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Research Paper

Study of Epithelial Abnormalities in Cervical Smear of Perimenopausal and Postmenopausal Women

Medical Science

KEYWORDS : PAP smear, Epithelial abnormality, Cervical Cytology

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ABSTRACT

Carcinoma of the uterine cervix is the second most common cancer among women in the world which is primarily caused by Human Papilloma virus, and it a disease with long latency period, taking an average 10 – 20 years to develop from its precursor lesion and PAP test is the broadest and most successful application of cytology in diagnosis of invasive carcinoma of cervix and its precursor lesion & cervical smear examination is simple, safe, quick, reliable, non invasive and reproducible way of detection of the precancerous cervical lesions and invasive carcinoma, that is why it is the most popular and ideal tool for screening of even an asymptomatic women for cervical cancer. We observed 17 cases (11.3 %) out of the 150 were having Epithelial Abnormalities. Cervical cytology screening test can be effective beneficial to our society by reducing incidence of cervical cancer related morbidity and mortality.

INTRODUCTION

Carcinoma of the uterine cervix is the second most common cancer among women in the world. 1 Every year cervical cancer is diagnosed in about 500,000 women globally and is responsible for more than 280,000 deaths annually. 2, 3

In the developed nations, early detection through regular screening has aided to significantly control the prevalence of this disease, ultimately lowering its incidence and reduced the deaths related to cervical cancer by three quarters in last 50 years. 2, 3

80 % of the new cervical cancer cases occurs in developing countries, like India, which report approximately one fourth of the world's causes of cervical cancer each year. The number of deaths due to cervical cancer is estimated to rise to 79,000 by the year 2010. 3 The cancer mostly affects women between 40 and 55 years which includes perimenopausal and post-menopausal group, especially those from the lower economic status who fail to carry out regular health checkups. 2, 3 Cervical cancer is primarily causes by Human Papilloma Virus. It is the disease with long latency period, taking an average 10 – 20 years to develop from its precursor lesion. That is why the screening, detection and treatment of the precursor lesion can be very effective way for prevention of the disease. 1

The broadest and most successful application of the cytology in the diagnosis of invasive carcinoma of cervix and its precursor lesion through the most popular and widely used technique known as PAP test, which is named after Dr. Papanicoloau who devised it. 4

The incidence of cervical cancer and death has been declined, markedly in the last 40 years mainly as a result of this extensive screening programme. 1

The Bethesda System (2001) has been widely used by different pathologist for interpretation of cervical cytology reporting to have uniform terminology and emphasized communication of clinically relevant information which can be used for further patient management. 4, 13

MATEIRAL AND METHODS

Study was carried out at Department of Pathology in a tertiary care hospital, from January 2011 to May 2012.

Patient selection – perimenopausal and post-menopausal women attending the Gynec OPD were taken for study.

Menopause was defined as cessation of menstruation for a minimum period of one year. Perimenopause as period around menopauses (includes 35-45 years age group) 5,6

There were no patients with IUCD, radiotherapy and HRT in the study group.

A detailed clinical history particular related with obstetric and menstrual history, per speculum examination and per vaginal examination were noted down in prepared proforma as provided by Gynec department.

Collection of Smear

After taking patient's consent conventional cervical smear were prepared by cervicovaginal scrap material with the help of Ayre's spatula in outpatient department. The cervical scrape was obtained under direct vision with vaginal speculum in position. The Ayre's spatula was inserted in to the OS and gently but firmly rotated to 360 °. The cervical mucus and cellular material on the spatula was applied unfirmly on the glass slide. Immediately the slides were fixed in fixative containing 95 % ethyl alcohol. The slides were allowed to dry and staining was done by rapid PAP method and Haematoxylin & Eosin method.

OBSERVATIONS & RESULT

The analytical study was carried out to detect different epithelial abnormalities of the cervix in perimenopasual and menopausal women by cytology. Total 150 cases were examined. The women above the age of 35 years were selected from Gynec opd. The result of our study were as follows.

Table - 1, Age wise distribution of the patients

Age group	No. of patients	Percentage
35-40	50	33.3 %
41-45	32	21.3 %
46-50	33	22.0 %
51-55	11	7.3 %
56-60	13	8.7 %
>60	11	7.3 %
	150	100 %

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FIGURE -1

TABLE - 2, Distribution of cases according to the symptoms and epithelia lesions.

