

A Study of Cervical Pap smear And Its Utility In Screening of Cervical Cancer In Tertiary Care Hospital of Jharkhand, Dhanbad.

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Abstract

Introduction: Cervical cancer is the leading cause of morbidity & mortality in developing countries including India. It can be prevented if diagnosed at premalignant and preinvasive stage with adequate & frequent cytological screening by Pap smear. The test is quick & painless procedure used globally & is also very effective. This was invented by & named after Dr. G. N. Papanicolaou.

Materials & Methods: A retrospective study was conducted from May-2017 to April-2018 by retrieving the reports of Pap smear in cytology section of Pathology Department, Patliputra Medical College, Dhanbad, Jharkhand.

Samples were collected by scraping with an Ayres wooden spatula, smeared directly on two marked glass slides, fixed immediately in absolute isopropyl alcohol & then stained subsequently with Pap stain.

Conclusion: Cervical cancer typically develops from precancerous lesion over 10 to 20 years. It can be reduced by performing the cervical Pap smear, when combined

with a widespread regular screening program & appropriate follow up in target population.

Key words: Cervical cancer, Pap smear, Bethesda system

Introduction

Cervical cancer, the most frequent cancer in developing countries including India, is a significant cause of morbidity and mortality in women. According to cancer statistics, about 80 % of all cervical cancers occur in developing and low resources countries. The great burden of disease is directly related to lack of awareness and cervical cancer screening program. Indeed the developed countries have dramatically reduced the rate of cervical cancer by achieving the widespread and effective screening program.

Cervical cancer has a long latent period which starts as a premalignant lesion at the squamocolumnar junction of the cervix. This can be prevented if the disease gets diagnosed in the early stage of premalignant and preinvasive lesion.

There are so many cervical screening tests which detect abnormal cells before the development of cervical cancer, but the Pap smears are quick, painless and effective

methods used globally. This method was invented by and named after Dr.G.N. Papanicolaou. Screening guidelines are given for successful implementation of cytological screening of cervix.

Materials and methods

A retrospective study was conducted by retrieving the reports of cervical Pap smears during the period of May,2017 to April,2018 in cytology section of Patliputra Medical College, Dhanbad, Jharkhand. Women included belong to different categories of complaints such as vaginal discharge, bleeding per vagina, something coming out from vagina, abdominal pain, backache and infertility. The samples were taken from external os by rotating Ayres wooden spatula at 360 degree after inserting the bivalve vaginal speculum. Two well labelled smears were prepared and fixed in absolute isopropyl alcohol immediately. Then the smears were stained with Pap stain according to standard procedure. Finally the reporting of Pap smears was done according to revised Bethesda System.

The inadequate material and atrophic smears were excluded from the study. The cases were arranged into age group of ten.

Results

A total 593 cervical Pap smears were included in present study. There were 135(22.76%) NILM,396(66.78%) inflammatory smears and 62(10.45%) cervical epithelial cell abnormalities(table-1,figure-1).The proportion of these screened findings was 135:396:62 ie. 2.17:6.38:1. The distribution of women/patients with their age has been shown in Bar chart of figure – 2.

Cellular abnormalities of squamous cells were reported as ASCUS (12,2.02%), LSIL(38,6.41%),HSIL(7,1.18%) and SCC(3,0.50%).The least finding of glandular cell

abnormalities was reported as AGUS only in 2(0.33%) women.

The inflammatory Pap smear the most common finding noted throughout all age groups but women within age group of 41-50 years (149,25.13%)had highest incidence followed by 31-40 years (117,19.73%) of women.

Table-1: Present study of cervical Pap smears.

Age groups	No. of cases	NILM	Inflam.	ASCUS	LSIL	HSIL	AGUS	SCC
<21	5(0.84%)	4	1	----	----	----	----	----
21-30	56(9.44%)	10	41	2	3	----	----	----
31-40	166(27.99%)	38	118	2	6	1	1	----
41-50	216(36.42%)	53	149	5	10	2	1	----
51-60	129(21.75%)	28	79	3	14	3	----	2
>60	21(3.54%)	6	8	----	5	1	----	1
TOTAL	593	135 (22.76%)	396 (66.78%)	12 (2.02%)	38 (6.41%)	7 (1.18%)	2 (0.34%)	3 (0.50%)

