

Assessing Pattern of Cervical Pap Smear Cytology At A Tertiary Hospital: An Observational Study

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Abstract

Aim: The present study is intended to evaluate the pattern of cervical Pap smear cytology at a tertiary hospital and to correlate it with clinical findings.

Methods: The prospective study was carried out at department of Pathology, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar, India during for the period of two years and total 1000 patients were screened. The patients were in the age range of 19-69 years, having complaints like watery vaginal discharge, bleeding per vaginal, intermenstrual bleeding, post-coital bleeding, something coming out per vagina, foul smelling discharge and itching in private parts.

Results: The result showed that maximum number of cases was in the age group 30-39 years constituting 36% of the total cases followed by age group 20-29 yrs. The oldest case was of age 65 years. Minimum percentage (2%) of cases were under 60-69 age group. The result depicted vaginal discharge was the commonest chief complaint followed by lower abdominal pain. Total 46% showed inflammatory lesion, 1% showed atrophy, 0.5% showed ASCUS, 0.5% showed LSIL, 0.5% showed HSIL, 0.5% showed SCC, 10% showed metaplasia.

Conclusion: This study emphasized the importance of Pap smears screening for early detection of premalignant and malignant lesions of cervix.

Keywords: Pap smear, Epithelial cell abnormality, ASCUS.

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Introduction

Cervical cancer is the fourth commonest cause of death among women in developing countries. India, the second most populous country in the world accounts for about 25% of cervical cancer deaths with an estimated incidence of about 23.29%.[1] Cervical cancer ranks as the second cause for female cancer in India.[2] It is estimated that in India 1, 26,

000 new cases of cervical cancer occur annually.[3] The screening for cervical cancer is based on the assumption that early detection may allow early treatment. The high burden of cervical cancer in developing countries is largely due to a lack of effective screening programs.[4,5]

There have been few public health measures in the history of medicine that have transformed human life as we know it. A number of these have been in the form of immunization and therapies. The only screening test which has been universally accepted and has stood the test of time is the Pap smear test for the early detection of cervical cancer.[6] The stigma associated with some gynecological problems, myths, shyness, illiteracy, poor social status and gender discrimination are major hurdles in seeking health care.[7]

In 1988, the Bethesda system of reporting has been introduced to classify the lesions into low- and high-grade intraepithelial lesions. It provides uniform system of terminology which makes management and treatment simple.[8] Pap test not only plays a crucial role in diagnosis of cervical cancers and its precursor lesions but also aids in diagnosis of bacterial and inflammatory conditions including the identification of causative organism, hormone related benign epithelial changes and changes due to therapeutic agents. There is a need to educate the women regarding the symptoms of cervical cancer via screening awareness programs, and motivate them to visit doctor for a cancer screening. Women and her family members should be counseled about the need for cancer screening. Thus, we have to strengthen our health services and health care system include screening at primary health centers.

Results

Table 1: Distribution of Cases according to age

Age group in years	No. of cases	Percentage (%)
20-29	280	28%
30-39	360	36%
40-49	220	22%
50-59	120	12%
60-69	20	2%
Total	1000	100

Table 1 showed that maximum number of cases was in the age group 30-39 years constituting 36% of the total cases followed by age group 20-29 yrs. The oldest case was of age 65 years. Minimum percentage (2%) of cases were under 60-69 age group.

The present study is intended to evaluate the pattern of cervical Pap smear cytology at a tertiary hospital and to correlate it with clinical findings.

Methods

The prospective study was carried out at department of Pathology, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar, India for the period of two years and total 1000 patients were screened. The patients were in the age range of 19-69 years, having complaints like watery vaginal discharge, bleeding per vaginal, intermenstrual bleeding, post-coital bleeding, something coming out per vagina, foul smelling discharge and itching in private parts.

History and symptoms along with parity were recorded. Smears were taken by trained technician using modified Ayres wooden spatula which was inserted and rotated 360 over cervix. Both ectocervix and endocervix were sampled. The cellular material obtained on the spatula and cyto brush was quickly smeared on a clean glass slide, labeled, fixed in 95% ethyl alcohol immediately and subsequently stained by Pap stain. After staining, slides were mounted with DPX (Distrene dibutyl phthalate xylene), screened and reported by two cytopathologist under light microscope according to the 2001 Bethesda system.

