


Original Research Article

Role of Pap smear in detection of precancerous lesions of cervix – A case study

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Abstract

Background: The pap smear is the screening test for the detection of premalignant lesion of the cervix. It should be done annually in all women of age 35 years and above. Pap smear screening of cervix can significantly reduce the deaths due to cervical carcinoma.

Materials and methods: This was a prospective and descriptive study done for the period of 6 months from February 2018 to July 2018. A total of 158 women above the age of 21 years and married were included in the study. A Pap smear test was done after clinical examination in all women and sent to the department of Pathology of our tertiary care centre for cytopathological examination.

Results: There were 150 cases with inflammatory smear, 2 cases of ASCUS, 3 cases of LSIL and 3 cases of HSIL. Women who were positive for ASCUS, LSIL and HSIL underwent colposcopy and guided biopsy. Most women with inflammatory smear were of age group 20-40 years, 2cases of ASCUS were of ages 35 years and 38 years, 3cases of LSIL were of age group 35-45 years and 3 cases of HSIL were of age group 45-55years.

Conclusion: Thus cervical cancer is a preventable cancer if regular Pap smear screening test is done. It is simple, cost effective, non-invasive and easy to perform screening test for precancerous lesions of cervix.

Key words

Pap smear, ASCUS, LSIL, HSIL, Cervical carcinoma.

Abbreviations used

ASCUS - Atypical squamous cell of undetermined significance

LSIL - Low grade squamous intraepithelial lesion

HSIL - High grade squamous intraepithelial lesion

SCC - Squamous cell carcinoma

Introduction

Carcinoma of cervix is the most common genital cancer in India almost 80% [1]. It can be prevented by routine Pap smear test which can detect premalignant lesions of the cervix [2]. The Pap smear is a screening test which can detect 98% of the cancer of cervix and about 70% of endometrial cancer [1]. Every year 1,22,844 women in India are diagnosed with cervical cancer and 67,477 die from the disease [3].

The aim of the study was to increase awareness among women of age group 20-60 years about Pap smear test, periodical screening by which can prevent the incidence of cervical carcinoma to a great extent. A yearly negative Pap smear for 3 years is assuring and there after 5 yearly test is adequate [1].

Materials and methods

A total of 180 women visited Gynecology OPD clinic of our tertiary care centre with various complaints like vaginal discharge, irregular menstrual bleeding and lower abdominal pain. A total of 158 women were selected for Pap smear who were of age >21 years and married. Women who had visible malignant cervical lesion, diagnosed and treated case of cervical carcinoma and pregnant women were excluded from the study.

Pap smear was obtained prior to vaginal examination with patient placed in dorsal position and self-retaining Cusco's speculum was introduced gently without the use of lubricant. The cervix was exposed and squamocolumnar junction was scraped with Ayer's spatula by rotating it all around. The scrapings were evenly spread onto a glass slide and immediately fixed by dipping the slide in the jar containing equal parts of 95% ethyl alcohol and ether.

Papanicolou classification of cervical smears is as per **Table - 1**.

Table – 1: Papanicolaou Classification [1].

Grade 1 - Normal cells

Grade 2 - Slightly abnormal suggestive of inflammatory change, repeat smear after treating the infection.

Grade 3 - A more serious type of abnormality usually indicative of the need for biopsy.

Grade 4 - Distinctly abnormal, possibly malignant and definitely requiring biopsy.

Grade 5 - Malignant cells seen.

Results

This study was a prospective and descriptive study done for a period of 6 months starting from February 2018 to July 2018 at the Department of Pathology of our tertiary care centre. Pap smear test was done in 158 women >21 years age. 60 cases complaint of vaginal discharge, 20 cases with irregular menstrual bleeding and 40 cases complaint of lower abdominal pain and 38 cases were asymptomatic. 150 cases shown inflammatory smear, 2 cases were ASCUS, 3 cases of LSIL and 3 cases of HSIL. Most women with inflammatory smear were of age group 20-40 years, 2 cases of ASCUS were of age group 35 years and 38 years, 3 cases of LSIL between age group 35-45 years, 3 cases of HSIL between age group 45- 55 years. Those patients who were positive for ASCUS, LSIL and HSIL underwent a colposcopy and guided biopsy.

Discussion

The Pap smear is a screening test and should be done annually in all women over the age of 35 years [1]. Cervical carcinoma may occur at any age from 2nd decade of life to senility [2]. Cervical cancer is most common in developing countries nearly 83% and 3.6% of new cancers in

developed countries with a cumulative risk of 0.8% [4, 5]. Most of the patients complaint of vaginal discharge [60 cases] followed by abdominal pain [40 cases] and irregular menstrual bleeding [20 cases] in our study supported by B Pradhan, et al. who also reported vaginal bleeding as the main complaint [6]. In our study, majority of Pap smears were inflammatory (150 cases) (**Figures - 1, 2, 3**) supported by Bhutia K, et al. who reported 95% of Pap smears were inflammatory [7]. In our study, LSIL and HSIL were reported in the age group (35-55 years) supported by Sachan P, et al. who reported most of the abnormal cytology was detected in patients in age group (40-60 years) [8]. In this study, 2 cases of ASCUS, 3 cases each of LSIL (**Figure - 4**) and HSIL (**Figure - 5**) supported by Nayani and Hendre who reported LSIL (8.6%) and HSIL (3.8%) [9]. The ICMR, New Delhi screened the population of women over the age of 30 years and found (5-15 smears) to be abnormal per 1000 women examined [1]. The incidence of dysplasia reported at the AIIMS, New Delhi was 16/1000 patients screened [1]. Cancer of cervix evolves slowly over many years during which shedding of abnormal cells from the cervix occur which can be detected by periodic Pap smears in women who are sexually active [2]. Comparison of different classification describes cytological smears as per **Table - 2**.

women of 35 years and periodically in women >30 years of age group. It should be combined with HPV DNA test to increase the sensitivity of screening. Pap smear test can detect 98% of cancer of cervix and about 70% of endometrial cancers. Thus by routine screening in sexually active women >30years, incidence of cervical cancer can be prevented and we can save many lives.

