34.273 (9.331-221.119)
ASC-H	2.588	0.825	3.136	0.002	13.306 (3.007-91.896)
Other	0.538	0.498	1.081	0.28	1.713 (0.596-4.35)

For CIN3, univariate analysis indicated associations with age ($P < 0.05$), lack of regular screening (including first-time detection with a previous negative result and first-time detection with no prior regular screening) ($P < 0.05$), and co-positivity for HPV 16 and/or HPV 18 plus other HPV types ($P < 0.05$). Logistic regression analysis demonstrated that age [$Z = 0.739$, 95% CI: 0.996 (0.97–1.021)], first-time detection with a previous negative result [$Z = -0.281$, 95% CI: 0.755 (0.401–1.4)], first-time detection with no prior regular screening [$Z = -0.477$, 95% CI: 0.62 (0.284–1.246)], and co-positivity for HPV 16 and/or HPV 18 plus other HPV types [$Z = -1.97$, 95% CI: 0.652 (0.421–0.99)] were significant influencing factors.

Univariate analysis (CIN3 endpoint)

Variable	Estimate	Std. Error	z value	Pr(> z)	OR (95% CI)
age	-0.004	0.013	-0.333	0.739	0.996 (0.97-1.021)
Duration of HPV 16/18 infection (yrs)	-0.168	0.132	-1.27	0.204	0.845 (0.624-1.056)
Previous medical history					
No relevant medical history	-0.147	0.554	-0.266	0.79	0.863 (0.323-2.999)
Cone biopsy	0.181	0.555	0.326	0.745	1.198 (0.344-3.211)
Previous HPV infection history					
First detection, previous negative	-0.281	0.317	-0.885	0.376	0.755 (0.401-1.4)
First detection, previous unknown	0.658	0.373	1.761	0.078	1.931 (0.892-3.908)
Previous positive, type interchange	-0.747	0.743	-1.006	0.315	0.474 (0.075-1.623)
Previous positive, type persistent	0.067	0.346	0.194	0.846	1.069 (0.525-2.065)
Impression from colposcopy evaluation					
Normal/Inflammation LSIL	-2.736	0.451	-6.064	0	0.065 (0.024-0.146)
LSIL	-0.32	0.429	-0.747	0.455	0.726 (0.289-1.589)
HSIL	2.763	0.349	7.907	0	15.853 (8.084-32.022)
HPV Typing					
HPV16+	0.502	0.362	1.388	0.165	1.651 (0.838-3.503)
HPV16/18+and other HPV+ TCT	-0.477	0.373	-1.278	0.201	0.62 (0.284-1.246)
TCT					
NILM	-1.635	0.33	-4.947	0	0.195 (0.1-0.368)
ASC-US	0.034	0.462	0.074	0.941	1.035 (0.38-2.393)
LSIL	1.124	0.462	2.434	0.015	3.078 (1.163-7.293)
HSIL	2.422	0.529	4.582	0	11.27 (3.938-32.352)
ASC-H	2.867	0.749	3.829	0	17.583 (4.164-88.291)
Other	0.479	0.644	0.744	0.457	1.615 (0.368-5.022)

Conclusion

For individuals positive for HPV 16 and/or HPV 18, factors such as younger age and regular cervical cancer screening can be used to assess the risk value. This risk assessment serves as a basis for determining whether immediate colposcopy and ECC testing are necessary.