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A 2 YEAR STUDY ON PAP SMEAR IN WOMEN FROM RURAL HARYANA.

Obstetrics & Gynecology

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ABSTRACT

This study was conducted to evaluate Pap Smear pattern results in women in rural Haryana. A hospital based study of 1500 Pap Smear samples was done over a period of two years.Most results were NILM (86.7 %) with inflammatory smears in 1125. 195 (13 %) were positive for intraepithelial lesions- 88 -ASCUS, 16 - ASC-H, 41 -LSIL, 23 – HSIL, 9 were AGUS & 1 was adenocarcinoma. Pap smear is an easy, inexpensive and reliable screening test for prevention of carcinoma cervix which has helped in reducing the morbidity and mortality from the same.

KEYWORDS

Cancer Cervix, Carcinoma, PAP Smear, Screening Test, Prevention

INTRODUCTION

Carcinoma of cervix is the third most common cancer of women worldwide after carcinoma of breast and lung. Cancer cervix is the greatest killer among gynecological cancers. The morbidity and mortality burden due to carcinoma cervix has been reduced in the last couple of decades by screening tests. Pap Smear is the mainstay of screening test for precancerous lesions of cervix and prevention of cancer cervix. It is a simple, safe, accurate, low cost, affordable and reliable OPD procedure. There is no need for extra time and preparation. This is a simple cytohistopathological test which is reported on the same day. Pap Smear is an inexpensive diagnostic tool and is therefore very useful especially in areas with limited resources and is the most commonly used test in most screening programs. It has been proved to be the single most successful efficient and reliable cervical cancer screening tool for early detection of pre-cancerous lesions of the cervix.

This study was conducted with the objective of studying the Pap Smear pattern, age-wise distribution and abnormalities thereof in a tertiary care medical college catering to mainly the rural population of Gurugram district of Haryana, North India.

MATERIALS AND METHODS

This was a hospital based prospective ,cross-sectional observational study conducted on 1500 patients over a two years study period in a tertiary care medical college of Gurugram district in Haryana, India (January 2018 to December 2010)

The conventional Pap smears were classified according to The Bethesda system (TBS) 2001 & the results were analyzed by descriptive statistical analysis & corresponding histopathological report of the cervical biopsy in available cases were co-related. All the socio-demographic profile data records were entered into MS Excel spread sheet – SPPSS window & descriptive analysis was done accordingly.

RESULTS AND OBSERVATIONS :

Total number (n) =1500
Inadequate sampling =30
Mean age 40.26 +/- 10.73 years (17-78 years)
Most were in 31-40 years
Out of 1470 cases ,1275 (86.7%) were NILM and 195 (13%) were positive for inflammatory lesions.

Table 1 :Age Distribution

AGE (YEARS)	n	%
< 20	23	1.53
20-30	158	10.53
31-40	980	65.33
41-50	149	9.93
51-60	135	9.00
61-70	40	2.66
>71	15	1.00

One hundred and twenty cervical biopsy was co-related with corresponding Pap Smear which showed sensitivity as 45 % , specificity as 87.7 %, false positive rate was 12.5 %, false negative rate 56 %, positive predictive value 0.46 % and negative predictive value 0.69 % .

Pap Smear cytology report of 86 case were corresponding with histopathology reports of cervical biopsies, whereas 34 Pap Smears had discrepancy with histopathology report.

Table 2 :Categories of NILM (n =1275) (NILM = Negative for inflammatory lesions or malignancy)

Total	(n =1275)	Percentage (%)
Normal	150	11.76
Inflammatory smear	1125	88.23
• Not otherwise specified	885	69.41
• Bacterial Vaginosis (BV)	167	13.09
• Trichomonal Vaginalis (TV)	23	18.03
• Candidiasis	41	32.15
• Actinomycosis	1	0.07
• Herpes	2	1.40
• BV + TV	2	1.40
• BV, TV + candidiasis	4	2.80

Table 3 :Categories of positive for Intraepithelial lesions : (195)

Total number	ASC-US Atypical Squamous cell of Undetermined Significance	ASC-H Atypical Squamous cells, cannot exclude HSIL	LSIL Low grade Squamous Intraepithelial lesion	HSIL High grade Squamous Intraepithelial lesion	SCC Squamous cell carcinoma	AGC Atypical glandular cells
195	88 (5.98)	16 (1.08)	41 (2.78)	23 (1.54)	18 (1.22)	9(0.61)
Total (195)						

Table 4 :Pap Smear & Correlation with corresponding histology (n = 120)

