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STUDY OF CERVICAL PAP SMEARS AND ITS UTILITY IN CERVICAL CANCER SCREENING IN A TERTIARY HOSPITAL: A RETROSPECTIVE STUDY

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ABSTRACT

In India which is a developing country, the most common carcinoma causing increased morbidity and mortality in women is cervical carcinoma. With the help of Papanicoalou (Pap) stain in sufficient and repeated cytological screening of cervical carcinoma, the diagnosis can be made early even in pre-invasive stage. **Objectives**: This is a retrospective study to assess all cervical smears examined during 6-months period at a teaching tertiary hospital. **Methods:** Reports of pap smear cytology with detailed clinical information were obtained. According to The Bethesda system of reporting cervical cytology, all the pap smears were reported. **Results:** A total of 468 Pap smears were examined. Maximum number of patients was in the age group of fourth decade. There were 29 unsatisfactory or inadequate samples (6.1 %). A total of 391 smears were reported as Negative for intraepithelial lesion or malignancy (NILM), of which 51 (13.04 %) showed normal cytological findings and 294 (75.19 %) were inflammatory. Out of a total 439 Pap smears only 48 (10.93 %) cases were reported to have epithelial cell abnormality. The 48 abnormal cases comprised of 28 cases with ASC-US, 12 cases of LSIL, 05 cases of HSIL, 03 cases of invasive squamous cell carcinoma cervix. **Conclusion:** For the diagnosis of a variety of cervical lesions including premalignant and malignant lesions, Pap smears are routinely done as an OPD procedure.

KEYWORDS: Cervical Dysplasia, Pap test, LSIL, HSIL, Cervical Cytology, Squamous Intraepithelial Lesion (SIL).

INTRODUCTION

Carcinoma in situ is the precancerous condition of cervical tumors.[1,2,3] Early detection of the lesions like dysplasia/CIN is important to cure it because if treatment in early stages are not done, it will lead to invasive carcinoma of cervix.

That's why it is very important to diagnose these cases as early as possible with the help of routine screening by cervical cytology.

Cervical carcinoma is a worldwide health issue. In the world after breast, colorectal, lung carcinoma, cervical carcinoma is the most common carcinoma in females whereas in a developing country like India cervical carcinoma is the most common cancer in women causing increased morbidity and mortality.[4,5] In developing countries women comes to the hospital only when there are symptoms present.

Simple screening test like Pap smear is very helpful in preventing the cases of cervical carcinoma by early detection of the lesions by which appropriate treatment can be given for the same early in the course of the disease. The sensitivity of Pap smear is 70 to 80% in detection of HSIL which is a routine screening test performed in OPD.[3.4,5]

The lesions of the cervix are subclassified in LSIL and HSIL in 1988 when fro pap smar reporting as well as comparison of various terminologies, the Bethesda system of terminology has been introduced.[6,7,8,9]

For clinical management it was important to provide a uniform system for terminology which was provided by Bethesda system of reporting cervical cytology.[1,2,10,11]

In our study in tertiary hospital we assessed the pattern of cervical Pap smear cytology and correlated it with the

clinical findings. In both the rural and urban India it is important to aware the clinicians about the Pap smear for screening of carcinoma cervix among women.

MATERIALS AND METHODS

This retrospective study was conducted on **468 patients** who attended the Obstetrics and Gynaecology outpatient department and undergone PAP smear testing at the teaching tertiary care hospital during the period July 2015 to Dec 2015.

Relevant clinical data and Pap smear reports were obtained and data was noted.

The smears were obtained with the help of Ayer's spatula and cytobrush to collect specimen from the squamocolumnar junction. The cellular material obtained on the spatula and cyto brush was quickly smeared on a clean glass slide. Two smears were prepared for each case. The glass slides were then fixed immediately by immersing them into the coplin jar containing 95% ethyl alcohol. The smears were stained with Papanicolaou stain. Slides were examined under light microscope and were reported according to the 2001 Bethesda system.

RESULTS

Maximum number of patients (35.90 %) were in fourth decade.

Vaginal discharge was commonest complaint (54.91%) followed by lower abdominal pain (43.6%) and post-menopausal bleeding (5.3%).

