Original Research Paper

Gynaecology

STUDY OF CERVICAL PAP SMEARS AT TERTIARY CARE HOSPITAL

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ABSTRACT

BACKGROUND: Cancer of cervix is most common cancer among women after breast and colorectal cancer in the world. In India and other developing countries cervical cancer is most common gynaecological cancer and one of the leading cause of morbidity and mortality.Cancer of cervix is readily preventable and can be diagnosed at the pre-invasive stage with adequate and repetitive cytological screening with papanicolaou (pap) smears. **METHOD:** This is a retrospective study aimed to evaluate all cervical smears examined at Umaid hospital (Dr.S.N.M.C.Medical College Jodhpur)during one year period Jan. to Dec.2015. Detailed clinical data and pap smear cytology reports were obtained from the patients who attended the obstetrics and gynecology O.P.D. at the Umaid Hospital and data noted in a structured proforma.All the smears were reported as per the 2001 Bethesda system. **RESULTS:** Total 1953 pap smears were examined,maximum number of the patients were in the age group of 20-40 years.There were 374 unsatisfactory or inadequate samples (19.15%). A total of 1510 smears were reported as Negative for Intra epithelial Lesion or Malignancy (NILM), of which 720 (36.87%) showed normal cytological findings and 730 (37.37%) were inflammatory. Out of the total of 859(43.98%) were abnormal pap smears,only 69(3.51%) cases were reported to have epithelial cell abnormality.The 69 abnormal cases comprised of 34 cases with ASCUS,4 cases of ASC-H, 21 cases of LSIL, 8 cases of HSIL, 2 cases of High Grade Glandular Dysplasia Adenocarcinoma Cervix. **CONCLUSION:** Pre malignant and malignant lesion of cervix can be diagnosed easily by Pap smears.The epethelial cells abnormality rate in our study was 3.51%.

INTRODUCTION:

Cancer of cervix is leading cause of mortality and morbidity comprises about 12% of all cancer among women world wide.Incidence and mortality of cancer cervix in world is 530232 and 275008 per year while in India it is 134420 and 72825 per year respectively[1].It is most common cancer among women after breast and colorectal cancer in the world.According to National cancer Registry programme of India in Indian and developing countries women cervical cancer and breast cancer are leading malignancy.[2]

In India and developing countries women usually present to the clinic only when they have symptoms such as pain ,discharge and or abnormal bleeding[3].Cancer of cervix is readily preventable by early detection and appropriate timely treatment of its precursor lesions by simple Pap smear screening test.Though Pap smear is a routine screening test,the overall sensitivity in detection of high grade squamous intra-epithelial lesion (HSIL) is 70%-80% [4].The role of HPV in development of cervical cancer is proved beyond doubt. If Pap smear screening is associated with HPV DNA testing then we can increase the sensitivity[3].The epithelial changes can be treated,thus can be preventing cervical cancer[5,6].

Pap smear screening programmes in various countries shows markedly reduction in mortality from cervical cancer[1] .In countries where cervical Pap smear screening is routine,it is recommended that female who have had sex should seek regular Pap smear screening.Guidelines on frequency vary from every 3 to 5 year.If the results are abnormal and depending on the nature of abnormality,the test may need to be repeated in 6 to 12 month[7].The Bethesda system(TBS)4(1) for reporting the results of cervical cytoloy was developed as a uniform system of terminology that provide guidance for clinical management [9]

The present study is intended to evaluate the pattern of cervical Pap smear cytology at tertiary centre Umaid Hospital(DR.S.N.M.C. College JODHPUR) and to correlate it with clinical findings.

MATERIALS AND METHODS:

This retrospective study was conducted on 1953 patients to evaluate all previously conducted cervical smears of patients who attended the obstetrics and gynaecology outpatient department at the Umaid Hospital (DR.S.N.M.C.college JODHPUR) during period of Jan. 2015 to Dec.2015.All patients who had undergone Pap smear testing during this period were included in this study.Smear were taken of all patient who presented with complains of vaginal discharge, post coital bleeding ,intermenstrual bleeding and pain in lower abdomen and something is coming out per vagina as well as those who had come for routine cervical screening.

Relevant clinical data,history,symptoms and Pap smear reports were obtained and data was noted in a structured proforma.For smear Spatula was inserted and rotated 360 degree over cervix and specimen was collected from the squamo-columner junction.The cellular material obtained on the spatula was smeared on a clean and marked glass slide.The glass slides were then fixed immediately by immersing them into the Coplin jar. Coplin jar containing 95% ethyl alcohal.The smear were stained with papanicolaou stain.

After mounting of the slides with DPX [distrene dibutyl pthalate xylene],slides were examined under light microscope and were reported by two pathologist independently according to the 2001 Bethasda system.

RESULTS:

Maximum number of patients were in the age group of 20-40 years.It was observed that vaginal discharge was the commonest complaint of patients.

Table No.1 Common Findings In All Pap Smears With Respect To Age

COMMON FINDINGS IN ALL PAP SMEARS WITH RESPECT TO AGE			
DIFFERENT CYTOLOGICAL FINDINGS	AGE (Year)	NO.	% IN TOTAL
UNSATISFACTORY SMEARS	20-75	374	19.15%
• INADEQUATE SAMPLE		190	
• OBSCURED WITH BLOOD		88	
• POORLY PREPARED SMEAR		96	
NORMAL SMEAR	20-70	720	36.87%
ABNORMAL SMEAR	20-75	859	43.98%

Above table No.1 depicts that the cytological findings broadly classified into unsatisfactory smears, normal and abnormal smears with respect to age.There were 859 (43.98%) abnormal pap smears showing benign cellular changes as inflammation and epithelial cell abnormality, 720(36.87%) were normal smears and 374 (19.15%) were unsatisfactory smears.Out of 859(43.98%) abnormal smears,only 69(3.51%) smears were reported as epithelial cell abnormality.The age group of patients with epithelial cell abnormality was 20-75 years.

