

To Know the Prevalence of HPV and HSV Infection in Patients Presenting with Vaginal Discharge at Index Medical College, Indore

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Abstract: HPV being the most important risk factor, needs to be evaluated in all the regions of the country since the prevalence of HPV and its genotypes are different in the populations from different geographical regions. Its assessment at various stages of the disease will also be helpful in understanding its role in cervical cancer pathogenesis. The present series of work entitled as “Study of cytodiagnosis of discharge per vaginam with specific reference to HPV and HSV at Index Medical College, Indore” was undertaken to detect cervical lesions of female genital tract and prevalence of HPV and HSV by means of exfoliative cytology. Out of 1542, 9 cases showed cytomorphological features of HPV and 2 cases showed cytomorphological features of HSV. All 11 cases were found to be associated with multiple risk factors. In this study, epithelial cell abnormality are more common in hindu (85.19%). In muslims, it is only (14.81%).

Keywords: HPV and HSV infection & vaginal discharge.

INTRODUCTION

Cervical cancers are the second most frequent type of female cancer, responsible for about 5% of cancer deaths in females’ worldwide [1]. Human papilloma virus (HPV) infection is the most important risk factor for cervical intraepithelial neoplasia and invasive cervical cancer [2]. It has been shown recently that cervical cancer is strongly associated with the presence of high risk or oncogenic human papilloma virus (HPV) types (up to 100%) [3, 4].

HPV being the most important risk factor, needs to be evaluated in all the regions of the country since the prevalence of HPV and its genotypes are different in the populations from different geographical regions. Its assessment at various stages of the disease will also be helpful in understanding its role in cervical cancer pathogenesis. However, the incidence of cervical cancer and CIN were found to be low relative to high frequency of HPV infection showing that not all the HPV infected women develop cervical lesion and not all the pre-neoplastic lesion get converted into invasive cervical cancer. This shows that most of the HPV infections are transient and viral persistence is required for the progression of the disease [5].

AIM AND OBJECTIVES

To know the prevalence of HPV and HSV infection in patients presenting with vaginal discharge at Index Medical College, Indore.

MATERIALS AND METHODS

The material for the present study comprised of examination of 1542 cervical/vaginal smear, taken from patients attending the out-patient Department of Obstretic & Gynaecology and further sent to Department of Pathology for cytomorphological

analysis at Department of Pathology, Index Medical College, Indore during the period of March 2017 to February 2018.

Inclusion criteria

- All the females presenting with discharge per vaginam presenting in the out patient department.

Exclusion criteria

- Females bleeding per vaginam at the time of procedure.

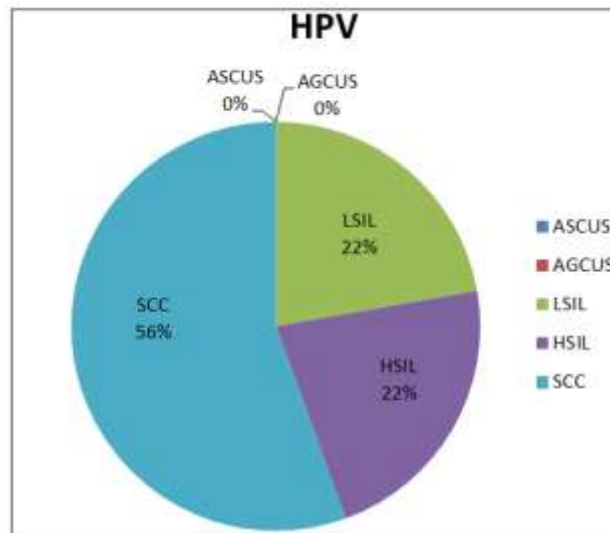
Specimen collection

The proper specimen collection is one of the most important steps in pap smear screening. At least one half to two thirds of false negatives are the result of patient conditions present at the time of sample collection and submission and the skill and knowledge of the individual who obtains the specimen [6-8]. Adequate cervical cytology samples should be collected and submitted to the laboratory with appropriate clinical information. The laboratory provides feedback on sample adequacy via individual reports, and may elect to provide summary information regarding patient sampling to its clients.