Symptoms	Perimeno-pausal	Menopau-sal	Total	% of Total	Epithelial lesion (no.)
Discharge p/v	20	18	38	25.3 %	(1) ASCUS
Lower abdomi-nal pain	9	8	17	11.3 %	(3) ASCUS
Prolapse	6	12	18	12.0 %	(1) AGG, (1) LSIL, (1) Sq. Cell Ca.
PMB	0	9	9	6.0 %	(1) HSIL, (1) Sq. Cell Ca.
Menstrual Ir-regularities	47	0	47	31.3 %	(1) ASCUS – H, (1) HSIL, (1) Sq. Cell Ca., (1) Adeno Ca
Urinary symp-toms	2	4	6	4.0 %	-
Asymptomatic	11	4	15	10.0 %	(2)ASCUS, (1)LSIL
Total	95	55	150	100 %	-

90 % of the women in the study group were symptomatic, the most common complaint in the perimanopausal age group was menstrual irregularities in form of DUB, menorrhagia and amenorrhea. They were associated with ASCUS - H, HSIL, Squamous cell carcinoma and adenocarcinoma. Prolapse was more common in the menopausal age group and was associated with AGC, LSIL and squamous cell carcinoma. Postmenopausal bleeding, was worrisome symptom in the menopausal women as it was associated with HSIL and Squamous cell carcinoma. 17 cases (11.3 %) out of the 150 were having abnormality on per speculum examination e.g. cervical erosion, hypertrophy or ulceration. 13

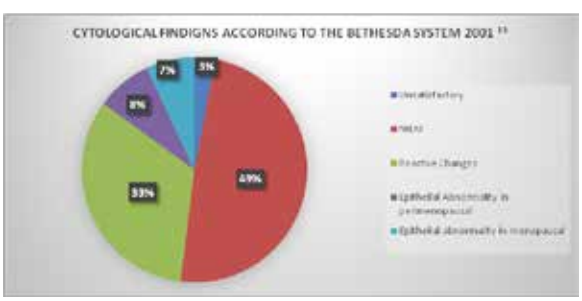

FIGURE – 2

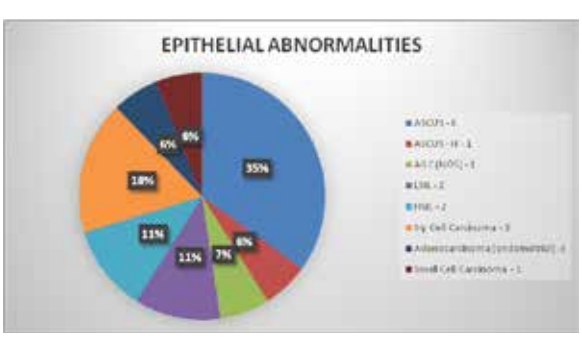

FIGURE – 3

Table – 3, Age wise distribution of the lesions.

Age group	ASCUS	ASCUS -H	LSIL	HSIL	AGC (NOS)	CA	TOTAL	%
35-40	4	0	0	0	0	1	5	29.41
41-45	1	0	2	0	0	0	3	17.65
46-50	1	1	0	1	1	2	6	35.29
51-55	0	0	0	1	0	1	2	11.76
56-60	0	0	0	0	0	1	1	5.88
>60	0	0	0	0	0	0	0	0.00
Total	6	1	2	2	1	5	17	100.00

It shows peak age of epithelial abnormalities in the 46 – 50 years age group. The ASCUS lesions were more observed amongst the younger age group (35-45 years), while other abnormalities and carcinomas were higher amongst the 46 – 50 years age group.

DISCUSSION

Table – 4 Comparison of Observations of the present study with the findings by other researchers

Study	Common symptoms	%
Divya Hegde et al (2011)[7]	Menstrual irregularity	40.8
Annama Thomas et al. (2003) [8]	Discharge per vagina	23
	Prolapse	12
Karuna et al (2003) [9]	Urinary complains	39
	Uterine prolapse	12
Present Study perimenopausal group	Menstrual irregularities	31
Present study menopausal group	Uterine Prolapse	12
	Discharge per vagina	12

Above table shows that menstrual irregularities were more common in the perimenopausal age group which is comparable with similar study conducted by Divya Hegde et al. 7 While in menopausal women discharge per vagina and prolapse were common in the present as well as study performed by Annama Thomas et al. (2003) 8

Table -5 % of epithelial abnormalities among various studies.

Study	% of Epithelial abnormalities from total study population
Neelam Sood et al. (2009) [10]	5.5 %
Divya Hegde et al. (2011)[7]	11.7 %
Remzi Atilgan et al. (2010) [14]	2.8 %
Present Study	11.3 %

Table – 6 Comparison of incidence of Different Epithelial lesion

Epithelial Lesions	Neelam Sood et. Al (2009) [10] %	Remzi Atilgan et al. (2010) [14]	Divya Hegde et al. (2011)[7]	Present study %
ASCUS %	8.25	1.9	--	4
ASCUS H %	0.5	0.1	--	0.7
AGC %	4.3	0.2	--	1.3
LSIL %	3.5	0.5	6.6	1.3
HSIL %	2.65	0.1	2.6	0.75
Sq. Cell Ca. %	0.2	3.0	2.2	2

Depending on populations covering different risk factors of cervical lesions, the findings of various works shows some variation.