Table 2: Distribution of cases according to symptoms

Symptoms	No. of cases	Percentage (%)
Asymptomatic	50	5%
Vaginal Discharge	300	30%
Pain lower abdomen	200	20%
Intermenstrual bleeding	150	15%
Post- Coital Bleeding	100	10%
Post- menopausal Bleeding	80	8%
Something coming out of vagina	60	6%
Burning Micturation	60	6%
Total	1000	100

Table 2 depicts Vaginal discharge was the commonest chief complaint followed by lower abdominal pain.

Table 3: Cytological findings

Diagnosis		No. of cases	Percentage	
NILM	Normal	200	20%	
	Inflammatory	Non-specific	400	40%
		Candida	50	5%
		Trichomonas	10	1%
	Reactive	200	20%	
Metaplasia	100	10%		
Atrophy		10	1%	
Radiation		5	0.5%	
ASCUS		5	0.5%	
LSIL		5	0.5%	
HSIL		5	0.5%	
SCC		15	1.5%	

Total 46% showed inflammatory lesion, 1% showed atrophy, 0.5% showed ASCUS, 0.5% showed LSIL, 0.5% showed HSIL, 0.5% showed SCC, 10% showed metaplasia. Cytological findings broadly classified into unsatisfactory smears, normal and abnormal smears. There were 700 (70%) abnormal Pap smears (benign cellular changes of inflammation as well as Epithelial Cell Abnormalities (ECA), with 20% normal cases and 10% unsatisfactory samples. Inadequate smear are reported unsatisfactory. They did not show adequate number of well visualized and preserved squamous cells either less in number or observed by inflammatory cells or blood.

Discussion

Cervical cancer is an increasing health problem, comprising approximately 12% of all cancers among women worldwide.[9] According to the world cancer statistics, developing and low resource countries have more than 80% of all the cervical cancers due to lack of awareness and difficulty in running cytology-based screening programmes.[10]

Cancers of uterine cervix and breast are the leading malignancies seen in females of India. There should be an effective mass screening program aimed at specific age group for detecting precancerous condition before they progress to invasive cancers.[11,12] Cervical cytology is currently widely used as the most effective

cancer screening modality. Objective data from hospital-based studies are required in order to detect the efficiency of the screening test. In our study, the mean age of patients with abnormal smears was 43.7 years. Similar finding was detected by other studies.[13] This study determines 200 cases (20%) of normal findings, inflammatory lesions in 460 cases (46%). Our study showed that there were 87% benign and inflammatory and 3% were premalignant and 10% malignant lesion, out of which premalignant lesions 55.55% that were ASCUS and AGUS. The Epithelial Cell Abnormality (ECA) rate, that is the total of ASCUS, ASC-H, LSIL, HSIL, AGUS and carcinoma diagnosis varied between 1.5 and 12.60% in various studies.[14,15]

Edelman et al, studied Pap smears from 29295 females over a period of one year and the Pap smear abnormalities were as follows: 9.9% ASC-US, 2.5% LSIL, 0.6% HSIL, and 0.2% invasive cancer.[16] Study by Banik U revealed the following scenario: 0.18% ASCUS, 0.12% Atypical glandular cells (AGC), 6.36% LSIL, 1.18% HSIL and 0.35% malignancy.[17] In our study shows ASCUS 0.5%, ASC-H 0.5%, HSIL 0.5%, SCC 0.5% and AGUS 0.5%. SCC cases are more than other country studies because our study includes women of rural areas along with urban areas. Rural area women are unaware of the Pap test. Also they are shy and live in unhygienic conditions. Most common age to develop carcinoma cervix is between 40 and 50 years and the precursor lesions occur 5 - 10 years prior to developing invasive cancer. Various screening test 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, speculoscopy, cervicography should be started for early detection of premalignant lesions.

Conclusion

This study emphasized the importance of Pap smears screening for early detection of premalignant and malignant lesions of cervix. Larger studies are required to estimate the pattern of cervical cytological abnormalities along with detection of common HPV strains in cervical cancer in Indian population. Pap smear examination should begin at 30 years. By proper implementation of Pap screening program, incidence of invasive cervical malignancy can be prevented due to early detection of cervical premalignant lesions.

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