Retrovirology

Poster presentation

Proteomic Analysis of Cervicovaginal Lavage Samples (CVL): Identification of Human Immunodeficiency Virus (HIV) Proteins

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from 2005 International Meeting of The Institute of Human Virology
Baltimore, USA, 29 August – 2 September 2005

Published: 8 December 2005

Retrovirology 2005, **2**(Suppl 1):P150 doi:10.1186/1742-4690-2-S1-P150

Cervical intraepithelial lesions are morphological characteristics recognized as precursor lesions of cervix cancer, and CVL allows sampling of both cells and mucus of these target cells, by noninvasive means. The objective of this study was to determine if (1) proteins could be recovered from the CVL samples of women with CIN lesions, and (2) if the proteins correlated with the CIN state. CVL samples were obtained with informed consent from 20 women, histopathologically diagnosed to have CIN 1 lesions. The protein concentrations of the samples ranged from 0.18–1.34 mg/ml. 1D gel electrophoresis identified marked variations in the protein profiles between the CVL samples, and 2D gel electrophoresis revealed the presence of extensive posttranslational modifications. MALDI TOF mass spectrometry analysis revealed, however, the presence of HIV gag (p24) and envelope glycoprotein (gp41), in 4 out of 20 CVL samples, even though these women were persistently diagnosed to be seronegative for HIV. Western Blot analysis confirmed the presence of these HIV viral proteins and additionally demonstrated phosphorylation of p24 on tyrosine. Furthermore, MS/MS data revealed the presence of sequences which corresponded to HIV gag and envelope glycoprotein.