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Original Research Article

Pap Smear an Important Tool in Cervical Cancer Screening: A One Year Retrospective Study of 540 Patients

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ABSTRACT

Cancer of the cervix is a major burden on women's health worldwide. In India this is the commonest cancer among women and this country has the largest burden of cervical cancer patients in the world. The retrospective study of total 540 patients in the age group of 15-70 years, having symptoms like vaginal discharge, bleeding per vagina. A detailed clinical history was obtained. Smears were taken using modified Ayres spatula. Slides were prepared, labeled, fixed in 95% ethyl alcohol immediately and thereafter stained by Papanicolaou stain. Reporting was done by cytopathologists according to The 2001 Bethesda system. Amongst the 540 pap smears that were studied 357 (66.26%) showed inflammatory lesion, 13 (2.47%) showed atrophic changes, 34 (6.29 %) showed Atypical squamous cells of undetermined significance (ASCUS), 2 (0.3%) showed High grade squamous intraepithelial lesion (HSIL), 8 (1.48 %) showed frank Squamous cell carcinoma (SCC), 11 (2.0%) showed metaplasia, 2 (0.3%) had post radiation changes, 21 (3.88%) were unsatisfactory and 92 (17.13%) were within normal limits. We propose that larger studies are required to estimate the pattern of cervical cytological abnormalities along with detection of common (Human papilloma Virus) HPV strains in cervical cancer in Indian population, as this knowledge would be useful for prevention of HPV infection either by vaccines or future targeted therapy.

Key words: Pap smears, Bethesda system, cervical, atrophic, squamous.

INTRODUCTION

Cancer of the cervix is a major burden on women's health worldwide. Cervical cancer is the second most common cancer in women worldwide (12%) following cancer of the breast; in developing countries however it is the most common cancer among women. [1] In India this is the commonest cancer among women and this country has the largest burden of cervical cancer patients in the world. India accounts for one-fifth of the world burden of cervical cancer. [2] Nearly 4 lacs new cases of cervical cancers are diagnosed annually worldwide and 80% of them are diagnosed in the developing countries. There are 1.7 million cases in the developing world and as many as 5-13 millions women have precancerous lesions. [3,4] Cervical cancers can be prevented through early detection using several screening techniques. Cervical smear is a sensitive test for early screening of the cervical lesion and most widely used system for describing PAP smear result is The Bethesda System (TBS). [5]

MATERIALS AND METHODS

The retrospective study was carried out at Dr, Hedgewar Arogya Sansthan, Delhi during May 2009 to April 2010, total 540 patients were screened. The patients were in the age group of 15-70 years, having symptoms like vaginal discharge, bleeding per vagina. A detailed clinical history was obtained. Smears were taken using modified Ayres spatula. Both ectocervix and endocervix were sampled. Slides were prepared, labeled, fixed in 95% ethyl alcohol immediately and thereafter stained by Papanicolaou stain. Reporting was done by cytopathologists according to The 2001 Bethesda system.

RESULTS

Amongst the 540 pap smears that were studied 357 (66.26%) showed inflammatory lesion (Fig. 1), 13 (2.47%) showed atrophic changes, 34 (6.29%) showed Atypical squamous cells of undetermined significance (ASCUS), 2 (0.3%) showed High grade squamous intraepithelial lesion (HSIL), 8 (1.48%) showed frank Squamous cell carcinoma (SCC), 11 (2.0%) showed metaplasia, 2 (0.3%) had post radiation changes, 21 (3.88%) were unsatisfactory and 92 (17.13%) were within normal limits.

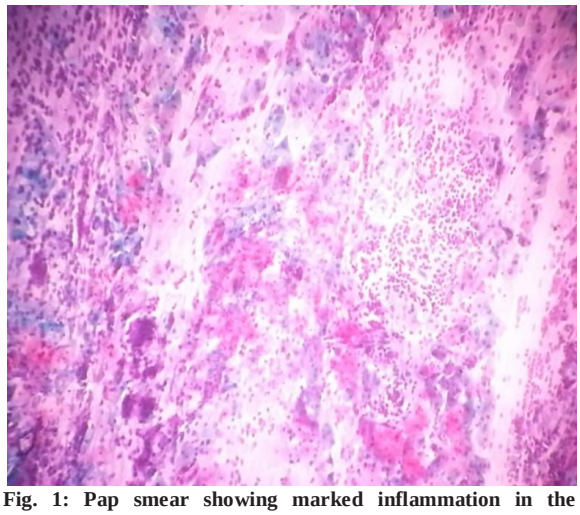

Fig. 1: Pap smear showing marked inflammation in the background (Papanicolaou 10X).

DISCUSSION

Cervical cytology is currently widely used as the most effective cancer screening modality. 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. Cervical cancer despite being the commonest genital cancer of women in India, there are no properly organized or high-level opportunistic screening programs for cervical cancer in any of the provincial states of India. Data from population-based cancer registries indicate a slow, but steady, decline in the incidence of cervical cancer. However, the rates are still too high, particularly in the rural areas, and the absolute number of cases is on an increase due to population growth. [6] Our study showed that 357 (66.26%) showed inflammatory lesion, 13 (2.47%) showed atrophy, 34 (6.29 %) showed ASCUS, 2 (0.3%) showed HSIL, 8 (1.48 %) showed SCC, 11 (2.0%) showed metaplasia, 2 (0.3%) had post radiation changes, 21 (3.88%) were inadequate and 92 (17.13%) there were within normal limits which correlates well with the study in the past. ASCUS progresses to LSIL, HSILAND SCC. AGUS progresses to adenocarcinoma. [7,8]

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. [9]

CONCLUSION

This study emphasized the importance of Pap smears screening for early detection of premalignant and malignant lesions of cervix. We propose that 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, as this knowledge would be useful for prevention of HPV infection either by vaccines or future targeted therapy.

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