

GENITAL HERPES: A POSSIBLE CLINICAL MARKER OF HIV

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ABSTRACT**BACKGROUND**

Herpes progenitalis is one of the most common infections in seropositive patients of Human Immunodeficiency Virus (HIV). Studies suggested that the clinical prevalence of genital herpes is higher in HIV-seropositive patients when compared to HIV-seronegative patients.

OBJECTIVE

To compare the clinical prevalence of Genital herpes in HIV-seropositive patients with HIV-seronegative patients.

MATERIALS AND METHODS

A study was conducted from June 2015 to May 2016 at Department of Dermatology, Venereology Leprosy (D.V.L), King George Hospital, Visakhapatnam, Andhra Pradesh; 100 HIV-seropositive patients attending Sexually Transmitted Disease (STD) Clinics were enrolled into the study after obtaining written informed consent. Demographic characteristics were recorded. A detailed history was taken, clinical examination was performed in all the patients. The results are compared with 100 age and sex matched controls who were tested for HIV-seronegative. Tzanck smear was performed in both groups for those who had clinical features of genital herpes.

RESULTS

Herpes progenitalis was more common in HIV-seropositive individuals compared to HIV-seronegative individuals. Among 100 HIV-seropositive patients, 49% had genital herpes. While that of controls only 25% had genital herpes. Highest clinical prevalence was observed in females in both the groups. The highest clinical prevalence was observed in age group of 35 to 45 years in both the groups.

CONCLUSION

Herpes progenitalis clinical prevalence was higher in HIV-seropositive individuals when compared to HIV-seronegative individuals. Genital herpes clinical prevalence was higher in women when compared to men, both in HIV-seropositive and seronegative individuals.

KEYWORDS

Herpes Progenitalis, HIV, Clinical Prevalence, Andhra Pradesh.

HOW TO CITE THIS ARTICLE: Dhanyasree S, Ajaykumar, Padmaja GMV, et al. Genital herpes: a possible clinical marker of HIV. J. Evolution Med. Dent. Sci. 2016;5(74):5474-5477, DOI: 10.14260/jemds/2016/1239

INTRODUCTION

Herpes progenitalis was the most common cause of genital ulcer disease worldwide.^[1-3] May be caused due to Herpes Simplex Virus-2 (HSV-2) or Herpes Simplex Virus-1 (HSV-1). Periodic symptomatic reactivation and asymptomatic viral shedding were characteristics of HSV-2. HSV-2 was a long lasting infection. The virus becomes latent in the nerve root ganglia corresponding to the site of inoculation (The trigeminal ganglion for orolabial infection, sacral ganglion for genital infection).^[4] The infection was usually transmitted through sexual contact.

Financial or Other, Competing Interest: None.

Submission 04-08-2016, Peer Review 01-09-2016,

Acceptance 08-09-2016, Published 15-09-2016.

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DOI: 10.14260/jemds/2016/1239

MATERIALS AND METHODS

The study was conducted for 1 year from June 2015 to May 2016; 100 consecutive HIV-seropositive individuals referred to STD Clinics from Antiretroviral Therapy Centre (ART) were enrolled into the study. Demographic data was recorded. Similarly consecutive new patients attending the STD Clinic with unknown serological status were examined and sent for HIV serology; 100 of them who were age and sex matched to that of cases and tested negative for HIV were selected as controls after obtaining a written informed consent. A detailed history was taken and clinical examination was done in both the groups. For those who had clinical features of herpes progenitalis in both the groups, Tzanck smear was performed by selecting an early lesion. The lesion was deroofed, excess fluid was gently blotted with gauze, floor was gently scraped, the material was spread thinly over the slide and allowed to dry and 8 drops of Giemsa stain was added and 2 mins. after that 16 drops of water was added. Allowed to dry and examined under electron microscope for multinucleated giant cells.



RESULTS

A total of 100 HIV-infected patients [66% men, 34% women] were enrolled into this study aged from 18 to 76 years with an average age of 38.8 years. Overall, 49% (49/100) of them were having symptoms of genital herpes with 46.96% in men and 52.94% in women (Bar Diagram-1). In HIV-seronegative individuals 25% had symptoms of Herpes progeneralis with 40% in men and 60% in women (Bar Diagram-2). The prevalence of Herpes progeneralis was highest (41%) among the age group of 36-45 years followed by 31% in the age group of 26-35 years (Graph 1) in both HIV-seropositive individuals and HIV-seronegative individuals. Herpes progeneralis clinical prevalence was higher in females in both HIV-seropositive and HIV-seronegative individuals.



