

Poster presentation

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A pilot study on the distribution of human papillomavirus genotypes and HPV-16 variants in cervical neoplastic lesions from Ecuadorian women

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Introduction

Human papillomaviruses (HPVs) are the cause of cervical intraepithelial neoplasia and invasive carcinomas of the uterine cervix. The distribution of specific HPV genotypes varies greatly across populations and HPV surveys have been performed in different geographical regions to apply appropriate vaccine strategies. The aim of this study was to determine the spectrum of HPV genotypes and HPV-16 variants among women with cervical lesions living in Ecuador.

Methods

A total of 71 cases have been analyzed, including 32 chronic cervicitis, 29 cervical intraepithelial neoplasia grade 1, and 10 cervical intraepithelial neoplasia grade 2–3. HPV sequences were detected by broad spectrum consensus-primer-pairs MY09/MY11 and GP5+/GP6+-based polymerase chain reaction and characterized by nucleotide sequence analysis.

Results

Overall, 31 (43.7%) cases were HPV-positive with prevalence rates of 37.5 percent, 44.8 percent and 60 percent in patients with chronic cervicitis, cervical intraepithelial neoplasia grade 1 and cervical intraepithelial neoplasia

grade 2–3, respectively. Among the positive cases, the most common genotypes were HPV 16 (64.5%) and HPV 81 (29%) followed by HPV 31, 53, 56, and 58, in descending order of prevalence. Seventeen (85%) HPV-16 isolates were classified as European and three (15%) as African 1 variant on the basis of nucleotide signature present within the MY09/MY11 L1 sequence.

Discussion

The results suggest that 1) HPV 16 has a very high prevalence among women with cervical lesions in Ecuador; therefore, an effective HPV-16 based vaccine should prevent the development of cervical cancer in a large proportion of Ecuadorian women; and 2) HPV type 81, which has not been included in the most used detection systems and has not been searched for in the majority of epidemiological studies on HPV survey, is very frequent among women with cervical lesions in Ecuador and among HIV-positive women in Brazil and Italia (Cerqueira et al., 2007; Tornesello et al., 2008) underscoring the need to target a wide range of HPV types in cervical cancer screening programs.