ASSOCIATION BETWEEN HIGH RISK HUMAN PAPILLOMAVIRUS INFECTION AND SEXUAL TRANSMISSION DISEASES IN WOMEN OF THE METROPOLITAN AREA OF BUCARAMANGA

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INTRODUCTION

- ❖ High Risk Human Papillomavirus (HR-HPV) has been identified as a necessary cause for the development of cervical cancer (CC) ¹.
- ❖ HPV infection is also associated with some factors that include other sexually transmitted diseases (STD).²

OBJETIVE

To evaluate the association between sexually transmitted diseases and HPV infection in women from the metropolitan area of Bucaramanga, Colombia.

METHODS

Design: Cross-sectional study in women aged 35 to 65 years who were previously screened for HPV because they presented risk factors for developing cervical cancer through an epidemiological survey.

Detection STD: species and serovars of *Chlamydia trachomatis*, *Haemophilus ducreyi*, Herpesvirus simplex (HSV-1 / HSV 2), *Mycoplasma genitalium*, *Mycoplasma hominis*, *Neisseria gonorrhoeae*, *Treponema pallidum*, *Trichomonas vaginalis* and *Ureaplasma (urealyticum / parvum)* were detected using multiplex PCR and Specific hybridization (STD Direct Flow CHIP).

Sample: For convenience, 419 samples were collected from September 2016 to November 2018 and prevalence ratios (PR) were measured to find associations using Stata 14 (Figure 1).

Figure 1. Methodological flow chart for detection of sexually transmitted infections

Table 1. Frequency of sexually transmitted infections in patients with and without HPV infection

Microorganism	STD frequency HPV negative n= 305 (72.8%)	STD frequency HPV positive n= 114 (27.2%)	Prevalence ratios (PR)	P value
<i>Mycoplasma genitalium</i>	3 (0.24)	3 (0.71)	-	-
<i>Mycoplasma hominis</i>	107 (25.5)	76 (18.2)	2.58 (1.84 - 3.62)	< 0.0001
<i>Trichomonas vaginalis</i>	41 (9.6)	45 (10.7)	2.56 (1.92 – 3.43)	< 0.0001
<i>Ureaplasma urealyticum/parvum</i>	232 (55.4)	95 (22.7)	1.41 (0.91 – 2.17)	0.12
<i>Haemophilus ducreyi</i>	0	0	-	-
Herpes simplex 1	1 (0.24)	1 (0.24)	-	-
Herpes simplex 2	18 (4.3)	15 (3.6)	1.77 (1.18 – 2.67)	< 0.0001
<i>Treponema pallidum</i>	0	0	-	-
<i>Neisseria gonorrhoeae</i>	0	0	-	-
<i>Chlamydia trachomatis</i> (serovars A-K)	8 (1.9)	5 (3.1)	-	-
<i>Chlamydia trachomatis</i> (serovars L1-L3)	1 (0.24)	2 (0.48)	-	-

RESULTS AND DISCUSSION

- ❖ The prevalence of HPV-HR with at least one genotype was 27.2% (n = 114).
- ❖ The main STD detected in women with HPV-HR infection were *Ureaplasma urealyticum/parvum* (78%), *Mycoplasma hominis* (43.7%), *Trichomonas vaginalis* (20.3%), and Herpes simplex virus type II (7.9%).
- ❖ There were association between HPV-HR and STD infections such as: *Mycoplasma hominis*, *Trichomonas vaginalis*, Herpes Simplex type 2.

CONCLUSIONS

Mycoplasma hominis, *Trichomonas vaginalis* and Herpes simplex virus type 2 were the most frequent coinfection in HPV-HR + women, and an interesting topic to correlate with cervical cancer development

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