ORIGINAL RESEARCH PAPER

Pathology

ROLE OF PAP SMEAR STUDY IN CONTROL OF CERVICAL CANCER

KEY WORDS: Cervical Cytology, Pap Smear, Screening, Squamous Intraepithelial Lesion (sil)

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ABSTRACT

Background: Cancer of the cervix is the third most common cancer in women. In India and other developing countries cervical cancer is the leading cause of morbidity and mortality. Pap smear is an ideal screening and low cost effective test to detect intraepithelial neoplasia especially in developing countries. Pap test not only plays a crucial role in detection of cervical cancer and its precursor lesions, but also aids in the diagnosis of infective and inflammatory conditions including the identification of causative organism, hormone related benign epithelial changes and changes due to therapeutic agents.

Objectives: This is a retrospective study aimed to evaluate all previously conducted cervical smears examined at a teaching tertiary hospital during the two year period.

Methods: A complete clinical history and demographic status of the subjects was recorded. Conventional pap smears were reported adopting Bethesda system.

Results: Out of 1216 cases majority of the cases were benign comprising Negative for intraepithelial neoplasia (NILM) of about 510 (41.90 %) cases followed by AGC 48 (03.94 %) cases and 4 (00.328%) cases of squamous cell carcinoma.

Conclusion: Pap smear testing is a very useful, simple, economical and safe tool to detect preinvasive cervical epithelial lesions. Hence on a routine basis, every woman above the age of 30 must be subjected to cervical screening and this must be continued even in post-menopausal period.

INTRODUCTION

Cancer of the cervix is an increasing health problem and an important cause of mortality in women worldwide. The incidence of cervical cancer arises worldwide. The difference in incidence between developing and developed countries, where cervical cancer cases have been significantly reduced, is large. In developing countries like India, the burden of cervical cancer is still high. According to the World Cancer statistics, >80% of all the cervical cancer cases are found in developing and low resource countries, because of a lack of awareness and difficulty in running cytology based screening programs.[1]

Cervical cancers can be prevented through early detection using several screening techniques. Cervical smear is a sensitive test for early screening of the cervical lesion and most widely used system for describing PAP smear result is TBS [The Bethesda System].[2]

A drastic reduction has been observed in the incidence and mortality due to invasive cervical cancer worldwide. This is because the Pap test detects cervical epithelial cell abnormalities which represent a spectrum of intraeptithelial lesions, from mild-to-severe dysplasia to invasive cancer and facilitates early diagnosis.[3] There is a need to spread cervical cancer screening awareness programs, educate women regarding the symptoms of cancer, and motivate them to visit the hospital for a cancer screening. Women and all family members should be counseled about the need for cancer screening. Pap smear positive women need adequate treatment and regular follow up.

MATERIALS AND METHODS

The retrospective study was carried out at Rama Medical College and Research Center, Kanpur during 2 Years, total 1216 patients were screened.

The patients were in the age range of 15-50 and 50-78 years, having complaints like vaginal discharge, bleeding per vagina or something coming out per vagina. History and symptoms along with parity were recorded.

The smears were obtained with the help of Ayer's spatula and cytobrush to collect specimen from the squamo- columnar 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. After mounting the slides with DPX (Distrene dibutyl pthalate xylene), slides were examined under light microscope and were reported by two pathologists independently according to the Bethesda system.

RESULTS

Maximum number of patients (32.68 %) was in the age group of 31 – 40 years (fourth decade).

As per as the patients presenting complain was concerned, vaginal discharge was commonest (51.8%) followed by lower abdominal pain (40.9%) and post menopausal bleeding (7.3%).

Table 1 shows the cytological findings broadly classified into unsatisfactory smears, normal and abnormal smears with respect to age.

Table 2 shows normal cases 292 (24.013 %), and 46 (03.78%) unsatisfactory or inadequate samples. AGC,48 (03.94 %) cases, LSIL 231 (18.99 %), HSIL 85 (06.99 %) cases and invasive squamous cell carcinoma 4(00.328 %) cases .

The age range of patients with epithelial cell abnormality was 20 to 75 years and the mean age was 44.1 years.

Table 1
DISTRIBUTION OF CASES ACCORDING TO AGE

S. No.	Age	No.	% in total
1.	<20 Year	22	01.80 %
2.	21-25 Year	110	09.04 %
3.	26-30 Year	289	23.77 %
4.	31-35 Year	398	32.73 %
5.	36-40 Year	202	16.61 %
6.	41-45 Year	147	12.08 %
7.	46-50 Year	28	02.30 %
8.	>50 Year	20	01.64 %
Total			100 %

Table 2 DISTRIBUTION OF CASES ACCORDING TO CYTOLOGICAL FINDINGS

S. No.	Cytological Diagnosis	No. of cases	% in total
1.	Normal	292	24.013 %
2.	Inflammation	510	41.93 %
3.	LSIL	231	18.99 %
4.	HSIL	85	06.99 %
5.	AGC	48	03.94 %
6.	CA	4	00.328 %

7.	Unsatisfactory	46	03.78 %
8.	>50 Year	20	01.64 %
Total		1216	100 %

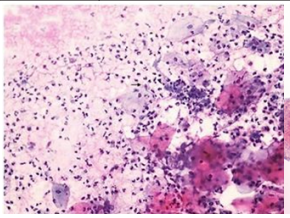

Fig. 1
Photomicrograph showing Negative for intraepithelial lesionor malignancy: Trichomonas vaginalis (PAP stain; 100x).

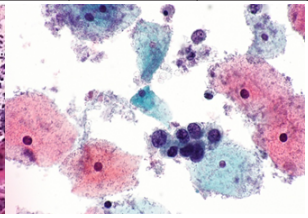

Fig. 2
Photomicrograph showing HSIL- high grade Squamous intraepithelial lesion (Pap stain, 400×)

DISCUSSION

The incidence of cervical cancer is quite high because prevention programs are either nonexistent or poorly implemented. The Pap smear test used as a screening method to detect cervical cancer is an effective way to prevent the development of cervical cancer, but awareness within the community about the Pap smear test is very low. According to the American Cancer Society (2012), the Pap smear test is a routine cancer screening method that should be done every 3 years, and a Pap smear with an HPV DNA test is recommended as a screening method every 5 years [4] .This study determines 510 cases (41.93%) of negative for any intraepithelial lesion or malignancy with non-specific inflammation.

Our study revealed AGC (2.32%) to be the most common epithelial cell abnormality. Similar results were obtained in other studies which also concluded AGC to be the most common epithelial cell abnormality[2,13].

Our study show 231 (18.99%) had Low-grade Squamous Intraepithelial Lesion (LSILs), and 85 (06.99%) had high-grade Squamous Intraepithelial Lesions (HSILs). In contrast, study from Saudi Arabia had varied results, 4.9% of cases were diagnosed with SIL. This owes to possible religious factors and lack of awareness and screening programmes[5-9]. The American Cancer Society recommends that all women should begin cervical cancer screening after 3 years of beginning coitus. It is also recommended every 1-2 years, women who have crossed the age of 30 years and have had 3 consecutive normal Pap results may be screened after 2-3 years.

CONCLUSION

It is thus concluded that the use of cytology is a very good and Effective screening method for early detection of premalignant and malignant lesion of cervix. So there is need of wider application of screening programmes involving cytological examination in our country to diagnose the cervical lesions early and to prevent the increasing incidence of invasive carcinoma of cervix to decrease morbidity and mortality due to this curable malignancy.

So screening by pap smears should be carried out in all high risk women to prevent the increasing incidence of invasive carcinoma of cervix.

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Nil

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