OBSERVATION & RESULTS

Table-1: Shows distribution of HPV on the basis of cytomorphological features among cases of epithelial cell abnormality

| | HPV – No. of cases n=9 | Percentage |
|-------|---------------------------|------------|
| ASCUS | 0 | 00 |
| AGCUS | 0 | 00 |
| LSIL | 2 | 22.22 |
| HSIL | 2 | 22.22 |
| SCC | 5 | 55.56 |



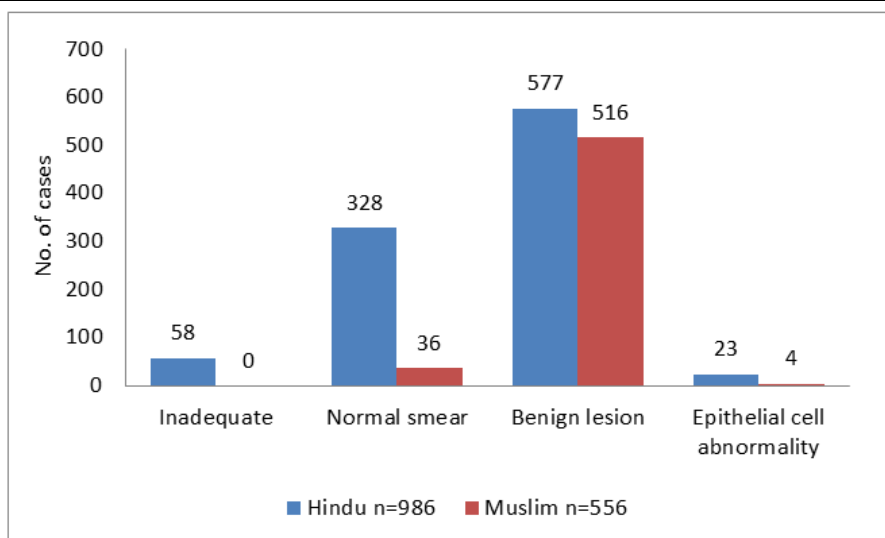
Graph-1: Distribution of HPV on the basis of cytomorphological features among cases of epithelial cell abnormality.

Table-2: Distribution among ethnic group

| Ethnic group | Inadequate | % | Normal smear | % | Benign lesion | % | Epithelial cell | % | Total |
|--------------|------------|-----|--------------|-------|---------------|-------|-----------------|-------|-------|
| Hindu | 58 | 100 | 328 | 90.10 | 577 | 52.79 | 23 | 85.19 | 986 |
| Muslim | 00 | - | 36 | 9.89 | 516 | 47.20 | 4 | 14.81 | 556 |
| Total | 58 | 100 | 364 | 100 | 1093 | 100 | 27 | 100 | 1542 |

The above table indicates that benign smears are distributed nearly equally between Hindu (52.79%) and Muslim (47.20%) community. While epithelial cell

abnormality occur at a higher rate in Hindu (85.18%) than in Muslims (14.81%).



Graph-2: Show Distribution among ethnic group

DISCUSSION

Our result is in favour of the fact that Muslims should have low incidence due to the fact that the practice of circumcision in Muslims is considered to be protective against HPV infections and intraepithelial lesions and malignancy.

In our study, the epithelial cell abnormalities are at a higher rate in poor (88.88%) socioeconomic status. While in average (11.12%) and high (0%) socioeconomic status, it is comparatively low. Coppleson [9] found that the precancerous lesion of cervix associated with low socioeconomic group. Roy A [10] showed that maximum number of cases of cancer cervix were present in low socioeconomic status.

Statistical analysis reveals that there is a significant difference between socioeconomic status with a p-value <0.05.

Table-2, shows that cytomorphological features of HPV infection are seen in 2 cases of LSIL, 2 cases of HSIL and 5 cases of malignant lesion. Yim EK *et al.*, [11] showed that the strong association led to the suggestion that HPV is not only the main cause of cervical cancer cases, but is also a necessary cause.

Fusté P [12] and Insinga RP [13] also found that HPV is associated with more than 99% of all cervical cancer cases which favour the result of our study. HPV causes almost 100% of cases of cervical cancer and limitation of study methodologies is the most important reason behind an underestimation of HPV prevalence in cervical cancer [14].

