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SPECTRUM OF CERVICAL LESIONS BY PAPAINCOLAU (PAP) SMEARS, SCREENING IN A TERTIARY CARE HOSPITAL IN JAMMU. A 3 YEAR RETROSCEPTIVE STUDY.

Pathology

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ABSTRACT

Background: Cervical cancer is the second most common cancer world wide. It is preventable and curable if detected at early stages. Conventional cervical cytology using pap smears is most commonly used cervical screening method throughout the world. The aim of the study is to evaluate and interpret the cervical pap smear cytology in a tertiary care hospital . The interpretation and reporting of the cervical pap smears is based on the Bethesda system.

Material and methods: This is a retrosceptive study conducted in a tertiary care hospital in Jammu over a period of 3 years. All the cervical pap smears received in the Department of Pathology, GMC Jammu, in the study period were included (expect menstruating women, pregnant women and women who had undergone hysterectomy).

Results: A total of 300 cases were reported in the Cytology section of the Department of Pathology in the study period of three years. Majority of the cases were Negative for Intraepithelial lesions or malignancy(79%). Reactive cellular changes associated with inflammation were the most common finding (71.6%) followed by bacterial vaginosis(3.33%), candiasis(2%) and trichomanas(2%). Epithelial cell abnormality (6.33%) comprised of ASCUS, LSIL,HSIL & SCC.

Conclusion : Pap smears is a simple and cost effective screening method to detect various preinvasive cervical lesions. It should be done routinely in all women in reproductive age group.

KEYWORDS

Bethesda System, Cervical Cancer, Pap Smear, Squamous Epithelial Lesions.

INTRODUCTION:

George Nicholas Papaincolaou , is best known for creating the Papanicolaou test, commonly known as the Pap smear, which revolutionised the early detection of cervical cancer[1]. Cervical cancer is one of the most common causes of cancer related morbidity and mortatlity among women in developing countries like ours.

The symptoms of cervical cancer range from abnormal vaginal bleeding (dysmenorrhea, menorrhagia), vaginal discharge and low back ache to being completely asymptomatic even in advanced cases[2]. Periodic papaincolau cervical cytology screening can detect early changes seen in dysplasia. The widespread use of pap test over past many decades in the U.S, has decreased both the incidence and mortatlity due to cervical cancer.[3] However in a developing country like ours lack of awareness about pap test has led to increased morbidity and mortality associated with the late diagnosis of cervical cancer.

The aim of the study is to evaluate the pattern of cervical pap smear cytology and find out the incidence of various epithelial cell abnormalities in our institute.

MATERIAL & METHODS:

This is a retrospective study done in the Post graduate Department of Pathology, Government Medical college Jammu for a period of three years from 1 June 2015 to 31st May 2018. All cervical pap smears received in the Department of Pathology during the study period were included in the study. Pregnant women, mensturating women and women who had undergone hysterectomy were excluded from our study. Smears that were unsatisfactory, inadequate or those obscured by blood were excluded from our study. Requsition forms and patient's file(in case of indoor patients) provided the required clinical history. The ethical clearance was taken from the institutes ethical committee .A total of 300 case were reported in the study period. The pap smears were received on clean glass slides, immersed in Coplin jars containing fixatives and preservatives, from the Department of Obstetrics and Gynaecology. They were stained by papaincoloau stain by cyto technicians in the Cytology section of the Department of Pathology. The slides were then mounted with DPX(Dibutyl phthalate xylene) and were examined by two pathologists using the Bethesda System for reporting cervical smears.

The epithelial cell abnormalities particularly the squamous epithelial abnormality has been categorized into atypical squamous cells(ASC) including ASC of undermined significance (ASC-US) and ASC cannot exclude high grade squamous intraepithelial lesions(ASC-H) and squamous intraepithelial lesion(SIL). SIL was again subdivided into low grade squamous intraepithelial lesion(LSIL) and high grade squamous intraepithelial lesion(HSIL). Frank invasive malignancy was termed as squamous cell carcinoma. Glandular cell abnormalities were further categorized into atypical endocervical cells not otherwise specified and atypical endometrial cell not otherwise specified. Smear adequacy compromised of two clusters of well preserved endocervical glandular and / or squamous metaplastic cells, with each cluster composed of at least five cells.[4]

RESULTS:

A total of 300 cases were evaluated in the study period. The age of the patient ranged from 17 to 75 years. Majority of the pap smears were from the reproductive age group. Results from our study are compiled in Table No. 1, 2 and 3.

