



## A STUDY ON UTILITY OF PAP SMEAR SCREENING FOR PREVENTION OF CERVICAL CANCER IN NORTH TELANGANA

**Dr S Srikanth**

Associate Professor, Department of Pathology, Prathima Institute of Medical Sciences, Nagunoor, Karimnagar, Telangana, India

### ABSTRACT

**Background:** Cancer cervix is a leading cause of mortality and morbidity among women worldwide. According to National Cancer Registry Program of India, cancers of cervix and breast are leading malignancies in Indian women. The morbidity and mortality could be significantly reduced with an active cervical smear screening programme.

**Materials & Methods:** The present study is a retrospective and prospective study conducted in department of Pathology. A total of one hundred Pap smears were examined for a period of one year. All the pap smears were examined and reported. Detailed history was taken for the required cases.

**Results:** Out of total 100 cases inflammatory smear was the most common abnormality followed by normal study. Only 4 cases were diagnosed as unsatisfactory and 06 cases were diagnosed as Squamous cell carcinoma (SCC).

**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.

**KEYWORDS :** Pap smear, cervix, inflammatory, Bethesda system

### 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. Cancer of uterine cervix is a leading cause of mortality and morbidity among women worldwide. In developing countries it is the most common gynecological cancer and one of the leading causes of cancer death among women. This scenario is due to lack of awareness and poor uptake of cervical cancer screening services especially in low income countries.

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>.

### MATERIALS & METHODS

The present study is a retrospective and prospective study done in the department of Pathology for a period of one year. 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 dibuty phthalate Xylene). Slides were screened and reported according to Bethesda system.

### RESULTS

Out of total 100 smears, inflammatory smear was the most common abnormality followed by normal pap smears. Other lesions like Low grade squamous intraepithelial lesion (LSIL), High grade squamous intraepithelial lesion (HSIL), Atypical squamous cells of undetermined significance (ASCUS) and Squamous cell carcinoma (SCC) were observed [Table 1]. Age group between 31-40 years contributed highest number of cases followed by age group between 21-30 years.[Table 2]

**Table 1 showing various results observed in the study**

| SI No | Impression          | Number of cases |
|-------|---------------------|-----------------|
| 1     | Normal study        | 16              |
| 2     | Unsatisfactory      | 04              |
| 3     | Inflammatory smears | 36              |
| 4     | Atrophic smears     | 05              |

|       |       |     |
|-------|-------|-----|
| 5     | LSIL  | 10  |
| 6     | HSIL  | 11  |
| 7     | SCC   | 06  |
| 8     | ASCUS | 12  |
| Total | -     | 100 |

**Table 2 showing age wise distribution of cases**

| SI no | Age group | Number of cases |
|-------|-----------|-----------------|
| 1     | 0-10      | NIL             |
| 2     | 11-20     | 09              |
| 3     | 21-30     | 33              |
| 4     | 31-40     | 43              |
| 5     | 41-50     | 08              |
| 6     | 51-60     | 07              |
| Total | -         | 100             |

### DISCUSSION

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, noninvasive and effective method for detection of pre-cancerous and non-cancerous changes.

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. According to National Cancer Registry Program of India, cancers of uterine cervix and breast are the leading malignancies seen in females of India. There should be an effective mass screening program aimed at specific age group for detecting precancerous condition before they progress to invasive cancers<sup>4,5,6</sup>.

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 at 40 years.

All epithelial abnormalities of suamous character derive from

ectocervical squamous basal cells and endocervical reserve cells. Depending on the strength of the negative stimulus on the differentiating and maturing basal cells and endocervical reserve cells and in a later stage, immature metaplastic cells the ultimately resulting cells have a more or less differentiated aspect.

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. 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. However conventional Pap smearing, drying artefacts, inadequate fixations, background materials and thick smears are frequently present.

### CONCLUSION

Pap smear examination is widely accepted screening method. In countries like India with predominant rural population is 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.

### Figure legends:

Figure 1: Smears showing sheets of squamous epithelial cells against dense inflammatory background- inflammatory smear.

Figure 2: Smears showing features of LSIL.

### REFERENCES

1. Lakshmi PV, Gouri SS. Study and Analysis of Two Hundred Cervical PAP Smears in Our Hospital. *Journal of Contemporary Medical Research* 2016;3(9):2787-9.
2. Patel, Mandakini M., Amrishi N. Pandya, and Jigna Modi. "Cervical Paps smear study and its utility in cancer screening, to specify the strategy for cervical cancer control." *National Journal of Community Medicine* (2011); 2(1): 49-51.
3. Rejendra A Kalkar, Yogesh Kulkarni. Screening for cervical cancer: an overview. *Obstet Gynecol India* vol.56 no. 2: March / April 2006.
4. Tailor, Hemali J., et al. "Study of cervical pap smears in a tertiary care hospital of south Gujarat, India." *International Journal of Research in Medical Sciences* (2016); 4(1): 286-288.
5. Amne E. Radar, Peter G. Rose et al. Atypical Squamous cells of undetermined significance in women over 55. *Acta cytologica* 1999; 43(3): 357-61.