

Clinico-cytological study of the patients with malignant cell on cervical smears at tertiary care health care centre

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Abstract

Introduction: Cancer of the cervix is a global health problem, comprises approximately 12% of all cancers among women globally. Incidence and mortality of cancer cervix in world is 530232 and 275008 per year while in India it is 134420 and 72825 per year respectively. **Aims and Objectives:** To study Clinico-Cytological study of the Patients with Malignant Cell on Cervical smear at Tertiary care health care Centre. **Material and Method:** It is a prospective study of 1386 cases, coming from rural areas. Those cases diagnosed clinically as carcinoma cervix were not included in this study. Papanicolaou stain after wet fixation in 95% ethyl alcohol. **Result:** Total 25 cases were detected as positive for malignant cells on cervical cytology screening (1.8%). Incidence of smears positive for malignant cells was highest (60%) in the group of 31 to 40 years. In this study no smear was detected positive for malignant cells in patients of age less than 20 years. Incidence of smears positive for malignant cells was higher in multiparas. 16 out of 25 cases belonged to grand multipara (64%). In this study no smears found positive for malignant cells in nuliparous patients. Incidence of smears positive for malignant cells is higher in patients having cervical erosion and chronic vaginal discharge. Incidence of positive smear was higher in patients presenting with post-coital bleeding and chronic vaginal discharge similar incidence was observed in patients having inter-menstrual bleeding. 8% of patient was having no symptoms 21 patients of severe dysplasia detected by pap testing were lost to follow up. 11 patient of severe dysplasia were followed up by cervix biopsy. 10 patients were confirmed of severe dysplasia on biopsy and 1 patient showed chronic cervicitis. **Conclusion:** From our study it can be concluded that Incidence of smears positive for malignant cells was highest (60%) in the group of 31 to 40 years. Incidence of smears positive for malignant cells was higher in multiparas Incidence of smears positive for malignant cells is higher in patients having cervical erosion and chronic vaginal discharge. Incidence of positive smear was higher in patients presenting with post-coital bleeding and chronic vaginal discharge similar incidence was observed in patients having inter-menstrual bleeding. False positive report of cytology for malignant cells was 7.69%. **Keywords:** Malignant Cell on Cervical smear, Pap smear, Ca. – Cervix.

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Received Date: 18/01/2016 Revised Date: 22/02/2016 Accepted Date: 01/03/2016

Access this article online

Quick Response Code:	Website: www.statperson.com
	DOI: 02 March 2016

INTRODUCTION

Cancer of the cervix is a global health problem, comprises approximately 12% of all cancers among women globally. Incidence and mortality of cancer cervix in world is 530232 and 275008 per year while in India it is 134420 and 72825 per year respectively¹. It is the most

common cancer among women after breast and colorectal cancer in the world, but in India and other developing countries cervical cancer is the leading cause of mortality and morbidity. Women in these countries usually present to the clinic only when they have symptoms, such as pain, discharge, and/or abnormal bleeding². Cancer of cervix is readily preventable, by early detection and appropriate timely treatment of its precursor lesions by simple Pap screening test. Though Pap smear is a routine screening test, the overall sensitivity in detection of high grade squamous intraepithelial lesion (HSIL) is 70 - 80%³. The epithelial changes can be treated, thus preventing cervical cancer^{4, 5}. In general, in countries where Pap smear screening is routine, it is recommended that females who have had sex should seek regular Pap smear testing. Guidelines on frequency vary from every three to five years. If results are abnormal, and depending on the nature of the abnormality, the test may need to be

repeated in six to twelve months⁶. In 1988, the Bethesda system of terminology has been introduced to sub-classify the lesions into grades: high grade and low grade Squamous Intraepithelial Lesions (SIL) for Pap smear reporting and some studies reported comparison of various terminologies^{7,8}. The Bethesda System (TBS) for reporting the results of cervical cytology was developed as a uniform system of terminology that could provide clear guidance for clinical management.⁹ Mohinigarud *et al* studied 26, 217 patients in 10 years period (from 1970-1979). She stated that an attempt to screen women in an urban and its community in India for early cervical cancer and its precursors was successful despite limited resources. Papanicolaou's method provides a simple technique for the detection of early cancer normal appearing cervix.⁹ Hammed firoza in 1976, studied 300 smears by fluorescent staining using acridine orange as dye. He stated that this technique was found to be more convenient, rapid and accurate for screening the cervical smears as compared to Papanicolaou technique.¹⁰ Stern E. *et al* in 1977, stated that there is an inverse relationship between cervical cancer rate and income and there is possible association between level of Papanicolaou testing and income.¹² The prostitutes represented a unique group in which variables of frequent intercourse with multiple partners and multiple infections can be separated from early coital experience. In cytological smear study results included only 8 of 750 specimens in the dysplasia plus category for a rate of 10.7/1000. The low yield of abnormal cytology suggests the factors of multiple partners, frequent intercourse and high gonorrhoea infection rate are not significant epidemiologically if they occur after the phase of active metaplasia occurring during the first pregnancy of early adolescence.¹³ Bilquesjamila *et al* studied 1000 Kashmiri women by cervical smears and analyzed them with reference to religion, age and clinical appearance of cervix. Cytological pattern was then correlated with histopathological studies. She found 25 cases of cervical dysplasia, 3 of carcinoma in situ and 11 positive for malignant cells.¹⁴ Chauhan N. *et al* in 1984 studied 5778 cases with gynaecological complaints such as menstrual irregularity, post coital bleeding and post coital bleeding and post menopausal bleeding per vaginum. He found that dysplasia of cervix of all grades was found to be 2.2%. The incidence was highest in married women in their fourth decade of life and having more than three children. It was decade of life and having more than three children. It was highest among patients with low socioeconomic group.¹⁵ Elizabeth Hudson (1985) in his article population screening does it work ' stated that screening programme based on Papanicolaou cervical smear test were reported from many countries, their success in reducing clinical

