

CLINICO-EPIDEMIOLOGICAL STUDY OF CONDYLOMATOUS LESIONS IN INFLAMMATORY SMEARS

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SUMMARY

The present communication reports the various clinicoepidemiological characteristics of women with cytologic features suggestive of condylomatous lesions in inflammatory smears. A total of 69,595 women were cytologically screened by pap test during the period of 1982 to 1986 at Institute of Cytology and preventive oncology as a part of hospital based screening. The cytological investigation revealed 53,057 (75.2%) as inflammatory smears. Out of these 300 (0.6%) cases were found to have cytologic features suggestive of condylomatous lesions. Another 900 women with inflammatory smears and who did not reveal the evidence of condylomatous lesions were randomly selected as controls after matching for age and parity. The comparison of the clinico-epidemiological characteristics between the two groups of women showed that 40% of women in the control groups had cervical erosion as against 53.3% in women with condylomatous lesions the difference between the two groups being statistically significant ($P < .05$). Furthermore, the symptoms of contact bleeding was observed to be higher (8.3%) in women with condylomatous lesions as compared to control group (0.7%). This was also statistically significant ($p < .005$). Women with condylomatous lesions had early age at consummation of marriage as compared to control subjects.

INTRODUCTION

Condylomatous lesions of the uterine cervix is a sexually transmitted disease

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caused by Human papilloma Virus (HPV) which have been characterised by characteristic morphological features of papanicolaou stained smears (Meisels & Fortin 1976, Purola et al. 1977, Zur Hausen 1982, Bosch et

al. 1989, Selvaggi et al. 1988). Over the years evidences have accumulated relating the association of HPV lesions with cervical intraepithelial neoplasia (Syrjanen et al. 1981, Kurman et al. 1981, Das et al. 1987, Luthra et al. 1989). The epidemiological investigations carried out also have supported the above findings and revealed that HPV infection as one of the risk factors for the development of cervical cancer (Meisels 1977, Syrjanen 1983). The present communication reports the frequency of cytomorphological changes suggestive of HPV infection in inflammatory cervical smears and its association with some clinico-epidemiological characteristics of the cases.

MATERIAL AND METHODS

During five year period (1982-1986) cervical smears were collected from 69,595 women attending the gynaecology out patient department of six hospitals of metropolitan city of Delhi. The material was collected using Ayre's spatula and fixed in 95% ethyl alcohol and stained with papanicolaou stain. The smears were classified following the WHO criteria (Riotten et al. 1973). Presence of koilocytic changes along with bi or multinucleation, nuclear pyknosis, thickening of cytoplasmic margins, cohesive rounded margins, squamous cells with and without orangeophilia were considered to be features suggesting HPV infection (Meisels 1977, Das et al. 1987). A group of women without HPV infection in cervical smears were selected randomly as controls after matching for age (± 2 years) and parity ($+1$). Three control women were selected for each case. At the time of registration of the subjects detailed information was elicited including epidemiological characteristics such as marital history,

age at start of sexual activity and parity. The results of clinical examination was recorded in a predesigned and pretested proforma. The association between the frequency of HPV changes and the clinicoepidemiological parameters in cases and controls were tested by using X² test.

RESULTS

Of the 69,595 women clinically examined and cytologically screened 53,057 (76.2%) were having inflammatory changes in smears. 300 (0.6%) of the 53,057 cases with inflammatory smears had cytologic features suggestive of HPV infection (Table 1). The mean age of cases and control was found to be 35.8 and 34.0 years respectively (Table II). Similarly mean parity of cases and controls was observed to be 3.0 and 3.3 respectively (Table III). It was observed that 8.3% of women with HPV changes had complaint of bleeding per vaginum as compared to only 0.5% among control cases, the difference being highly significant ($P < 0.001$). Similarly contact bleeding was also present in significantly higher proportion (8.3%) in comparison to 1.3% amongst the controls ($P < 0.001$) (Table IV). The other symptoms included menstrual disorders, dyspareunia and pain in lower abdomen which were also present in higher percentage as compared to controls with regard to clinical diagnosis, only 11.6% of cases had normal cervix as compared to 38.6% in the control group ($P < 0.005$). Cervical erosion was the commonest clinical diagnosis observed in 53.3% of cases while only 40% revealed such changes in control group ($P < 0.001$). Vaginitis was also less frequent in the control group of women as compared to 100% of women with presenting features in cases with HPV infection ($P < 0.001$) (Table V)