TABLE 1: Age wise distribution of total number of patients.

Age (in years)	No of patients	Percentage (%)
<20 years	10	3.3
20-29	120	40
30-39	126	42
40-49	32	10.6
50 or >	12	4
Total	300	100

TABLE 2: Distribution of clinical complaints of patients:

Chief complaints	No of patients	Percentage (%)
Vaginal discharge	170	56.6
Pain abdomen	78	26
Intermenstural bleeding	21	7
Post coital bleeding	20	6.6
Others	11	3.6
Total	300	100

TABLE 3: Distribution of samples of cervical pap smears cytodiagnosis.

Interpretation/result	No. of cases	Percentage%
Normal smear	20	6.66
Atrophic smear	25	8.33
Abnormal smear	255	85
Negative for intraepithelial lesion/malignancy	237	79
• Reactive cellular changes associated with non specific inflammation	215	71.66

• Candida infection	6	2
• Trichomonas infection	6	2
• Bacterial vaginosis	10	3.33
Positive for intraepithelial lesions/malignancy	19	6.33
• ASCUS	6	2
• AGUS	0	0
• LSIL	2	0.66
• HSIL	5	1.66
• SCC	6	2
Total	300	100

DISCUSSION:

World wide cervical carcinoma is alone responsible for about 5% of all deaths due to cancer in women[5]. Infection with Human papilloma virus(HPV) types 16,18, 31,,33,35,42,55,58 are the main risk factor for cervical cancer. HPV types 16 and 18 are the cause of 70% of cervical cancer worldwide while 31 and 45 are the cause of another 10%.[6] Promiscuity, oral contraceptives, smoking are known to increase the risk of cervical cancer. Women of lower socioeconomic strata and those with lower levels of education are shown to have higher risk of cervical cancer.[7] Pap test is a simple , painless, quick and cost effective test. Considering the efficacy and cost effectiveness of pap smear cytology in early detection of cervical epithelial abnormalities, it has been advocated that it should be started in all women at the age of 21 years.[8]

A total of 300 pap smears were anaylsed during the study period, out of which 20(6.66%) were normal smears, 25(8.33%) were atrophic smears and 255(85%) were abnormal smears, out of which the major share compromised of "reactive cellular changes associated with non specific inflammation" along with specific infections(79%). The age of the patients ranged from 17 to 75 years in our study, with the predominant population in the age group of 20-40 years(82%). This is in concordance with studies of Pudasaini et al, Hirachand et al, Ranabhat et al, Bukhar et al and Bamanikar et al.[9-13] In our study negative for intraepithelial lesions/ malignancy were reported as 79%. This is in concordance with Shardamaini et al[14] and Ali SS[15] who reported negative for intraepithelial lesion/ malignancy as 76.86% and 77.1% respectively. Vaghela et al and Saha et al[16,17] reported negative for intraepithelial lesion/ malignancy as 47% and 50.6 % respectively. In the present study inflammatory smears with or without specfic infectious agent compromised the most common group(79%) This is in concordance with Shardamani et al[14]. In our study Inflammatory smears were seen in patients less than 50 years of age and atrophic smears were seen in women above 50 years of age. This is in concordance with Shardamaini et al[14] and Bisht et al[19]. In our study epithelial cell abnormality represented 6.3% cases. Gajashree et al[18] reported epithelial cell abnormality as 8.04%, Shardamaini et al[14] reported epithelial cell abnormality as12.81%. In our study amongst the "positive for intraepithelial lesion/ malignancy", ASCUS and squamous cell carcinoma were the most common compromising of 2% cases followed by HSIl and LSIL compromising of 1.66% and 0.66% of the cases. AGUS and LSIL were the least prevalent epithelial lesions, a finding similar to Shardamaini et al[14]. In our study squamous cell carcinoma was the only cervical cancer reported in 2% of the females in their post menopausal period. Bisht et al[19] also reported that pap smears which were positive for malignancy were seen in females above 50 years of age and adenocarcinoma are rarely reported in pap smears.

CONCLUSION:

Pap smears is a simple and cost effective screening tool for early detection of premalignant and malignant lesions of cervix along with diagnosis of inflammatory lesions including the identification of specific causative organisms. Pap smear examination should be done routinely as soon as the females are sexually active, irrespective of their age. Implementation of pap smear screening programme can be done by creating awareness regarding its utility and importance amongst women at the grass root level

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