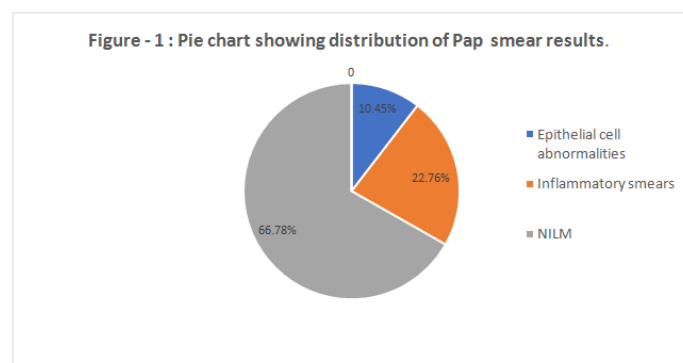
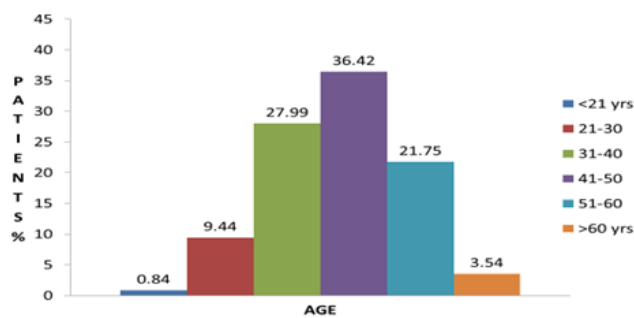


Figure – 2: Bar chart showing patients with age.



LSIL was the most common lesion among women of cervical epithelial cell abnormalities with preponderance within age group of 51-60 years (14,2.36%) followed by 41-50 years (10,11.69%) of women. No epithelial cell

abnormalities was found in women less than 21 years of age group excluding the inflammation.

Discussion

According to NCRP of ICMR, cancer of cervix and breast are the top two cancers among female in India.

These can be prevented if effective screening program is implemented at specific age group before they progress from premalignant to preinvasive and invasive cancers.

In present study the epithelial cell abnormalities in toto were noted in 62 (10.45%) women which is similar to study of Al Eyd et al, Sarma et al and Patel et al who reported 9.05%, 11.95% and 12.60% respectively. The majority of lesions were in the age group of 51-60 years (22 women) followed by 41-50 years (18 women). However Suryawanshi et al and Shekhar et al noted the age group 31-40 years most commonly affected. The different types of squamous cell abnormalities such as ASCUS (2.02%), LSIL (6.4%) and HSIL (1.18%) in our study are also comparable to those in a study done by Verma et al who found ASCUS in 1%, LSIL in 5.5% and HSIL in 2.5% of their screened women. Vaghela et al reported that LSIL was the most common epithelial cell abnormalities which is similar to present study. However Saha et al reported ASCUS (5.92%) to be the most common cellular abnormalities which is in contrast to our study.

American Cancer Society guidelines issued in 2012 recommend screening with Pap smear in women between ages of 21 to 29 years at every 3 years while Pap smear with HPV DNA test in women between ages of 30 to 65 years at every 5 years. No Pap smear is required in women who never had sexual contact or under age 21 years regardless of sexual history because disease is transmitted sexually by HPV and the test does more harm than benefit. Women who have received HPV vaccine,

screening is continued as normal because vaccine does not contain all types of HPV. Women having total hysterectomy with cervix removed need no further screening but those of partial hysterectomy with cervix remains need continued screening. If the last three Pap results were normal the screening should be stopped at age of 65 years. However more frequent test usually in 6 to 12 months should be done in abnormal Pap results.

Conclusion

The present study evaluates the role of Pap smear in various epithelial cell abnormalities of cervix of uterus. Pap smear is a simple, safe, effective and widely accepted screening tool for detection of premalignant cervical epithelial lesions. The smear/test has been regarded as the gold standard of cervical screening program. The addition of HPV-DNA testing into screening has increased the sensitivity for detection of lesions. Women usually start the screening late in their reproductive life which may be a contributing factor for high burden of cancer of cervix in developing countries including India. The efforts should be made to encourage the screening at an earlier age.

Abbreviations used

- NILM - Negative intraepithelial lesion or malignancy
- Inflam - Inflammatory cervical smear
- ASCUS - Atypical squamous cells of undetermined significance
- LSIL - Low-grade squamous intraepithelial lesion
- HSIL - High-grade squamous intraepithelial lesion
- AGUS - Atypical glandular cells of undetermined significance
- SCC - Squamous cell carcinoma
- NCRP - National Cancer Registry Program
- ICMR - Indian Council of Medical Research
- HPV - Human papillomavirus

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