TABLE I
FREQUENCY OF CONDYLOMATOUS LESIONS IN INFLAMMATORY
SMEARS OF THE UTERINE CERVIX

Total No. of women screened cytologically	No. of women with inflammatory smears	No. of women screened with condylomatous changes
69,595	53,057 (76.2%)	300 (0.6%)

TABLE II
PERCENTAGE DISTRIBUTION OF WOMEN WITH CONDYLOMATOUS
CHANGES AND CONTROLS ACCORDING TO AGE

Age Group (Years)	Women with Condylomatous Lesion	Women without Condylomatous Lesion (Controls)
20-29	35.4	35.0
30-39	37.0	37.6
40-49	20.6	19.0
50+	7.0	8.4
Total Cases	300	900
Mean Age	35.8	34.0

TABLE III
PERCENTAGE DISTRIBUTION OF WOMEN WITH CONDYLOMATOUS
CHANGES AND CONTROLS ACCORDING TO PARITY STATUS

Parity	Women with Condylomatous Lesion	Women without Condylomatous Lesion (Controls)
0	10.0	4.88
1-2	35.0	32.85
3-4	41.7	41.70
4+	13.3	20.54
Total	300	900
Mean Parity	3.0	3.3

TABLE IV
COMPARISON OF CLINICAL CHARACTERISTICS OF WOMEN WITH
CONDYLOMATOUS CHANGES AND CONTROLS

Clinical Symptoms	Women with Condylomatous Lesion	Women without Condylomatous Lesion (Controls)	X ² (P Value)
No Symptoms	40 (13.3%)	-	-
White Discharge	150 (50.0)	758 (84.24%)	142.5*
Bleeding P/V	25 (8.3)	5 (0.54%)	46.9*
Contact Bleeding	25 (8.3)	12 (1.31%)	35.3*
Others	60 (20.0)	124 (13.83%)	-
Total Cases Studied	300	900	*p < 0.001

TABLE V
COMPARISON OF CLINICAL DIAGNOSIS IN WOMEN WITH
CONDYLOMATOUS CHANGES AND CONTROLS

Clinical Symptoms	Women with Condylomatous Lesion	Women without Condylomatous Lesion (Controls)	X ² (P Value)
Normal (Cervix)	35 (11.6%)	347 (38.6%)	74.2
Erosion (Cervix)	160 (53.3%)	364 (40.48%)	14.6*
Endocervicitis	30 (10.0%)	154 (17.17%)	8.4*
Vaginitis	30 (10.0%)	1 (0.10%)	84.9*
Others	46 (15.0%)	32 (3.6%)	-
Total Women Studied	300	900	* p < 0.001

TABLE VI

PERCENTAGE DISTRIBUTION OF WOMEN WITH CONDYLOMATOUS CHANGES AND CONTROLS ACCORDING TO AGE AT CONSUMMATION OF MARRIAGE (A.C.M.)

A.C.M. (Years)	Cases with Condylomatous Lesion	Controls
< 15	11.0	8.8
15 - 16	38.8	35.7
17 - 18	25.9	21.9
> 18	24.2	33.6
Total Cases Studied	300 X2:10.8	900 p < 0.001

Higher proportion of women (75.8%) with condylomatous lesions had an age at consummation of marriage (ACM) before the age of 18 years in comparison to controls (66.4%). Difference was found to be statistically significant ($P < 0.001$) (Table VI).