Total 468 case were studied with 51(10.89%) normal cases and 29 (6.10 %) unsatisfactory or inadequate samples. Of the 439 abnormal cases, only 48 cases were reported to have epithelial cell abnormality. The age range of patients with epithelial cell abnormality was 20 to 75 years and the mean age was 45.6 years.

Out of the 48 cases with epithelial cell abnormality, 28 cases were with ASC-US, 12 cases of LSIL, 05 of HSIL and, 3 cases of invasive squamous cell carcinoma

In present study, epithelial cell abnormalities were found in 10.23 % smears. Prevalence of ASCUS was 5.98 % (28 cases), LSIL was 2.56 % (12 cases), HSIL was 1.06 % (5 cases). Invasive cancer was seen in 0.64 % cases.

Table I: Clinical presentation of the patients.

Clinical Presentation	No. of Patients	%
Asymptomatic	134	28.54
White Discharge	233	49.63
Foul smelling dirty discharge	24	5.11
Irregular vaginal bleeding	09	1.91
Cervical erosion	23	4.89
Uterine Prolapse	32	6.81
Growth	13	2.76
Total	**468**	**100**

Table II: Results of Cervical Cytology/ Pap Test.

Total Cases	468	Percentage
Unsatisfactory smear	29	6.1
Total test done	439	93.50
NILM	391	83.28
ECA	48	10.23

Table III: Categorization of NILM.

Results of NILM	No. of Cases	%
Unremarkable cervical smear	51	11.57
Inflammatory cervical smear	294	66.73
Trichomonas vaginalis (TV)	14	3.178
Candida sp.	06	1.36
Shift in flora suggestive of Bacterial Vaginosis(BV)	23	5.221
Cellular changes consistent with Herpes simplex virus	07	1.58
Benign reactive change including metaplasia	26	5.90
Atrophic Vaginitis	18	4.08
Total	**439**	**100**

Table IV: Grading of ECA.

Results of ECA	No. of Cases	%
ASCUS	29	60.41
LSIL	11	22.91
HSIL	05	10.4
SCC	03	6.24
Total	**48**	**100**

DIISCUSSION

The most effective screening procedure is cervical cytology which is widely used currently in practice. In rural india Cervical cytology is cases of ervical carcinoma are more tha urban areas.[1,2,3,10,11,12]

Cervical Pap smear's introduction has reduced the cases of cervical carcinoma by early detection of the lesions and eary treatment of the same.[4,5,6,7] This is the reason Pap smear testing is the single best procedure to screen the cervical carcinoma".[6,7,8]

In contrat to othe studies a study from Bangladesh[5] showed a higher prevalence (8.2%) of epithelial cell abnormality in the Pap smear in contrast to other studies.[5,9,10] A recent study[12] conducted in Ningen Dock, Japan aimed to determine the gynaecological status of asymptomatic women who attended the hospital for health check-up, showed a low prevalence cervical cell abnormalities. In a study[13] conducted at Lucknow, India, incidence of SIL was found to be 5.9% while cervical malignancy was seen in 0.6% of cases.

Cervical Pap has reduced the cases of cervical carcinoma by early detection of the lesions and eary treatment of the same which has caused decresed morbidity and mortality.[4,5,6]

Among vulnerable age group it is neccessory to perform screening for the cervical carcinoma and regular counseling of the patients and also there are various screening tests for cervical cancer like Pap smear, liquid Pap cytology, automated cervical screening techniques, visual inspection of cervix after Lugol's Iodine and acetic acid application.[1,2,10,11,14] Among allof these, the gold standard for the diagnosis of cervical carcinoma is exfoliative cytology.[10] There is role of HPV in development of cervical cancer. To increase the sensitivity of the tests HPV-DNA testing should be done with Pap smear. Every women should be screened for the carcinoma cervixin her lifetime at 40 years which is recommended by World Health Organization (1992) recommended screening every woman once in her lifetime at 40 years.

CONCLUSION

For early detection of premalignant and malignant lesions cervical cytology is a safe, simple, cost effective, quick and widely accepted screening method which is a OPD procedure and helps the clician for the early management of the patients.

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