Figure – 1: Inflammatory smear showing superficial, intermediate cells and parabasal cells in cluster and plenty of polymorphs.

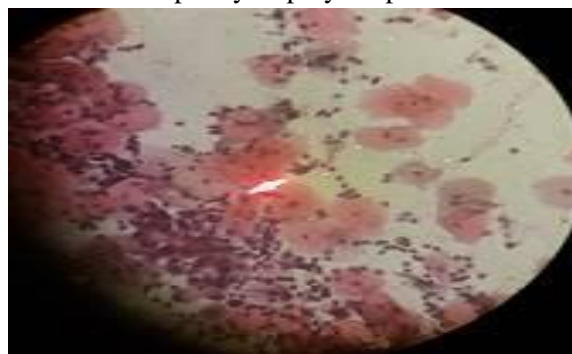


Figure – 2: Inflammatory smear showing leptothrix.

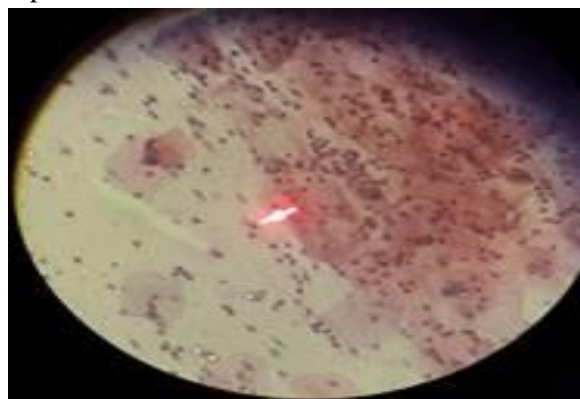


Figure - 3: Inflammatory smear showing candidal budding.

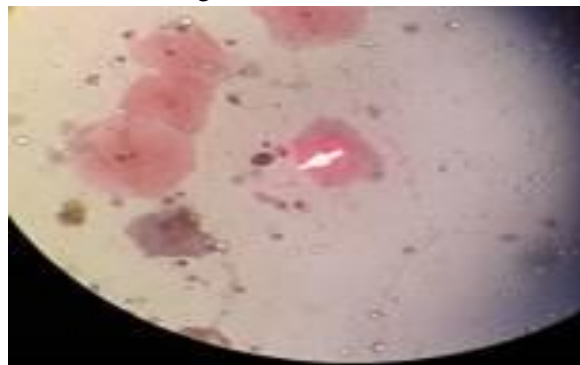


Table – 2: Comparison of different classification.

Pap smear (1943)	CIN (WHO 1975)	SIL Bethesda (1988)
I	normal	normal
II	Inflammatory	Inflammatory-HPV, ASCUS
III	CIN-I	Low SIL
IV	CIN II,III,CIS	High SIL
V	SCC	SCC

Conclusion

Pap smear is simple, safe and cost effective screening test to detect precancerous lesions of the cervix. It should be done annually in all

Figure – 4: LSIL-Smears show polygonal mononuclear and binucleate dysplastic cells with cyanophilic and finely vacuolated cytoplasm and slightly irregular and hyperchromatic nuclei.

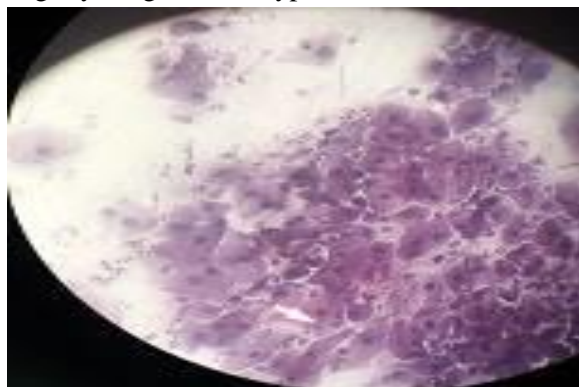
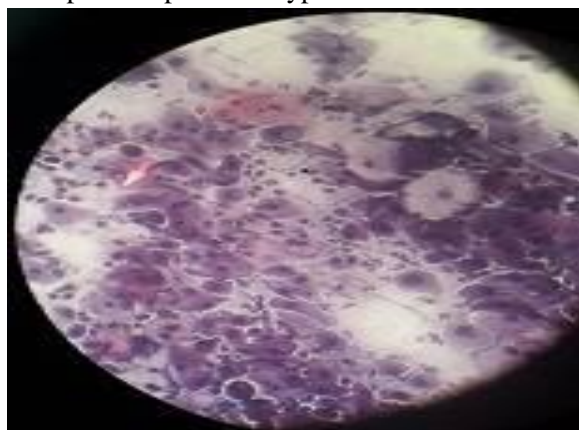


Figure – 5: HSIL-Smear show moderately dysplastic cells, several parabasal and small intermediate cells with cyanophilic cytoplasm with pleomorphic and hyperchromatic nuclei.



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