invasive carcinoma was related to the percentage of the women at risk who were screened¹⁶. B.M. Nene *et al* studied 2846 women through a series of cancer detection camps in rural areas of Barshitahsil in 1990. It was shown that acceptance of cytological screening was poor in rural population, there by indicating that the mere holding of camps was not itself sufficient to motivate the people to subject themselves to pap smear. He put forwards some guidelines for success of such camps and screening programmes.¹⁷

MATERIAL AND METHOD

It is a prospective study of 1386 cases, coming from rural areas. Cervical cytological smears of all these cases were taken and examined. The criteria for selection of cases for this study were as follows: Patients presenting with complaints of chronic vaginal discharge. Post coital bleeding. Inter menstrual bleeding and chronic abdominal pain, Patients in whom per speculum examination revealed an unhealthy cervix, cervical erosion, irregular torn cervix, cervical polyp and vaginal discharge, Those cases diagnosed clinically as carcinoma cervix were not included in this study. Papanicolaou stain after wet fixation in 95% ethyl alcohol.

RESULT

Table 1: Age distribution of cases with malignant cells on cytology

Age	Positive for malignant cells	Percentage
Less than 20 years	0	0.00
21-30 years	0	0.00
31-40 years	15	60.00
41-50 years	7	28.00
Above	3	12.00
Total	25	100.00

Total 25 cases were detected as positive for malignant cells on cervical cytology screening (1.8%). Incidence of smears positive for malignant cells was highest (60%) in the group of 31 to 40 years. In this study no smear was detected positive for malignant cells in patients of age less than 20 years.

Table 2: Parity distribution of cases with malignant cells on cytology

Para	Positive for malignant cells	Percentage
Nil	0	0.00
1	1	4.00
2	3	12.00
3	5	20.00
4	5	20.00
5	6	24.00
Above 5	5	20.00
Total	25	100.00

Incidence of smears positive for malignant cells was higher in multiparas. 16 out of 25 cases belonged to grand multipara (64%). In this study no smears found positive for malignant cells in nulliparous patients.

Table 3: Cytological correlation of smears showing malignant cells with clinical findings

Clinical appearance of cervix	Positive for malignant cells	Percentage
Healthy cervix	00	00.00
Cervical erosion	13	52.00
Irregular torn cervix	01	04.00
Chronic vaginal discharge	05	20.00
Cervical polyp	00	00.00
Unhealthy cervix	06	24.00
Total	25	100.00

Incidence of smears positive for malignant cells is higher in patients having cervical erosion and chronic vaginal discharge.

Table 4: Cytological correlation of positive smears for malignant cells with symptoms of patients

Symptoms	Cases	Percentage
No symptoms	02	08.00
Post coital bleeding	09	36.00
Chronic vaginal discharge	07	28.00
Inter-menstrual bleeding	05	20.00
Chronic abdominal pain	02	08.00
Total	25	100.00

Incidence of positive smear was higher in patients presenting with post-coital bleeding and chronic vaginal discharge similar incidence was observed in patients having inter-menstrual bleeding. 8% of patient was having no symptoms.

Table 5: Cytological correlation between severe dysplasia and followup by cervix biopsy

Report	Cases
Severe dysplasia on cytology	32
Lost to follow up	21
Followup by cervix biopsy	11
Moderate dysplasia	00
Severe dysplasia	10
Invasive carcinoma	00
Chronic cervicitis	01
Total	11

21 patients of severe dysplasia detected by pap testing were lost to follow up. 11 patient of severe dysplasia were followed up by cervix biopsy. 10 patients were confirmed of severe dysplasia on biopsy and 1 patient showed chronic cervicitis.

