

10th ANNUAL DEPARTMENT OF PATHOLOGY YOUNG INVESTIGATORS' DAY
POSTER SESSION

POSTER #

45

(for Admin. use)

Thursday, April 17th, 2008
TURNER CONCOURSE
REGISTRATION FORM

Applicant's Name: _____ Janis Taube _____ Degree: _____ MD _____

Applicant's Division: _____

Faculty Preceptor: _____ Dr. Brooks Jackson _____
(Must hold a primary appointment in Pathology)

Appointment Category: House Staff _____ Clin Fellow _____ Research Fellow
_____ Medical Student _____ Graduate Student (Program: _____)

Register for: Clinical Research _____ Translational Research _____ Basic Research

Full Poster Title * Human Papillomavirus Prevalence and Genotype Correlation with Cervical
Cytopathology in Ugandan Women

Where has the work been presented?

Meeting Name Conference on Retroviruses and Opportunistic Infections (CROI) 2008 _____

Meeting Date _____ Feb 3-6, 2008 _____

Not Previously Presented _____

Where is this work being published? _____

Journal Name, Volume, Page, Date _____

In Preparation (Y/N) - Where? Yes. *AIDS*. _____

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***INCLUDE A ONE-PAGE ABSTRACT (including title and all authors) OF THE WORK
YOU WILL BE PRESENTING**

**E-mail COMPLETED Registration form and abstract to:
Stacey Morgan (smorgan9@jhmi.edu) on or before
Friday, March 14th, 2008**

**If you have questions or problems regarding your submission, please
contact Stacey Morgan via e-mail (smorgan9@jhmi.edu)**

Human Papillomavirus Prevalence and Genotype Correlation with Cervical Cytopathology in Ugandan Women

Janis Taube, Betty Kamira, Mahnaz Motevalli, Clemensia Nakabiito, Robert Lukande, Deidra Kelly, Patti Gravitt, Francis Mmimo, Danstan Bagenda, J. Brooks Jackson

Background: HIV is a known risk factor for human papillomavirus (HPV) prevalence and persistence. The objectives of this study were to obtain baseline HPV genotype prevalence in HIV-positive and HIV-negative women in Kampala, Uganda and to determine which genotypes are associated with cervical pathology in this population.

Methods: 200 women aged 18-30 years and 4-12 weeks post-partum at Mulago Hospital were recruited, counseled, consented and underwent rapid HIV testing and a pelvic exam. Liquid-based cervical cytology samples were collected and processed using the Maksem low-cost manual technique. A Digene cervical sampler was used to collect specimens for genotyping by Roche Diagnostics HPV Linear Array. The Fishers exact 2-sided test and the Wilcoxon rank-sum test (with continuity correction) were used to assess the statistical significance of differences observed between proportions and medians, respectively.

Results: HIV prevalence was 19%, and HPV prevalence was 65%. The most common high-risk HPV genotypes were 16(9%), 33(9%), 35(6.5%), 45(6.5%) and 58(6%) and the most common low-risk genotypes were 62 (22%), 61(11%), 81(11%), 70(10%), and 53(10%). The prevalence of HPV 6, 11, and 18 was 2.5%, 1%, and 4%, respectively. There was no significant difference between the presence of HPV 16 or HPV 18 and HIV status (positive vs. negative) (13.9% vs. 7.3%, $P=0.20$ and 3.7% vs. 5.6%, $P=0.64$, respectively), but HIV-positive subjects were more likely to be infected by other high- and low-risk HPV genotypes than HIV-negative women (72.2% vs. 40.9%, $P<0.001$ and 63.9% vs. 36.6%, $p=0.0046$, respectively). HIV-positive women were also infected with a greater median number and range of HPV genotypes when compared to HIV-negative women (median of 2, range 0-8 vs. median of 1, range 0-6, $p\text{-value}<0.001$). Women with HIV were significantly more likely to have an abnormal Pap smear than those who were HIV-negative (43% vs. 11%, $P<0.001$). HPV prevalence was 58% in women with normal cytology and 97% in women with abnormal cytology. Of note, HPV 16/18 prevalence in women with normal cytology was 9.9% and in women with abnormal cytology was 28%.

Conclusions: Our results show that while HPV types 16 and 18 may be seen in association with cervical pathology, preventative or therapeutic vaccines will need to target a broad-spectrum of HPV genotypes to effectively combat cervical disease in this population.