

# Feasibility of Post-Partum Testing for High-Risk Human Papillomavirus Among HIV-Positive and Negative Women

Erin G. Dressel, MS<sup>1</sup>, Gabriela Del Bianco, MD<sup>2</sup>, Gilhen Rodriguez, MD<sup>2</sup>, James R. Murphy, PhD<sup>2</sup>, Gloria P. Heresi, MD<sup>2</sup>, Laura J. Benjamins, MD, MPH<sup>3</sup>

<sup>1</sup>University of Texas, Medical School, Houston<sup>1</sup>, Department of Pediatrics - Divisions of Pediatric Infectious Disease<sup>2</sup> and Adolescent Medicine<sup>3</sup>

## Introduction

Cervical cancer is the second most common cause of cancer in women globally,<sup>1</sup> causing 270,000 deaths each year with more than 80% occurring in developing countries.<sup>2,3</sup> Lack of access to screening procedures delays diagnosis and accounts for the increased morbidity and mortality from this disease.<sup>4</sup> Women with HIV have a higher prevalence of HPV infection;<sup>5</sup> HPV is also more likely to persist in HIV-positive women,<sup>6</sup> which contributes to the higher prevalence and increased risk of cervical cancer.

The purpose of our study is to assess the feasibility of testing a cohort of HIV-positive and negative women for high-risk (HR) HPV shortly after delivery, and to evaluate associated co-morbid conditions among a high-risk population of mothers.

## Objectives

Our study focuses on a population of HIV infected women to determine their risk for HR-HPV in an effort to target prevention efforts. We seek to increase knowledge of HR-HPV infection among HIV positive women and increase the urgency to intervene.

Our study also tested for HR-HPV in the post-partum setting to assess its feasibility among this population of women. The results may encourage expansion of routine testing programs for HR-HPV shortly after delivery. The goal is to make HR-HPV detection more available.

## Methods

We conducted a retrospective chart review of 37 HIV-positive and 35 HIV-negative mothers who were enrolled in a study evaluating vertical transmission of HR-HPV. Results from vaginal swabs collected 24-72 hours after delivery were reviewed, as well as maternal charts for sexually transmitted infections (STI) and obstetric history. Descriptive statistics and chi square analysis were used.

## Results

93% of the mothers were African American and 7% Hispanic. The majority of patients had Medicaid or the County District insurance. Among HIV-positive women, 16 (43%) tested positive for HR-HPV post-partum (PP) compared to 10 (29%) of women without HIV ( $p=0.23$ ). In addition, among those with a positive HR-HPV PP test, 6 (38%) of HIV-positive women had history of STI during pregnancy and 5 (31%) received no prenatal care, compared to 1 (10%) and 2 (20%) of HIV-negative women, respectively. Among women with no documented history of an abnormal PAP smear, 10/24 (42%) HIV-positive women and 5/29 (17%) HIV-negative women had a positive HR-HPV PP test ( $p=0.07$ ).

TABLE 1: Patient Characteristics

HIV STATUS	HIV Positive (N=37)	HIV Negative (N=35)
AGE (Years)	26.8 (SD 6.7) Range 17 to 37	25.0 (SD 4.9) Range 18 to 36
AFRICAN AMERICAN	34 (92%)	33 (94%)
HISPANIC	3 (8%)	2 (6%)