Table 6: Correlation between smears showing positive cells on cytology and followup by cervix biopsy

	Cases	Percentage
Malignant cells on cytology	25	
Patients lost to follow up	12	48.00
Biopsy done	13	52.00
Confirmed on biopsy	12	92.30
Proven not malignant	01	07.69

Only 13 patients (52%) out of 25 patients having smears positive for malignant cells came for follow up and confirmation by cervix biopsy. 12 patients did not come to collect cytological report. Thus failure rate of follow up was 48% in positive smear cases. 1 case on cervix biopsy showed chronic cervicitis. Thus false positive report of cytology for malignant cells was 7.69%. 6 cases of severe dysplasia underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy. Diagnosis was confirmed from histopathology report of operated specimen. 4 cases of severe dysplasia confirmed by cervix biopsy did not come for follow up. Few of them went to other hospitals which were convenient for them. In 3 cases out of 12 positive cases which confirmed by cervix biopsy underwent radical Wertheim's hysterectomy. 4 patients preferred radiotherapy as a treatment. 5 patients went to other institution for further treatment according to their convenience.

CONCLUSION

From our study it can be concluded that Incidence of smears positive for malignant cells was highest (60%) in the group of 31 to 40 years. Incidence of smears positive for malignant cells was higher in multiparas. Incidence of smears positive for malignant cells is higher in patients having cervical erosion and chronic vaginal discharge. Incidence of positive smear was higher in patients presenting with post-coital bleeding and chronic vaginal discharge similar incidence was observed in patients having inter-menstrual bleeding. False positive report of cytology for malignant cells was 7.69%.

REFERENCES

1. Ferlay J., Shin H.R., Bray F., Forman D., Mathers C., and Parkin D.M. *et al.* - Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. International Journal of Cancer December; 127 (12), 2893–2917, 2010.
2. Patel M.M., Pandya A.N., Modi J. - Cervical pap smear study and its utility in cancer screening, to specify the strategy for cervical cancer control. National Journal of Community Medicine; vol 2, issue 1, 2011.
3. Maryem A., Ghazala M., Arif, H.A., Tamkin K. - Smear Pattern and Spectrum of Premalignant and Malignant Cervical Epithelial Lesions in Postmenopausal Indian Women: A Hospital Based Study. Diagnostic Cytopathology; 40(11):976-983, 2011.
4. Jonathan S.B. Berek and Novak's Gynaecology. -14th ed. Philadelphia: Lippincott William Wilkins; p. 569-575, 2006.
5. Leopold K. - The New Bethesda System for Reporting Results of Smears of Uterine cervix. Journal of National Cancer Institute; 82(12):988-990, 1990.
6. Saslow *et al.* - American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology Screening Guidelines for the Prevention and Early

- Detection of Cervical Cancer. *Journal of Lower Genital Tract Disease*; Vol 16, No. 3: 175 -204, 2012.
7. Richart RM. - A modified terminology for Cervical Intraepithelial Neoplasia. *ObstGynecol*; 75:131-133, 1990.
 8. Pradhan B., Pradhan S.B., Mital V.P. - Correlation of Pap smear findings with clinical findings and cervical biopsy Kathmandu University Medical Journal; Vol. 5, No. 4, Issue 20; 461-467, 2007.
 9. Solomon D., Nayar R. - The Bethesda System for Reporting Cervical Cytology: Definitions, Criteria, and Explanatory Notes. 2nd Ed. New York, NY, Springer; 2004: v-vii.
 10. Garudmohini, saraiyausha, lullamaya. Cytology screening programme in an experience. *Acts cytological*, vol 27, No 4, July- Aug 1983.
 11. Hameedfiroza, khan ansari, Tyagi S.P. evaluation of fluorescent microscopy of the vaginal smears as a mass screening method for the detection cervical cancer. *J obstGynindia*, Dec.1976, vol 36, No 6,867-69.
 12. Stern E., Misczynski Marilyn, coulsonanne. Pap testing and hysterectomy prevalence. *Am J Epidemioc.* 1977, 106(4), 296-305.
 13. Sabastianjames, burtanleeb, Richard see, cancer of cervix –a sexually transmitted disease. *Cutologic screening in prostitute population. AM J obst Gyn.* July 1978, Vol 131, No 6, 620-623.
 14. JamillaBilloques cervical smear study in 1000 kashmiri women. *J obstGynindia.* P 535-38.
 15. Chauhan S.H., tayalu.k., kalia i. j. detection of uterine cervical dysplasia and carcinoma cervix by cervical cytology *J obstGynindia.* 1987.419.
 16. Hudson Elizabeth The prevention of cervical cancer: the place of the cytological smear test: population screening-does it work *clinobstgyn march 85*, Vol 12, No 1, 33-51.
 17. Nene B.M., K. jayant, MalviS.G. Experience in screening for cervical cancer in rural areas of barshi tehsil (M.S) *The ind J of cancer*, March 94. Vol 31, No 1, 34-40.

Source of Support: None Declared
Conflict of Interest: None Declared