Cytology (Pap Smear)	Histopathology
Inflammatory (n = 77)	Chronic cervicitis
HSIL (n = 18)	SCC
LSIL (n= 9)	CIN - II/ III
SCC (n= 11)	SCC
ASC-H (n=4)	CIN – I/II
Adenocarcinoma (n= 1)	Adenocarcinoma

Pap smear & Cytohistopathology Discrepancies : (n = 34)

Cytology (Pap Smear)	Histopathology
Inflammatory (n = 45)	CIN – I/II
ASC-US (n =19)	Chronic cervicitis

HSIL (n = 4)	Chronic cervicitis
LSIL (n =9)	Chronic cervicitis

DISCUSSION :

According to WHO recommendations, cervical cancer screening by PAP Smear to start at 25 years (in High risk women) and 30 years (in low risk women) and continue 3 yearly till 60 years and 5 yearly thereafter. If a woman needs to be screened only once in her lifetime, it has to be between 35-45 years (1,2,3,4,5).

It was Dr. Georgios Papaikolaou who described Pap Smear for the first time as early as 1920. Since then it has emerged as a safe, simple, affordable, low- cost, accurate, reliable and easy screening method which has been used all over the world with dramatic results in reduction of cancer cervix incidence (1). The mortality rate from cancer cervix has decreased by more than 70 percent all over the world in the last 40 years because of such screening procedures(1,6).

According to the Bethesda system, criteria included for correct analysis of pap smear are :

- Estimation of number of squamous and endocervical cells present
- Specimen preservation and fixation
- Absence of obscuring inflammation and blood

Categories described are :

1. Satisfactory for evaluation
2. Unsatisfactory for evaluation

If unsatisfactory – smear is repeated after 3 months.

If a smear is inadequate because of absence of endocervical cells, obscuring inflammation or blood – repeat screening is done after 12 months. Early repeat tests can be done if past history of ASCUS was seen, unexplained glandular abnormalities, positive for high risk histopathology, immunocompromised patient, non-visualization/ visibility of cervix or inability to sample endocervical cells canal, or insufficient previous screening are present.

In a country like India, where females rarely visit for routine gynecology health checkups – Pap Smears should be a routine in all women of reproductive age group coming to health care facility irrespective of their complaints. Screening for cervical cancer is effective, feasible and affordable / cost-effective method for early detection and management of the same. Various screening methods used are – Visual Inspection of Cervix (VI), with application of acetic acid (VIA), examination with Lugol`s Iodine (VILI) or with magnification (VIAM), Pap Smear and HPV-DNA testing with high risk probe of the Hybrid Capture -2 assay (HC 2) (1,3).

Comaparison with other studies :

Diagnosis	Present study	Crasta et al (%)	Narsimha narayan et al (%)	Kalya ni et al (%)	Sankar narayan et al (%)
Unstatisfactory	30	1.36	24.42	17.80	4.10
ASCUS	88	0.37	4.14	1.46	8.80
LSIL	41	0.24	2.70	0.24	6.20
HSIL	23	0.41	2.50	0.41	1.60
ASCUS/SIL Ratio	2.1	0.5	0.9	0.5	2.75

Comparison of positive Pap Smear in various studies:

Author (study)	Sample size (n)	Positive Pap smear (%)
Sherpa et al (2009)	932	3.6
Pradhan et aln (2002)	800	4.8
Dharbhadel et al (2004)	350	14.2
Shankarnarayan(2003)	4444	3.40
Tamrakar et al (2012)	1506	11.70
Kalyani et al (2016)	1501	13.08
Present study (2020)	1500	13

CONCLUSION :

Screening for cervical cancer still remains the foremost and best public health tool to early recognition , diagnosis and treatment for the same. Pap smear cytology being the most cost effective , easy, simple to do and reliable test available in resource poor areas in developing countries like India. Pap smears positive of intraepithelial lesions have to be co related with histopathological report of biopsy for further and optimal management. This study re-inforces the fact that pap smear screening should be universally utilized as the first line tool to reduce the burden of precancerous and ultimately cases of frank cervical cancer.

Conflict of interest : none

Funding : none

Abbreviations :

NILM- Negative For Intraepithelial Lesion Or Malignancy
ASCUS- Atypical Squamous Cells Of Undetermined Significance
HSIL- High Grade Squamous Lesion
LSIL- Low Grade Squamous Lesion
SCC – Squamous Cell Carcinoma
AGC- Atypical Glandular Cells

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