Fig. 1: Genital Herpes in HIV Positive Male

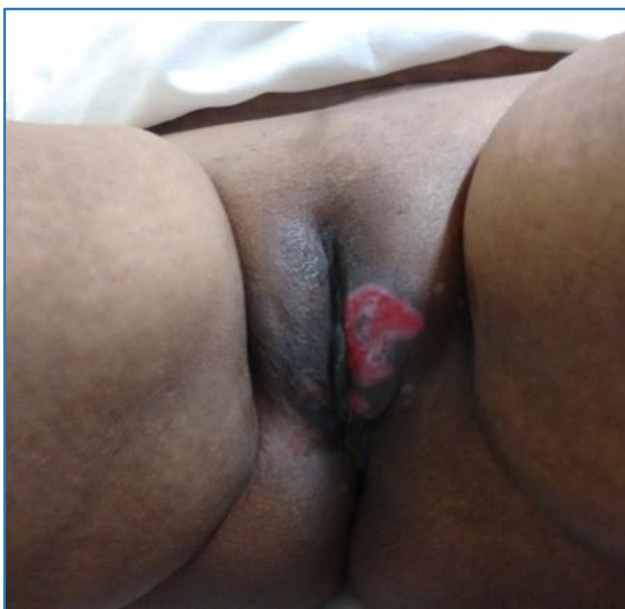


Fig. 2: Genital Herpes in HIV Positive Females

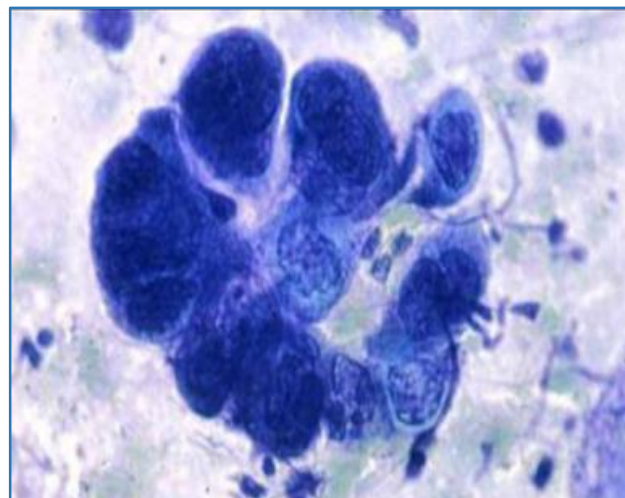
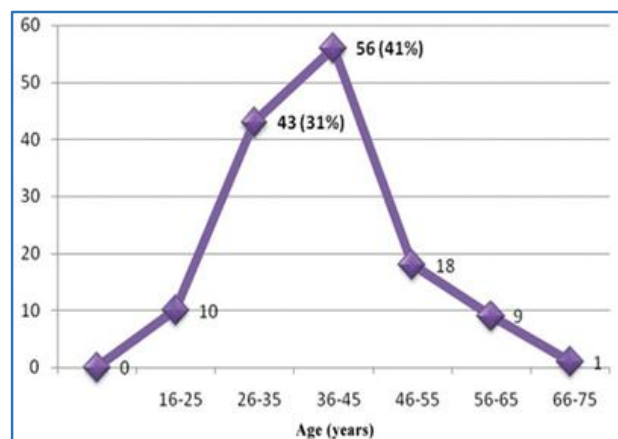
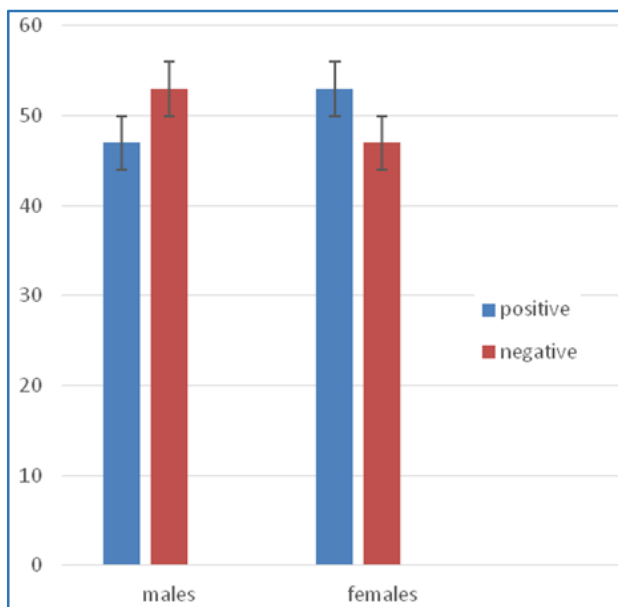


