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A Study On Cervical Cancer Screening Using PAP Smear Test And Its Clinical Correlation In A Tertiary Health Care Centre Of Southern Assam

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Abstract
Background: *George Papanicolaou had described cytological changes in cervical smears in 1928 but his technique was not widely implemented for many years. In 1950 cervical screening was first taken for screening cervical cancer in the higher socioeconomic groups in UK.[1] But this didnot help in reducing number of deaths from cervical cancer as the screening was confined to only a particular strata of the society. Hence the need of true national screening programme was prompted. 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. Cervical cancer has precursors, low and high grade intraepithelial lesions, which have effective treatment available.[2] Screening also gives an opportunity for educating women who are constantly at high risk.[3]*
Materials and Methods: *This study was carried out in DEPT OF PATHOLOGY,SILCHAR MEDICAL COLLEGE AND HOSPITAL,ASSAM,INDIA from 01.05.2018 to 31.04.2020. Around 1714 pap smears were taken from women between ages of 18 to 80 years presenting with different Gynaecological complaints.*
Results: *Out of 1714 cervical PAP smears which were received from May 2018 to April 2020. 808 patients had Normal smear. 636 had Inflamatory smears. 22 had Atypical Squamous Cell of Undetermined Significance(ASCUS). 80 had LSIL. 12 had HSIL. 3 had bacterial vaginosis .3 SCC were diagnosed*
Conclusion: *Pap smear examination is widely accepted screening method. In countries like India with predominant rural population, having low socio-economic status, marriage at an early age and poor medical facility, this test serves as economic and easy procedure for early detection of disease and hence further management.*

Keywords: *cervical lesion, pap smear, screening.*

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I. Introduction

Cervical cancer is a leading cause of morbidity and an important cause of mortality in women worldwide. In the recent years, the difference in incidence between developing and developed countries, has reduced significantly. But 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.[4] More than one-fifth of all cervical cancer deaths occur in India.[5] Every year, 122,844 women in India are diagnosed with cervical cancer, and 67,477 women die from the disease.[6] Cervical cancer is a preventable disease due to the long preinvasive stage. Early detection and appropriate treatment are possible if robust screening is implemented.[7] Early cervical epithelial changes can be identified by a Pap smear test, which is the primary screening test for detection of precancerous cervical intraepithelial lesions and the early stage of invasive cervical cancer. The overall sensitivity of the Pap test in detecting a high-grade squamous intraepithelial lesion (HSIL) is 70.80%.[8] A Pap screening done in association with an HPV DNA test increases the sensitivity for early detection of precancerous lesions.[9] 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. Thus, we have to strengthen our health services and health-care system to include screening at primary health centers. The aim of the present study was to evaluate women for precancerous lesions using the Pap smear test and investigate clinical correlation

II. Materials And Methods

It was a cross sectional study for a period of 2 years done in The Department of Pathology of Silchar Medical College and Hospital. The study was approved by the ethical committee of the instituition.

Study Design: cross sectional

Study location: tertiary health care centre of southern Assam

Sample Size: 1714 patients.

Inclusion criteria:

1.Women between 18 to 80 years of age with sexual history.

Exclusion criteria:

1.Women without sexual exposure.
2.Women below 18 years and above 80 years.
3.Known cases of cervical cancer.
4. Pregnant women

Procedure methodology

A detailed history was taken using a predetermined proforma that included the chief complaint and the findings of per speculum and vaginal examinations. Written informed consent was obtained from all women.

The smears were made as per following procedure:

Patient was guided to lie in lithotomy position. Vaginal canal was opened with Cusco's speculum and cells were collected at the outer opening of the cervix i.e. at the transformation zone, from posterior vaginal wall and endocervical canal. Pap smears were taken by using Ayres Spatula. The broad end of spatula was placed on the Cervix and rotated through 360˚ and the collected material was spread over a glass slide. The Endocervical sample was collected by using a Cytobrush and was spread over labelled second glass slide. All the slides were labelled and immediately transferred to 95% Ethyl alcohol (Transport Medium) and was sent to our Department for Cytological study. Evaluation was done by Cytology using Revised Bethesda Classification 2014. All the women with abnormal results were advised for follow-up and treatment as per the standard guidelines by World Health Organization (WHO).

Women who had abnormal Pap test results, including atypical squamous cells of undetermined significance (ASCUS), low-grade squamous intraepithelial lesion (LSIL), and HSIL were sent for a colposcopic examination. Women who had an abnormal colposcopic finding, i.e., a Reid score 6 or above, underwent a colposcopy-guided biopsy. Treatment was provided according to the stage of the disease.