CONCLUSION

The present series of work entitled as "Study of cytodiagnostics of discharge per vaginum with specific reference to HPV and HSV at Index Medical College, Indore" was undertaken to detect cervical lesions of

female genital tract and prevalence of HPV and HSV by means of exfoliative cytology.

Out of 1542, 9 cases showed cytomorphological features of HPV and 2 cases showed cytomorphological features of HSV. All 11 cases were found to be associated with multiple risk factors.

In this study, epithelial cell abnormalities are more common in Hindus (85.19%). In Muslims, it is only (14.81%).

REFERENCES

1. WHO, I. (2010). WHO/ICO Information Centre on HPV and Cervical Cancer (HPV Information Centre). *Human Papillomavirus and Related Cancers in Kenya. Summary Report, 2010.*
2. Schiffman, M., Castle, P. E., Jeronimo, J., Rodriguez, A. C., & Wacholder, S. (2007). Human papillomavirus and cervical cancer. *The Lancet*, 370(9590), 890-907.
3. Van Den Brule, A. J., Walboomers, J. M., Maine, M. D., Kenemans, P., & Meijer, C. J. (1991). Difference in prevalence of human papillomavirus genotypes in cytologically normal cervical smears is associated with a history of cervical intraepithelial neoplasia. *International journal of cancer*, 48(3), 404-408.
4. Resnick, R. M., Cornelissen, M. T., Wright, D. K., Eichinger, G. H., Fox, H. S., Schegget, J. T., & Manos, M. M. (1990). Detection and typing of human papillomavirus in archival cervical cancer specimens by DNA amplification with consensus primers. *JNCI: Journal of the National Cancer Institute*, 82(18), 1477-1484.
5. Hildesheim, A., Schiffman, M. H., Gravitt, P. E., Glass, A. G., Greer, C. E., Zhang, T., ... & Kurman, R. J. (1994). Persistence of type-specific human papillomavirus infection among cytologically

- normal women. *Journal of Infectious Diseases*, 169(2), 235-240.
6. McGoogan, E., Colgan, T. J., Ramzy, I., Cochand-Priollet, B., Davey, D. D., Grohs, H. K., ... & Linder, J. (1998). Cell preparation methods and criteria for sample adequacy. *Acta Cytologica*, 42(1), 25-32.
 7. Vooijs, G. P., Elias, A., & de Berg Poelen-van, M. (1986). The influence of sample takers on the cellular composition of cervical smears. *Acta cytologica*, 30(3), 251-257.
 8. Thompson, D. (1989). Adequate "Pap" Smears: A guide for sampling techniques in screening for abnormalities of the uterine cervix. Laboratory Proficiency Testing Program of Canada.
 9. Coppleson, L. W., & Brown, B. (1975). Observations on a model of the biology of carcinoma of the cervix: a poor fit between observation and theory. *Am. J. Obstet. Gynecol.* 122, 127-136.
 10. Roy, A., Dutta, K., Majumdar, J., Basu, S., De, S., De, N., & Chowdhury, J. R. (1990). Cervical cytology screening in Calcutta and adjoining areas with special reference to carcinoma of the uterine cervix. *Indian journal of public health*, 34(2), 98-106.
 11. Grigore, M., Teleman, S., Ungureanu, D., & Mares, A. (2013). Molecular markers in cervical screening—a promise for the future. *Romanian Review of Laboratory Medicine*, 21(2), 231-239.
 12. Fuste, P., Santamaría, X., & Carreras, R. (2008). New therapeutic strategies for human papillomavirus related anogenital lesions in HIV patients: highly active antiretroviral therapy and HPV vaccines. *Medicina clinica*, 131(1), 30-34.
 13. Insinga, R. P., Liaw, K. L., Johnson, L. G., & Madeleine, M. M. (2008). A systematic review of the prevalence and attribution of human papillomavirus types among cervical, vaginal, and vulvar precancers and cancers in the United States. *Cancer Epidemiology and Prevention Biomarkers*, 17(7), 1611-1622.
 14. Papillomavirus, H. (2010). Related Cancers, Summary Report Update. *JAPAN & WORLD*, 15.