



## A Study on Cervical Pap Smear Examination in University Hospital

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### Abstract

More than one million deaths amongst worlds women population every year are attributed to carcinoma cervix. In India over a lakh women are diagnosed with cervical cancers each year of which nearly 50 % succumb to death. Cervical cancer is the second most common carcinoma seen in 15-44 years age group which if diagnosed early and treated the morbidity can be reduced by 70% and mortality by 80%. Cervical smear is a sensitive, simple, safe, non-invasive and effective method for detection of pre-cancerous and non-cancerous changes.

**Aim:** The objective is to study the role of pap smear in diagnosing premalignant and malignant as well as non-neoplastic lesion of the cervix and to determine the incidence of various lesions.

**Material and Method:** A retrospective study of six months on Pap smears examination was carried out in cytopathology section in Central Laboratory of MGM Medical College Kamothe. Around 701 smears were studied ranging from 18-90 age group. The smears were taken with sterile Ayers spatula. Materials were smeared on a pre labelled glass slides to form a monolayer thick smear. Slides were fixed with methanol, which after drying were stained by rapid pap method.

**Result:** A total of 701 cases were screened there were 582 abnormal pap smears with 119 normal pap cases 24 cases were inadequate for opinion, 468 showed inflammation 29 cases of atrophic smear 2 cases of HSIL and 3 of LSIL, 4 cases of CIN 1, 22 of candida, 3 suspected cases Chlamydia trachomatis, 4 of AGUS, 16 of bacterial vaginosis and 6 cases of trichomoniasis were seen in the smears studied.

**Conclusion:** Incidence of malignancy can be prevented by pap screening programmes. Pap smear helps in early detection and management of malignancies hence reducing mortality and morbidity. Pap smear studies are cost effective, doesn't need experts and specialists for collection. Therefore, till today it is the most useful screening procedure for malignant and pre-malignant conditions.

### Introduction

More than one million deaths amongst worlds women population every year are attributed to carcinoma cervix<sup>[1]</sup>. Four lakh new cases are diagnosed every year worldwide. 5- 3 million women have pre -cancerous lesions<sup>[2]</sup>. In India over a lakh women are diagnosed with cervical

cancers each year of which nearly 50 % succumb to death. Cervical cancer is the second most common carcinoma seen in 15-44 years age group which if diagnosed early and treated the morbidity can be reduced by 70% and mortality by 80%<sup>[3,1]</sup>. Unlike other cancers cervical cancer is readily preventable as it is easy to detect and treat.

Papanicolaou cytology (Pap) test has been a boon since its introduction it is a sensitive, simple, safe, non-invasive and effective method for detection of pre-cancerous and non-cancerous changes. Cervical screening programme plays an important role in reduction of cervical cancers in developing countries<sup>[4]</sup>.

**Aim**

The objective is to study the role of pap smear in diagnosing premalignant and malignant as well as non-neoplastic lesion of the cervix and to determine the incidence of various lesions.

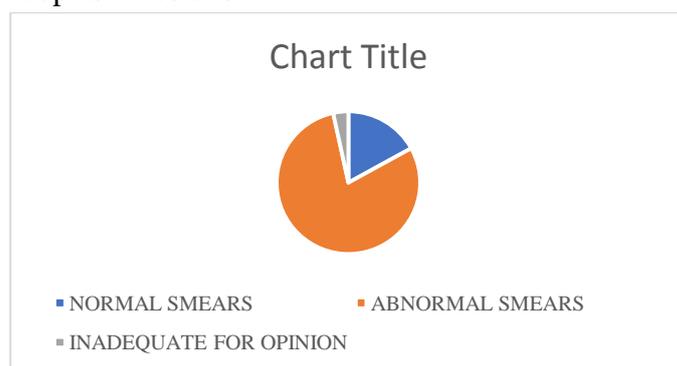
**Material and Method**

A retrospective study of six months on Pap smears examination was carried out in cytopathology department of Central Laboratory of MGM Medical College Kamothe. Around 701 smears were studied ranging from 18-90 age groups. The smears were taken with sterile Ayers spatula. Both