The results were calculated in Microsoft Office Excel 2007.

III. Result

Out of 1714 cervical PAP smears which were received from may 2018 to april 2020. 808 patients had normal smear. 636 had inflamatory smears. 22 had atypical squamous cell of undetermined origin(ASCUS). 80 had LSIL. 12 had HSIL. 3 had bacterial vaginosis .3 SCC were diagnosed

Table no 1: Distribution of patients according to PAP smear findings

RESULTS	NO.OF PATIENTS	PERCENTAGE
INADEQUATE SAMPLE	152	8.8
NEGATIVE FOR INTRAEPITHELIAL LESION OR MALIGNANCY	808	47.14
INFLAMATORY	636	37.10
ASCUS	22	1.28
LSIL	80	4.66
HSIL	12	0.7
BACTERIAL VAGINOSIS	03	0.15
SQUAMOUS CELL CARCINOMA	03	0.05

The patients mostly belonged to age group 26 to 45 years. The most common presenting complain was white discharge(99.47%) with pain abdomen(94.69%) which was frequently associated with itching PV(88.03%). Irregular menses(3.9%) and burning sensation(3.3%) were few of the associated complaints. On visual examination of the cervix, chronic cervicitis was seen in 1438(83.89%) patients followed by unhealthy looking cervix in 163(9.5%)patients. 11 patients had third degree prolapse and they were above 60 years.

Table no 2: Distribution of patients according to age

AGE IN YEARS	NO. OF PATIENTS	PERCENTAGE
<21	10	0.5
21-30	638	37.22
31-40	552	32.20
41-50	210	12.25
51-60	177	10.32
61-65	25	1.4
>65	102	5.9

Table no.3: Distribution of patients according to presenting complain

COMPLAINTS	NO. OF PATIENTS
WHITE DISCHARGE	1705
PAIN ABDOMEN	1623
ITCHING	1509
BLEEDING PV	36
IRREGULAR MENSES	65
DYSMENORRHEA	03
BURNING SENSATION	58
BACKACHE	61

Table no 4: Distribution of patients according to age group and PAP smear findings

AGE IN YEARS	INADEQUATE	NILM	INFLAMATORY	ASCUS	LSIL	HSIL	SCC	BV	TOTAL
<21	02	06	02	0	0	0	0	0	10
21-30	57	341	239	0	0	0	0	1	638
31-40	42	293	198	6	12	0	0	1	552
41-50	21	93	66	8	20	1	0	1	210
51-60	18	49	67	5	32	4	1	0	177
61-70	07	16	54	2	10	5	2	0	95
71-80	05	08	10	1	06	2	0	0	32
	=152	=806	=636	=22	=80	=12	=3	=3	=1714

Table no.5: distribution of patients according to condition of cervix

CERVIX	NO. OF PATIENTS	PERCENTAGE
HEALTHY	102	5.95
UNHEALTHY	163	9.50
CHRONIC CERVICITIS	1438	83.89
PROLAPSE	11	0.64

IV. Discussion:

With the changes in the life styles and demographic profiles in developing countries, non-communicable diseases are emerging as an important health problem which demand appropriate control program before they assume epidemic propagation. Cancer has been a major cause of morbidity and mortality.[10] According to National Cancer Registry Program of India, cancers of uterine cervix and breast are the leading malignancies seen in females of India.[3,10] There should be an effective mass screening program aimed at specific age group for detecting precancerous condition before they progress to invasive cancers. Our study showed that there were 84.2% benign and inflammatory and 6.7% were premalignant and malignant lesion, out of which premalignant lesions 19.13% that were ASCUS. ASCUS progresses to LSIL, HSIL AND SCC. ASCUS was highest in the age group of 31-50 years. LSIL and HSIL was scatteredly distributed amongst 42 to 65 years. There are 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. Out of all these, exfoliative cytology has been regarded as the gold standard for cervical screening programs. The role of HPV in development of cervical cancer is proved beyond doubt. If Pap screening is associated with HPV-DNA testing than we can increase the sensitivity. World Health Organization (1992) recommended screening every woman once in her lifetime.

