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Cervical Pap Smears Study in a Teritary Hospital

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Abstract: *The study was conducted to explore various lesions of uterine cervix in a tertiary care hospital.Cervical cancer is the leading cause of cancer death among women living in developing countries. According to national cancer registry program of india, cancers of uterine cancer and breast are leading malignancies seen in Indian women. It has been shown worldwide that screening for precursors of cervical cancer by means of pap smears substancially reduces the incidence of invasive cancer.The present study was conducted on female patients ,with the age range of 20 to 89 years, having complaints like vaginal discharge, bleeding per vagina or something coming out per vagina. Smears were taken by gynecologist using modified ayers wooden spatula which was inserted and rotated 360^0 over cervix. Both ectocervix and endocervix were sampled slides were prepared, labelled, and fixed in 95% ethyl alcohol immedeatly and subsequently stained by pap stain, 200 smears were studied and reported by two cytopathologists according to The 2014 Bethesda System . A total of 180 samples were adequate for evaluation whereas 20 samples were inadequate for evaluation ,168 smears were categorized as negative for intraepithelial lesion or malignancy (NILM) and Epithelial cell abnormality in 12 smears.*

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I. Introduction

Cancer of uterine cervix is a leading cause of mortality and morbidity among women world wide. In developing countries it is the most common gynecological cancer and one of the leading cause of cancer death[1]

It has been shown worldwide that screening for precursors of cervical cancer by means of pap smears substancially reduces the incidence of invasive cancer[2].even though the pap smear test alone does not have a high sensitivity and speficity, it is the most commonly used test in most screening programs .The diagnostic utility of cervico vaginal cytology (pap test) as a first line investigation has assumed importance in screening of cervical cancer[3].The present study was conducted to find out the prevalance in a teritary care hospital.

II. Material And Methods

This prospective study was carried out at Siddhartha Medical College and Government General Hospital, Vijayawada, during august 2018 to march 2019,total 200 patients were screened with age ranging from 20 to 80 years.

Study Design: Prospective open label observational study

Study Location: This was a tertiary care teaching hospital based study done in Department of Pathology, at Siddhartha Medical College and Government General Hospital ,Vijayawada, Andhra Pradesh.

Study Duration: August 2018 to March 2019

Sample size: 200 patients.

Subjects & selection method: The patients were in the age range of 20 to 89 years, having complaints like vaginal discharge, bleeding per vagina or something coming out per vagina. History and symptoms along with parity were recorded

Inclusion criteria:

1. Reproductive age group
2. Postmenopausal age group

Exclusion criteria:
1. High risk pregnant women
2. Patients who have undergone hysterectomy
3. Excessive vaginal bleeding at the time of examination
4. Patients taking hormone replacement therapy.

Procedure methodology

Smears were taken by gynecologist using modified ayers wooden spatula which was inserted and rotated 360^0 over cervix. Both ectocervix and endocervix were sampled slides were prepared, labelled, and fixed in 95% ethyl alcohol immedeatly and subsequently stained by pap stain. After staining, slides were mounted with DPX (distrene dibutyl phthalate xylene),screened and reported by two cytopathologists according to The 2014 Bethesda System, 200 smears were studied and results are tabulated.

III. Results

Table no 1 shows the preliminary analysis showed the mean age of the patients was ranging from 20-29years.Most them were of age group 30-39years,40-49years and 50-59 years.

Table no 1 : Shows age distribution

Age	Total cases	Percentage
20-29years	68	34%
30-39years	52	26%
40-49years	45	22.5%
50-59years	22	11%
60-69years	9	4.5%
70-79years	3	1.5%
80-89years	1	0.5%
Total cases	200	100%

Table no2 shows a total of 180 samples were adequate for evaluation whereas 20 samples were inadequate for evaluation due two low cellurarity, obcurenet by inflammatory cells and blood.

Table no2 : Distribution of satisfactory and unsatisfactory smears

	satisfactory	unsatisfactory	Total
Number of cases	180	20	200
Percentage	90%	10%	100%

Table no 3 shows out of 180 smears ,the category of negative for intraepithelial lesion or malignancy (NILM) constitutes the major one constituting 168 smears followed by Epithelial cell abnormality in 12 smears.

Table no 3 : Cytological diagnosis of NILM and Epithelial cell abnormality

	NILM	Epithelial cell abnormality	Total
Number of cases	168	12	180
Percentage	93.33%	6.7%	100%

Table no 4 shows out of 180 smears epithelial cell abnormality was seen in 12smears.9 cases were precursor lesions and 3 cases were malignant lesions.

Table no 4: Cytological diagnosis of Epithelial cell abnormality

Cytological diagnosis	Number of cases	Percentage
Malignancy	3	25%
Precancerous lesion	9	75%
Total	12	100%

Table no 5 shows out of 9 precancerous lesions, atypical squamous cells of unknown significance(ASC-US) constituted 2 cases, low grade squamous intraepithelial lesion (LSIL) constituted 4cases and high grade squamous intraepithelial lesion (HSIL) were 3 cases.

Table no 5 : Categorization of Precancerous lesions

Cytological diagnosis	Number of cases	Percentage
ASC-US	2	22.2%
LSIL	4	44.5%
HSIL	3	33.3%
Total	9	100%

Table no 6 Shows distribution of malignant lesions. All 3cases of malignant lesions were diagnosed as squamous cell carcinoma.

Table no 6 : Malignant lesions

Cytological diagnosis	Number of cases	Percentage
Squamous cell carcinoma	3	100%
Total	3	100%

IV. Discussion

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. Conventional cervical cytology is the most widely used cervical cancer screening test in the world and cytology screening programmer in several developed countries have been associated with impressive reductions in cervical cancer burden [1,4] The WHO recommends that in developing countries, women aged between 18-69 years should be screened for cervical cancer every 3 years. In our study, the youngest age screened was 20 years and oldest age was 89 years.. cervical cancer incidence rises in 30–34 years of age and peaks at 55–65 years, with a median age of 38 years (age 21–67 years) 4. In our study, cervical cancer was noted between 40- 75 years. The rate of unsatisfactory smear was high in the present study i.e., 10%. In other studies it is 1.36%, 4.1% and 24.42% (Table 2) [3,5, 6.] The unsatisfactory rate is an important quality assurance indicator in cervical cytology as it identifies women who are being inadequately screened. High rate of unsatisfactory smears could be due to sampling errors. Hence regular training and feed back is essential. In our study, Out of 168 cases (93.33%) were evaluated as NILM and constitute the majority . Among these 45 (26 .9%) smears were having normal cytology, 111 cases (66%) showed non specific inflammation, where specific inflammation were seen in 2 cases (1.2%) was Trichomonas vaginalis. Other non neoplastic findings were seen in 10cases, out of these 10 cases, 7 cases were reported as squamous metaplasia and 3 cases were reported as atrophic smears. These results were compared with other studies and comparatively the results were higher than other studies [7,8]. Our study showed that 12 cases(6.7%) with epithelial cell abnormality (table 4) , out of which premalignant lesions that 2 cases (22.2%)were ASCUS(table 5) . ASCUS progresses to LSIL, HSIL AND Squamous cell carcinoma [1, 9,10.] LSIL was diagnosed in 4 cases and HSIL 3 cases. The results were comparable with one study 7 and comparitvely lesser than other studies [8,11]. In our study,all 3cases of malignant lesions were diagnosed as squamous cell carcinoma (table 6) and our results were higher [8,12] and lesser [13] when compared to other studies.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 [14]

V. Conclusion

Pap smear examination is widely accepted screening method. . Smears positive of intraepithelial lesions has to be followed .

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