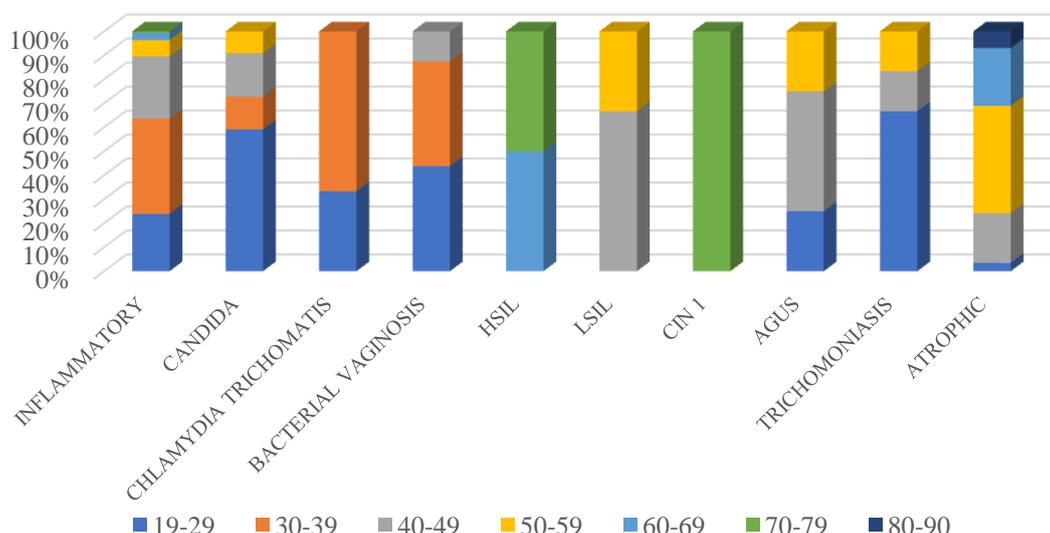
ectocervix and endocervix were sampled. Materials were smeared on a pre-labelled glass slides to form a monolayer thick smear. Slides were fixed with methanol, which after drying were stained by rapid pap method. The stained slides were mounted with DPX (Distrene dibutyl phthalate Xylene). Slides were screened and reported according to Bethesda system.

**Result**

Relation of age with various neoplastic and non-neoplastic lesions



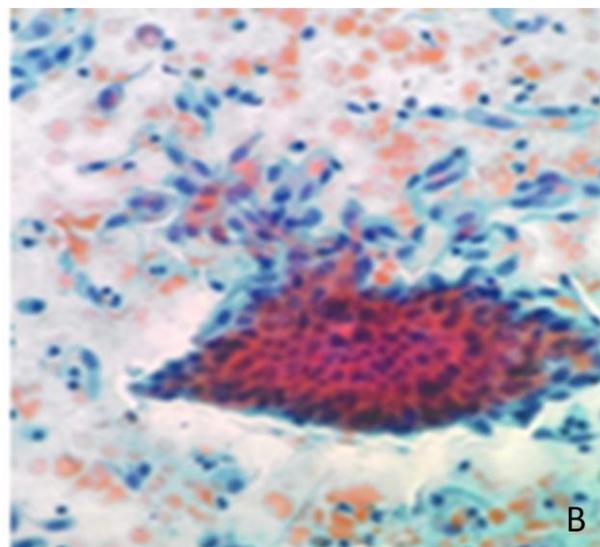
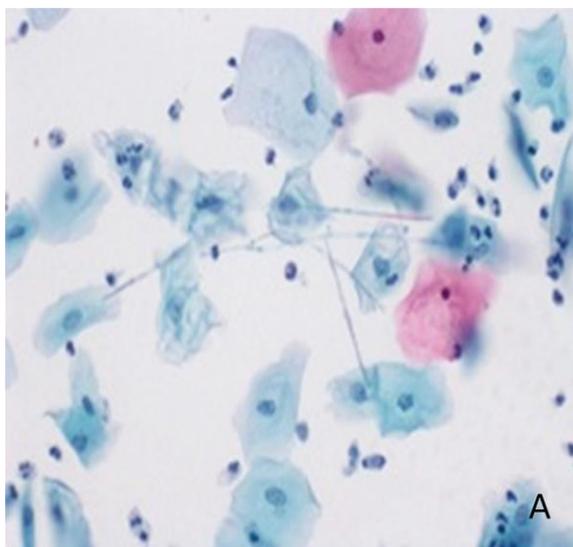
	19-29	30-39	40-49	50-59	60-69	70-79	80-90
Inflammatory	112	186	121	32	14	3	
Candida	13	3	4	2			
Chlamydia Trichomatis	1	2					
Bacterial Vaginosis	7	7	2				
HSIL					1	1	
LSIL			2	1			
CIN 1						4	
AGUS	1		2	1			
Trichomoniasis	4		1	1			
Atrophic	1		6	13	7		2



