

PREVALENCE AND DISTRIBUTION OF HIGH-RISK GENOTYPES OF HPV IN WOMEN WITH CERVICAL INTRAEPITHELIAL NEOPLASIA (CIN) IN CDT"VICTOR BABES"

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OBJECTIVE: The goal of this study is to evaluate the prevalence of high-risk type human papillomavirus (HR HPV) in cervical intraepithelial neoplasia (CIN) in CDT"VICTOR BABES" patients .

MATERIALS AND METHODS: We have investigated HPV type distribution in a total of 62 women aged 20-55, tested for cervical smear and HPV infection between may 2009-february 2012 and biopsy data were obtained for 36 patients HR HPV DNA was tested with Linear Array HPV Genotyping Test (Roche Diagnostics). Cervical samples were taken in a CYTOFAST Solution (Hospitex Diagnostics). 36 blocks of cervix tissue were analyzed in the Department of Pathology of VICTOR BABES Institut.

RESULTS:

We identified 17 different types of HR HPV. Prevalence of HR HPV types by cytological results (NLIM, ASCUS, LSIL, HSIL) and histological results (Negative for intraepithelial lesion, CIN 1, CIN 2/3) was computed irrespective of presence of multiple associations (more than one HR HPV genotype: in 16 cases -1 HR HPV, in 15 cases- 2 HR HPV, in 3 cases-3 HR HPV and in 1 case- 4 and 5 HR HPV). For histological results we found 20,3% (12/59) negative cases, 37,3% (22/59) cases with CIN 1 and 42,4% (25/59) cases with CIN 2/3 (CIN 2,CIN 3 and CIS). We found 23,7% (14/59) cases with normal cytology, 25,4% (15/59) with ASCUS (atypical cells of undetermined significance), 22% (13/59) with LSIL (low-grade squamous intraepithelial lesion) and 28,8% (17/59) with HSIL (high-grade squamous intraepithelial lesion).

The prevalence of HPV 16 in high-grade cervical intraepithelial neoplasia (CIN 2/3) was 36 % (9/25), 100% (1/1) in "in situ" carcinoma (CIS) ; also was 33,3% (4/12) in patients negative for intraepithelial lesion, and 18,1% (4/22) in low-grade cervical intraepithelial neoplasia (CIN I) . The prevalence of HPV types 31 and 52 in high-grade CIN was 16 % (4/25); HPV type 51 was found in 18,1% (4/22) in low-grade CIN. In patients without CIN, the most prevalent HR HPV types were HPV 16(33,3%) and HPV 31(16,7%). Genotype 18 had a very low prevalence in all groups. The most prevalent HR HPV types in patients with abnormal cytology ASCUS, LSIL, HSIL were HPV 16 (40%, 30,8%, 29,4%), followed by HPV 51, 52 (13,3%) in ASCUS, HPV 31 (23,1%) in LSIL and HPV 18, 45 (11,8%) in HSIL. In patients with normal cytology, the most prevalent HR HPV types were HPV 52, 58 (21,4%), followed by HPV 16 (14,2%). Genotypes 16,31 and 52 were more prevalent in CIN 2/3 (36%,16%,16%) than in HSIL patients (29,4%, 5,9%, 5,9%); in LSIL patients genotypes 31 was more prevalent (23,1%) than in CIN 2/3 (16%).

Single and multiple-type infection involving HPV 16 were significantly associated with high-grade neoplasia (\geq CIN 2) [odds ratio (OR) 1,92; 95% confidence interval (CI): 0,5087-7,3115](Figure 1), especially for age group 21-30 [odds ratio(OR) 12; 95% confidence interval (CI) :0,9550-150,8].(Figure 2)

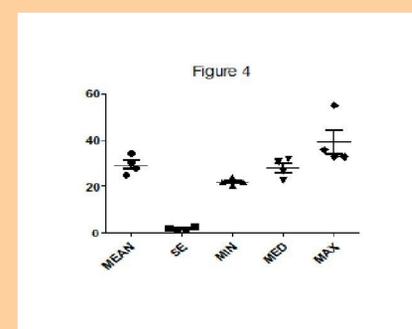
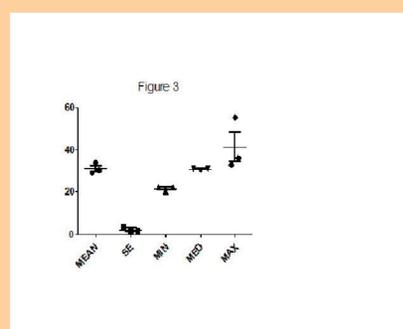
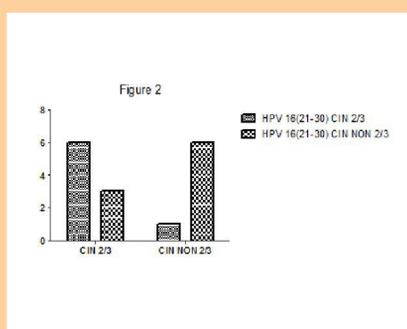
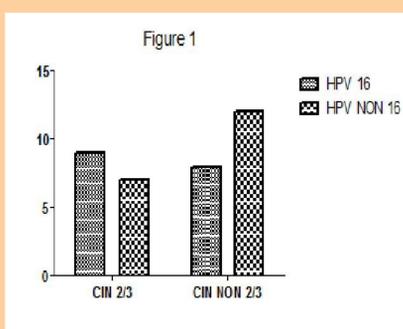


Table 1- Histological results

	MEAN	SE	MIN	MED	MAX
NEG	28.88	1.44	22.	30.50	33.
CIN 1	33.91	3.30	22.	31.	55.
CIN 2/3	30.47	1.17	20.	31.	36.

Table 2- Cytological results

	MEAN	SE	MIN	MED	MAX
NLIM	25.20	2.08	22.	23.	33.
ASCUS	34.27	2.73	22.	32.	55.
LSIL	28.00	1.27	24.	27.	33.
HSIL	30.60	1.48	20.	31.	36.

The average age of women negative for intraepithelial lesion and CIN 1, 2/3 was 30,5 and 31, respectively, statistically significant (test test Kruskal-Wallis Nonparametric ANOVA, $p=0.0141$ -s, $KW=12,48$). (Table 1)(Figure 3)

The average age of women with LSIL and HSIL was 27 and 31 years, respectively. This difference is statistically significant ((test Kruskal-Wallis Nonparametric ANOVA, $p=0.0024$ -s, $KW=16,50$) (Table 2) (Figure 4)

DISCUSSION

Our data show that genotypes 16, 31, 52, and 51 are the most prevalent HR HPV in cervical samples with intraepithelial lesion in CDT"VICTOR BABES" patients. HR HPV DNA can be found in all grades of intraepithelial lesions and carcinoma of the uterin cervix, even in the histologically "normal" looking cervix.