Table No. 2 : Distribution Of Cases Under Various Diagnostic Categories In Pap Smears

DISTRIBUTION OF CASES UNDER VARIOUS DIAGNOSTIC CATEGORIES IN PAP SMEARS			
CYTODIAGNOSIS		NO. OF PATIENTS	% OF TOTAL
NILM		1510	77.31
ASCUS		34	1.75
ASC-H		4	0.20
SIL	L-SIL	21	1.07
	H-SIL	8	0.40
CARCINOMA (ADENOCARCINOMA)		2	0.10
UNSATISFACTORY		374	19.15
TOTAL		1953	100

Above table no. 2 shows that the diagnosis of 69 abnormal cases revealed 34 cases with ASCUS, 4 cases of ASC-H, 21 cases of LSIL, 8 cases of HSIL, 2 cases of high grade glandular dysplasia adeno-carcinoma of cervix.

Table No.3 Distribution Of Cases Under Negative For Intraepithelial Lesion In Pap Smears

DISTRIBUTION OF CASES UNDER NEGATIVE FOR INTRAEPITHELIAL LESION IN PAP SMEARS			
CYTODIAGNOSIS		NO. OF PATIENTS	% OF TOTAL
NORMAL		720	47.68
INFLAMMATORY	NON SPECIFIC	680	45.03
	CANDIDA	40	2.64
	TRICHOMONAS	10	0.66
BACTERIAL VAGINOSIS		45	2.98
POSTMENOPAUSAL ATROPHIC VAGINITIS		15	0.99
TOTAL		1510	100

According to above table no. 3 out of total, 1510 cases were reported as Negative For Intra Epithelial Lesion Or Malignancy (NILM) of which,
• 720(36.87%) shows normal cytological findings
• 730(37.37%) shows inflammatory findings
• 45(2.3%) shows bacterial vaginosis
• 15(0.77%) shows post menopausal atrophic vaginitis

Out of 730 inflammatory smears, 680(34.81%) were non specific,40(2.04%) were candida and 10(.5%) were trichomonas vaginalis

Table No. 4 Relation Of Age With Various Non-neoplastic And Neoplastic Pathology Of Cervix

RELATION OF AGE WITH VARIOUS NON-NEOPLASTIC AND NEOPLASTIC PATHOLOGY OF CERVIX						
AGE GROUP IN YEARS	21-30	31-40	41-50	51-75	TOTAL	%
NORMAL SMEAR	380	200	98	42	720	36.87
INADEQUATE	198	80	60	36	374	17.15
INFLAMMATORY	348	300	52	30	730	37.37
BACTERIAL VAGINOSIS	15	20	8	2	45	2.30
POSTMENOPAUSAL ATROPIC VAGINITIS	0	0	4	11	15	0.77
ASCUS	7	7	12	8	34	1.74
ASC-H	0	0	2	2	4	0.20
L-SIL	0	0	9	12	21	1.07
H-SIL	0	0	3	5	8	0.40
ADENOCARCINOMA	0	0	0	2	2	0.10
TOTAL					1953	100

Above table no. 4 described that adenocarcinoma was more common in age group of 51-75 year and abnormal pap smear observed more common in age above 41 year.

DISCUSSION:

With changes in the lifestyle and demographic profile in the developing countries,non communicable diseases are emerging as important health problem which demands appropriate control program before they assume epidemic propagation.Cancer has been a major cause of mortality and morbidity.In India ca of cervix and breast are leading malignancies in females.Cervical cytology is currently widely used as a most effective ca screening modality.

Objective data from hospital based studies are required in order to detect the efficiency of screening test.This study contributes to assessing current level of cervical screening in the tertiary level Umaid hospital Jodhpur.In our study the age of patient with abnormal pap smear was 20-75 years,similar finding were detected by other studies [10,11].Vaginal discharge was most common presenting complaint in our study,other studies also reported similar findings [10,11,12].

The study determines 1510 cases of NILM with nonspecific inflammatory smear 680(34.81%) as the predominant one.Other studies revealed 95%,74.13% and 68.93% case as NILM respectively [10,11].The epithelial cell abnormality rate was 69(3.51%) in our study comparable to the reported in literature [13,14].In our study revealed ASCUS 1.74% to be most common epithelial cell abnormality.Similar results were obtained in study [15].

Our study thus elucidates the importance of papanicolaou cervical screening test.Community health awareness campaigns and large scale pap smear screening programme for women should be undertaken.

CONCLUSION:

This study emphasized the importance of pap smears screening for early detection of pre-malignant and malignant lesions of cervix In our study, EPITHELIAL CELL ABNORMALITY value correlate well with those in literature providing that the methods are used reliably in our institution. 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 used for prevention of HPV infection either by vaccine or future targeted therapy.

Abbreviations used:
1.NILM: Negative for Intraepithelial Lesion or Malignancy.
2.ASCUS: Atypical Squamous Cell of Undetermined Significance.
3.SIL: Squamous Intraepithelial Lesion.
4.HSIL: High grade Squamous Intraepithelial Lesion.
5.LSIL: Low Grade Squamous Intraepithelial Lesion.
6.ASC-H: Atypical Squamous Cell of HSIL lesion cannot be excluded.

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