The incidence of ASCUS lesion was higher as compared to other abnormalities in the present study as well as done by Neelam sood et al and Remzi et al. The incidence of ASCUS – H was similar to that of Neelam Sood et. Al. the incidence of both SIL lesions was comparable with study by Remzi et al. The incidence of Squamous cell carcinoma was comparable with Divya Hegde et al. Divya Hegde et al had considered LSIL and above lesions as positive.

Table – 7 Peak age incidence of the SIL lesion

Study	Age group with peak incidence of SIL (Years)
Divya Hegde et al. [7]	41-50
Misra et al. [11]	40-49
Reda S Sad. Et al [12]	45-55
Present Study	41-50

SUMMARY

In the present study we mainly emphasized epithelial abnormalities of cervix by cervical cytology. The smears were reported according to the universally accepted Bethesda 2001 system. From 150 cases studied 10 % were asymptomatic, they had cervical smear examination as routine checkup and ASCUS and LSIL was detected suggesting regular screening in asymptomatic women also. Out of 150 smears 11 (7.3 %) were unsatisfactory and 139 were satisfactory. The main causes of unsatisfactory smears were sample obscured by blood and inflammatory cells. From satisfactory smears 48.7% were negative for intraepithelial lesions or malignancy, 32.6 % reveled reactive changes and 11.3% revealed epithelial abnormalities, and from that 88.2% revealed squamous epithelial lesions and 11.8% reveled glandular lesion. In squamous lesion 35.3 % ASCUS, 5.9% ASCUS – H, 11.8 % HSIL and 11.6 % Squamous cell carcinoma were detected and Glandular lesions were less observed in the present study. 5.9 % AGC and 5.9 % Adenocarcinoma. Single case (5.9%) of small cell carcinoma of cervix was noted.

CONCLUSION

Cervical smear remains the cost effective widely accepted test for screening and diagnosing various cervical lesions including neoplasia. Higher incidence of the epithelial abnormalities in the perimenopausal women in the study suggest perimenopausal age group should be given more attention for the regular screening every three year. The ASCUS and LSIL lesions should be followed by repeat screening. ASCUS-H and higher lesion should be evaluated by colposcopy and biopsy as required. Menopausal women with clinical complain should be regularly screened. Glandular lesions in cervical cytology should be recommended for initial workup and subsequent management according to ASCCP guidelines. Our humble effort to increase awareness regarding cervical cytology screening test can be effective beneficial to our society by reducing incidence of cervical cancer related morbidity and mortality.

REFERENCE

1. K. Park : Park's text book of preventive and social medicine. 18th ed 357-359. | 2. Papanicolaou GN, Traut HF. The diagnositic valuce of vaginal smears in carcinoma of uterus. Am J Obstet Gynecol 1941; 42; 193 | 3. Ambika Saitija South Asia Centre for Chronic Disease, CERVICAL CANCER IN INDIA, Globocan 2002/ IARC 2009 | 4. Rosai & Ackerman's surgical pathology 10th ed;2011 volume 2 1436, 1442, 1457 | 5. D C Dutta. Text book of Gynecology 5th Ed. 6;55-56 | 6. Mark a fritz, Leon Speroff, clinical Gynecologic endocrinology & infertility, 7; 681 – 684. | 7. Divya hedge et al, diagnostic value of VIA. Comparing with conventional pap smear in detection of colposcopic biopsy proved CIN, NGOC 2011 May June ; 6 (1) 7-12 | 8. Annama Thomas et al clinical profile and cervical cytomorphology in sympatomatic postmenopausal women , 2003 ; 46(2); 176-179 | 9. Karuna, gaspanal v, van dan brule r; the clinical profile and cervical cytomorphology, Indian journal of pathol. Microbiol 46 (2) 78, 2003. | 10. Neelam Sood at al, evaluation of 100% rapid rescreening of cervical screening, IJPM 52 (4), oct – Dec 2007. | 11. J. S. Mishra & Panday. The reporting of Cervical smear according to the Bethesda system with symptomatic postmenopausal women, Jr. of cytol 43 (4) ; 13, 2003 | 12. Reda saad et al, clinical significance of cytological diagnosis of atypical squamous cells, can not exclude high grade, in perimenopausal and post menopausal women, Am J Cli Pathol 2006; 126; 381-388. | 13. The 2001 Bethesda System : terminology for reporting result of cervical cytology, JAMA 287; 2114, 2002 | 14. Remzi Atilgan et al., evaluation of cervical cytological abnormalties in Turkish population, IJPM 55 (1), January- February 2012