FIGURE 1: Percent of Women with Post-Partum Swabs Positive for HR-HPV

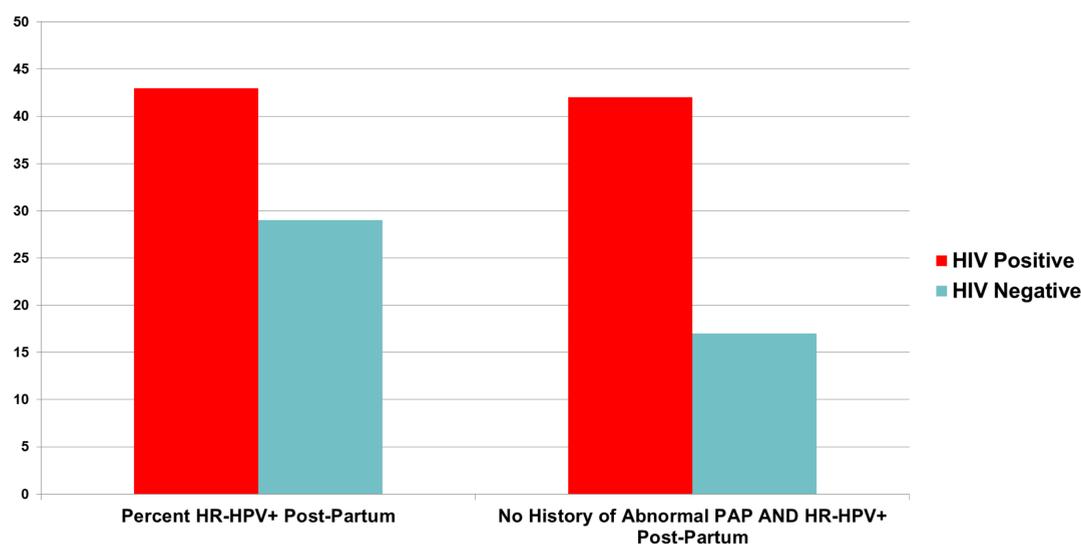
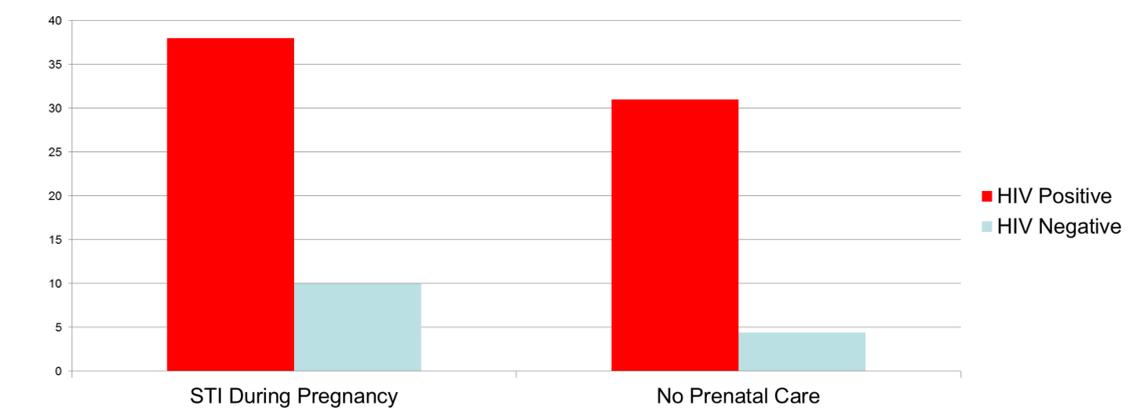


FIGURE 2: Characteristics of Women with HR-HPV+ Post-Partum Swabs



## Conclusions

Our study found a higher prevalence HR-HPV in women infected with HIV compared to women without HIV, although the results were not statistically significant, most likely because of our small sample size. Having an STI during pregnancy or no prenatal care could be potential risk factors for HR-HPV PP among HIV-positive women. Of the women positive for HR-HPV PP 15/53 (28%) had not previously been identified; two thirds of these women had HIV.

For underserved women where access to care is difficult or limited, testing for HR-HPV during the post-partum period may be a feasible screening tool. Testing for HR-HPV around the time of delivery may be a viable option for identifying women at risk for HPV related diseases, especially for women with HIV. This may improve detection of HR-HPV among women in a high-risk population and in cases where delivery may be a woman's first entry into medical care.

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