### Discussion

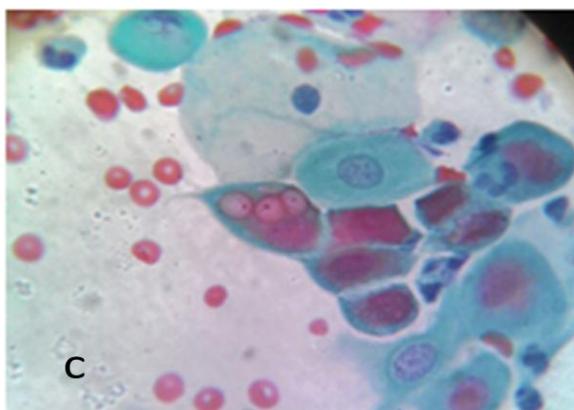
Changes in life styles and demographic profiles in developing countries, non-communicable diseases are emerging as an important health problem which demand appropriate control program before they assume epidemic propagation<sup>[2]</sup>. Of which cancers of uterine cervix and breast are the leading malignancies seen in females of India. Hence there is a need of an effective mass screening program aimed at specific age group for detecting precancerous condition before they progress to invasive cancers<sup>[2]</sup>. Worldwide Pap smear examination of cervix has been accepted for the early detection of precancerous lesions of cervix<sup>[1]</sup>. In our study we used Conventional Pap smears. A

total of 701 cases were screened in total between 19-90 age group of which there were 582 abnormal pap smears with 119 normal pap cases. Out of the abnormal 24 cases were inadequate for opinion, 468 cases showed inflammation ranging from mild to moderate to severe inflammation mean age group being between 30-39 years. 29 cases of atrophic smear highest between 50-59 years of age. 2 cases of HSIL and 3 of LSIL, 4 cases of CIN 1, 22 of candida between 19-29 age group being highest, 3 suspected cases of Chlamydia trachomatis (20-40years) 4 of AGUS, 16 of bacterial vaginosis were seen between 20-40 years and 6 of Trichomoniasis highest seen in 20-40 years of age were seen in the smears studied.



**Fig A :** Spores and hyphae of Candida in vaginal pap smear (Pap, 40X)

**Fig B :** High grade squamous intraepithelial Lesion overcrowding and overlapping of nuclei with few showing prominent nucleoli (Pap, 40X)



**Fig C:** Chlamydia trachomatis- showing vacuolated cytoplasm and reddish intracytoplasmic inclusions (Pap, 40X)

### Conclusion

Incidence of malignancy can be prevented by pap screening programmes. Pap smear helps in early detection and management of malignancies hence reducing mortality and morbidity<sup>[1]</sup>. Pap smear studies are cost effective, doesn't need experts and specialists for collection. Pap smears can be easily taken and evaluated through a chain built between a primary health care unit and laboratory. Therefore, till today it is the most useful screening procedure for malignant and pre-malignant conditions<sup>[1]</sup>. However conventional Pap

smearing, drying artefacts, inadequate fixations, background materials and thick smears are frequently present<sup>[4]</sup>. 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, colposcopy, cervicography should be started for early detection of premalignant lesions<sup>[2]</sup>.

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