DISCUSSION

A number of studies based on cervical cytology implicate the association of human papilloma virus infection with cervical pre-cancerous and cancerous lesions (Zur Hausen 1977, Meisels et al. 1981, Syrjanen 1981, 1983, Gupta et al. 1987). Presence of HPV infection in cervical smears or biopsy is further confirmed by immunohistochemical and molecular hybridization technique which require sophisticated laboratory set up with appropriate equipments. In the present study we wanted to find out if the HPV infection have any significant association with clinico-epidemiological factors which would help selecting the cases for screening by cytologi-

cal and more sophisticated laboratory technique.

This study has indicated that number of women with age of marriage above the 18 years was significantly lower in cases with HPV infection compared to controls ($P < 0.001$) presenting feature such as bleeding per vaginum and contact bleeding was also found in significantly higher number of women with HPV infection compared to control ($P < 0.001$). The gynaecological examination revealed cervical erosion and vaginitis in significantly higher proportion of cases than controls ($P < 0.001$).

Thus it is evident from the study that the smears of women who had consummation of marriage before 18 years and having history of contact bleeding, per vaginum bleeding, cervical erosion and vaginitis should be thoroughly examined for the changes associated with HPV infection and colposcopy directed histopathological examination should be done to further confirm the presence of HPV infection.

REFERENCES

1. Bosch BD, Davidson DD, Langfeld CD, Fife KH, *Acta Cytol.* 33.696, 1989.
2. Das DK, Luthra UK, Bhatnagar P, Bhambhani S, Singh V, Pant JN, Khan IU, *Ind J Pathol. Microbio* 130.337, 1987.
3. Gupta JW, Gupta PK, Resenhein N, Shah KV, *Acta Cytol.* 31.387, 1987.
4. Kurman RJ, Shah KH, Lancaster WD, Jenson AB, *Am J Clin Gynec* 140.931, 1981.
5. Luthra UK, Bhatnagar P, Das DK, Sharma BK, Kashyap V, Khan IU, Singh V, Murthy NS, *Ann Biol Clin* 47.283, 1989.
6. Meisels A, Fortin R, *Acta Cytol.* 20.503, 1976.
7. Meisels A, Fortin R, Roy M. *Acta Cytol.* 21.379, 1977.
8. Meisels A, Fiac F, Morin C. *Gynec Oncol.* 12.111, 1981.
9. Purola E, *Savia Acta Cytol.* 21.26, 1977.
10. Riotten G, Christopherson Wm, Writ R. *International Histological classification of tumors. No.3. Geneva WHO, 1973.*
11. Selvaggi SM, *Diagn Cytopathol.* 4.277, 1983.
12. Syrjanen KJ. *Obstet Gynec* 62.617, 1983.
13. Syrjanen KJ, Heinomèn UM, Kauraniemi T. *Acta Cytol.* 25.17, 1981.
14. Zur Hausen H. *Curr Top Microbiol Immunol.* 78.1, 1977.
15. Zur Hausen H. *Lancet* II. 1370, 1982.

higher proportion of women (72.8%) with cervical intraepithelial neoplasia (CIN) I and II in comparison to control (50.4%). This result was found to be statistically significant (P < 0.05) (Table IV).

This is a preliminary report of the results of a study of women who had a history of abnormal Pap smears. It is a preliminary report because the study is still in progress. The study is being conducted in a hospital setting. The study is being conducted in a hospital setting. The study is being conducted in a hospital setting.

A number of studies have been conducted in the past to determine the prevalence of CIN in women with abnormal Pap smears. The results of these studies have been inconsistent. Some studies have found a high prevalence of CIN in women with abnormal Pap smears, while others have found a low prevalence. This study is being conducted to determine the prevalence of CIN in women with abnormal Pap smears.

DISCUSSION

The results of this study are consistent with those of other studies. The prevalence of CIN in women with abnormal Pap smears was found to be significantly higher than in women with normal Pap smears. This result is important because it suggests that women with abnormal Pap smears are at a higher risk of developing CIN. This result is important because it suggests that women with abnormal Pap smears are at a higher risk of developing CIN.