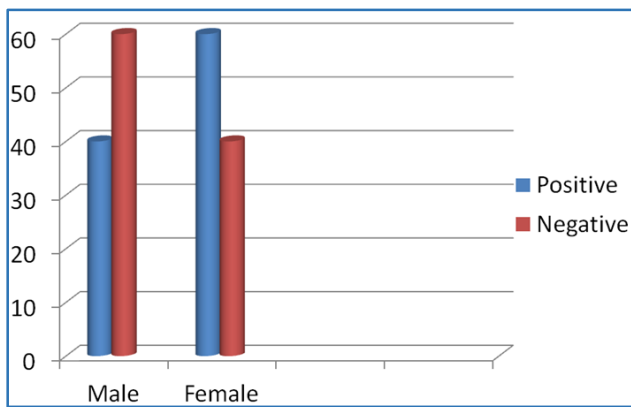
Fig. 3: Tzanck Smear showing Multinucleated Giant Cells



Graph showing Age Wise Prevalence of Genital Herpes in HIV Seropositive and Seronegative Individuals



Bar Diagram 1: Clinical Prevalence of Genital Herpes in HIV Seropositive Population



Bar Diagram 2: Clinical Prevalence of Genital Herpes in HIV Seronegative Population

DISCUSSION

In this study, it was observed that clinical prevalence of Herpes progenitalis was higher in HIV-seropositive patients compared to HIV-seronegative patients. Out of 100 HIV-seropositive patients, 49% were clinically positive for Herpes progenitalis and 41% of them were in the age group of 36-45 years. In this study, it was further observed that Herpes progenitalis prevalence was higher in women than in men both in HIV-seropositive and seronegative individuals.

A study was recorded for the prevalence of Herpes progenitalis in HIV-infected patients to be 47% in Kolkata,⁽⁵⁾ in a study conducted by Chakraborty N, Bhattacharyya S, De C, Mukherjee A, Bhattacharya D, Santra S, et al and 48.4% in Delhi⁽⁶⁾ in an epidemiological study conducted by Karad AB, Khade SL, which were similar to our observations. However, higher rates were observed in other countries, for example 55% in the UK.⁽⁷⁾ In an epidemiological study of genital herpes done by Hill C, McKinney E, Parry JV, et al and 87% in South Africa⁽⁸⁾ Schaftenaar E, Verjans GMGM, Getu S, McIntyre JA, Struthers HE, Osterhaus ADME, et al. They reported high prevalence of human herpes viruses in HIV-infected patients attending primary healthcare facilities in rural South Africa. These results suggest a strong association of Herpes progenitalis with HIV. The majority of sexual transmission of Herpes progenitalis occurs during asymptomatic periods, because the patients are unaware of asymptomatic virus shedding.⁽⁹⁾

In this study, Herpes progenitalis prevalence was higher in women than in men confirming the fact that acquisition of HIV and Herpes simplex was more in women than men. A study was conducted in the USA to assess the impact of HIV on both Herpes progenitalis prevalence and viral shedding during labor. The study indicated viral shedding at labor was more than three times higher among those with HIV.⁽¹⁰⁾ Studies have found that women are more susceptible to Herpes progenitalis infection biologically.^(11,12) Transmission of the virus from male-to-female was more common than from female-to-male. Moreover, the female genitalia have plenty of soft tissue that is exposed for skin contact, which was presumably more receptive to any virus or sexually transmitted disease. Most common clinical presentations of Herpes progenitalis were multiple grouped superficial erosions. In HIV-seropositive, there were deep progressive ulcerations, haemorrhagic lesions (Figure 1 and 2). Tzanck smear was performed. Multinucleated giant cells were seen in the Tzanck smear (Figure 3).

In this study, the highest numbers of patients with Herpes progenitalis were in 36-45 age group, peaked at 36-45 years and then decreased with further increase in age. Similar observations were also reported from the WHO.⁽¹³⁾ Young middle-aged patients between 36 and 45 years are vulnerable and sexually active.

Herpes progenitalis was one of the most common opportunistic infections among HIV-seropositive patients. It has been observed that genital herpes was associated with two-to-threefold increased risk of HIV acquisition. Discontinuity of the genital mucosal barrier due to Herpes progenitalis was associated with inflammation and increases the recruitment of CD4 lymphocytes that were the target cells for HIV. Reactivation of Herpes virus may promote HIV shedding in the genital tract, thus increasing the HIV viral load. Thus, Herpes progenitalis alters the course of HIV disease.

CONCLUSION

Genital herpes prevalence was significantly higher in HIV-seropositive individuals compared to HIV-seronegative individuals. Herpes progenitalis clinical prevalence was significantly higher in women than in men in both cases and controls. This suggests a higher risk of acquisition of Herpes progenitalis infection among women. These findings have relevant public health implications. The implementation of continuous interventions for sexually transmitted infections and HIV will decrease the prevalence and spread of both Herpes progenitalis and HIV.

It was only a clinical correlation, but the results will be further confirmed only after serological confirmation for Genital herpes.

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