Ashok Verma and et al did a similar study in dept of obstetrics and gynaecology of Rajendra Prasad govt. Medical college of Himachal Pradesh and had followig findings. They reported NILM(56%),INFLAMATORY(32.5%),ASCUS(1%),LSIL(5.5%)HSIL(2.5%). No SCC was reported. Their sample size was 200.[11]Mandakini Patel and et al did another study on utility of pap smear for cervical cancer screening in Govt. Medical College,Surat and their results were (n=995): INADEQUATE 11.9%, INFLAMATORY 57.48%, ASCUS 4.12%, LSIL 1%, HSIL 1%, SCC 0.7%[12] P. Vijaya Lakshmi et al did analysis of 200 pap smear in Sri Padmawati medical college in Tirupati and their results were INFLAMATORY 67%, NILM 4%, ASCUS 2.5%, LSIL 7.5%, HSIL 6%, Bacterial vaginosis 3%, SCC 1%[13] There are 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.[2] Out of all these, exfoliative cytology has been regarded as the gold standard for cervical screening programs.[10,14]Women can present with very common complains like white discharge from vagina,pain abdomen or ithching PV but this should not allow us to miss a cervical PAP smear. As from the study the women with similar complains was detected from many of the premalignant lesion of the cervix. Every women after sexual exposure becomes a potential risk of acquiring many infections especially HPV and HIV. So cervical smear can be the first catch of disease detection. It has been well established that most of the cervical premalignant lesions are triggered by HPV infections many years ahead of the appearnce of disese specific findings. The role of HPV in development of cervical cancer is proved beyond doubt. If Pap screening is associated with HPV-DNA testing than we can increase the sensitivity. World Health Organization (1992) recommended screening every woman once in her lifetime.[10] 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.

V. Conclusion:

Pap smear examination is widely accepted screening method. In countries like India with predominant rural population, having low socio-economic status, marriage at an early age and poor medical facility. It is a major challenge to formulate a screening program that is easily available, within existing resources, to a large section of society. It is also important to set clear and realistic long term goals. We can develop a cost effective screening method by training medical and paramedical staff at primary health centre level. PAP smear examination should begin at 30 years. It should be subsequently followed with HPV-DNA testing at higher centres

References

[1]. Pap smear.By Healthline medical review team. www. healthline.com/health/pap-smear#Overview1/2015/11
[2]. Bishop A. Shessis TS. Cervical dysplasia treatment: Key issues for developing countries. Bull Pan Am Health Organ 1996; 30:378-86.
[3]. Mohammed Shaoaib Khan, Fohadiya Yasin Raja at el. Pap smear Screening for Precancerous conditions of the cervical cancers. Pak J. Med. Res.2005;44(3)
[4]. Ferlay J, Soerjomataram I, Dikshit R, Eser S, Mathers C, Rebelo M, et al. Cancer: incidence and mortality worldwide: Sources, methods and major patterns in GLOBOCAN 2012. Int J Cancer. 2015;136:E359–86. [PubMed] [Google Scholar]
[5]. Bruni L, Barrionuevo-Rosas L, Albero G, Aldea M, Serrano B, Valencia S, et al. ICO Information Centre on HPV and Cancer (HPV Information Centre) Human Papillomavirus and Related Diseases Reports. [Last accessed on 2015 Mar 20]. Available from: http://www.hpvcentre.net/statistics/reports/XWX.pdf .
[6]. ICO Information Centre on HPV and Cancer. Human Papillomavirus and Related Diseases in India (Summary Report 2014.08.22) 2014 [Google Scholar]
[7]. Bal MS, Goyal R, Suri AK, Mohi MK. Detection of abnormal cervical cytology in papanicolaou smears. J Cytol 2012;29:45‑7.
[8]. Ansari M, Mehdi G, Arif SH, Ansari H, Khan T. Smear patterns and spectrum of premalignant and malignant cervical epithelial lesions in postmenopausal Indian women: A hospital‑based study. Diagn Cytopathol 2012;40:976‑83.
[9]. Patel MM, Pandya AN, Modi J. Cervical pap smear study and its utility in cancer screening, to specify the strategy for cervical cancer control. Natl J Community Med 2011;2:49‑51.
[10]. National Cancer Registry Program. Annual Report. IC New Delhi; 1990-1996.
[11]. Verma, Ashok & Singhal, Amrita & Verma, Suresh. Cervical Cancer Screening with Cytology and Colposcopy in Rural Medical College Hospital of Himachal Pradesh, India. The Journal of South Asian Federation of Menopause Societies.2015 :3:44-8.
[12]. P.Amrish et al. Cervical Pap smear study and its utility in cancer screening, to specify the strategy for cervical cancer control in our set up. National journal of community medicine. 2011.
[13]. P. Vijaya Lakshmi, S.R. Sree Gouri. Study and analysis of two hundred cervical PAP smears in our hospital. International Journal of Contemporary Medical Research 2016;3(9):2787-9.
[14]. Idestrom M, Milsom I, Andersso-Ellstrom A. Knowledge and attitudes about the Pap smear screening program: a population-based study of women aged 20-59 years. Acta Obstet Gynecol Scand. 2002;81:962-7.