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ORIGINAL ARTICLE

Clinical Association and Detection of Cervical Cancer with Pap Smear Screening Test

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ABSTRACT

Aim: To find the clinical association of the cervical cancer with pap smear test.
Study Design: Prospective study
Place and Duration of Study: Department of Obstetrics & Gynaecology, AJK Medical College Muzaffarbad Azad Kashmir from 1st January 2021 to 30th June 2022.
Methodology: Five hundred women were screened who were between 20-55 years of age. Sampling was performed by ecto-cervix through wooden Ayre spatula rotation at 360 degrees. The sample was preserved in a formalin jar and sent for glass slide formation. Cytopathological examination presented lesions as negative intraepithelial neoplasia as well as epithelial-cell abnormalities including squamous in addition to glandular cells.
Results: The mean age was 41.5±5.6 years. The epithelial abnormalities were diagnosed in 6% of low grade squamous-intraepithelial lesion cases and 1% in high grade squamous intra-epithelial lesion through pap smear. No case of squamous cell carcinoma was identified while 40% showed inflammation presence Most of the females within 31-40 years were having normal cervical morphology while 36%cases inflammation was noticed in 21-30 years of age. Low grade squamous-intraepithelial lesion was noticed in 63.3% of the women within an age group of 14-50 years while high grade squamous intra-epithelial lesion L was observed within 60% of the similar age women. Majority (148.45%) of the women had white discharge from vaginum followed by cervical erosion seen in 19.21% of the cases
Conclusion: Pap smear is a highly specific and efficient test for determining pre-cancerous cervical lesions as well as cervical cancers.
Key words: Association, Detection, Cervical cancer Pap smear screening test

INTRODUCTION

Cervical cancer is a worldwide problem with an increase in trend in recent decades. It leads to mortality in most of the cases of women. As its name explains it is presented in the cervix cells which are the lower part of the uterus connecting the vagina.[1-3] There has been regional discrepancy in cervical cancer with time. With the advancement in time there has been a change observed I the prevalence of cervical cancer in developed countries in comparison to developing countries. The rate of cervical cancer is still raised in countries like India.[4,5]

In accordance with the world cancer statistics (WCS) majority of the cervical cancer such greater than 80 percent originate in the developing countries as well as countries with lack of resources. The reason behind this is increased number of populations which is unaware of cervical cancers and reduced screening programs availability which could have tested the cytology of cells in context to cervical cancer. More than 20% of the mortality related with this type of cancer occurs in the Southeast Asia[6-8].

It is a fact that cervical cancer is a preventable disease which has a extended pre-invasive stage. Early identification of the cancer and its immediate treatment can only be possible in cases where early screening has been implemented. Intra-epithelial neoplasia as well as invasive cervical cancers can be detected through sufficient screening method pf pap smear. Pap smear can detect up tp70.8% high grade squamous intra-epithelial lesion (HSIL). The outreach of this test in developed countries has led to reduction in cervical cancers and its related mortality[9.10].

There is an urgent need of awareness and learning program for educating women about cervical cancers and their risks involved[11]. The present study was conducted for determine the correlation between the cervical cancer and pap smear test. The result of this study will assist in providing evidence-based awareness to women for getting them screened against cervical cancer.

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MATERIALS AND METHODS

This prospective study was carried out at Department of Obstetrics & Gynaecology, AJK Medical College Muzaffarbad Azad Kashmir from 1st January 2021 to 30th June 2022. After IRB permission screening of 500 women was performed after their formal consent for participation in the research. The study sample size was generated through sample size calculation using WHO based calculation software 80% power of test and 95% CI. Adult women who were between 20-55 years of age were enrolled. Women who were coming to the Gynaecology OPD with complains like vaginal discharge, intermenstrual bleeding, foul-smelling discharge, blood-mixed discharge, postmenopausal-bleeding, postcoital bleeding as well as abdominal pain having infertility or secondary amenorrhea, were placed in the inclusion criteria. Pregnant growth or already diagnosed patients with cervical cancer were not included in the study. A complete clinical detail of each patient's was entered on a well-structured questionnaire. A senior gynecologist physically examined each patient by placing them in lithotomy position and insertion of a sterile-bivalve speculum. The posterior-vaginal wall was retracted posteriorly whereas the anterior wall was retracted anteriorly for proper cervix as well as vaginal-wall visualization. Sampling was performed by ecto-cervix through wooden Ayre spatula rotation at 360 degrees. The sample was preserved in a formalin jar and sent for glass slide formation. Cytopathological examination presented lesions as negative intraepithelial neoplasia as well as epithelial-cell abnormalities (ECA) including squamous in addition to glandular cells. The pap smear test results were identified as negative/normal or the one atypical-squamous cells of undetermined-significance (ASCUS) or low grade squamous-intraepithelial lesion (LSIL) or HSIL through colposcopes examination. Data was analyzed using SPSS version 26.0 in terms of frequencies and percentages.

RESULTS

The epithelial abnormalities were diagnosed in 6% of LSIL cases and 1% n HSIL through pap smear. No case of squamous cell

carcinoma was identified while 40% showed inflammation presence (Fig. 1). The present study was conducted on 500 females with a mean age of 41.5±5.6 years. Most of the females within 31-40 years were having normal cervical morphology while 36% cases inflammation was noticed in 21-30 years of age. LSIL was noticed in 63.3% of the women within an age group of 41-50 years while HSIL was observed within 60% of the similar age women (Table 1).

Table 1: Demographic details of women screened against cervical cancer

Variable	Normal (n=250)	Inflammation (*n*=200)	ASCUS (*n*=15)	LSIL (*n*=30)	HSIL (*n*=5)
Age (years)					
21-30	65	72	-	1	-
31-40	90	57	2	3	1
41-50	47	30	5	19	3
51-60	31	29	6	6	1
61-70	16	10	2	1	-
>71	1	2	-	-	-
Parity					
P1	65	48	-	-	-
P2	40	52	1	2	2
P3	46	42	2	9	1
P4+	56	39	9	13	1
P5	24	17	3	5	1
>P5	19	2	-	1	-

Table 2: Clinical correlation of pap smear with symptoms

Variable	Negative for malignancy (*n*=250)	Inflammation (*n*=200)	ASCUS (*n*=15)	LSIL (*n*=30)	HSIL (*n*=5)
Asymptomatic (*n*=75)	51	24	-	-	-
White discharge per vaginum (*n*=185)	78	86	6	13	2
Pain in abdomen (*n*=128)	63	51	3	8	3
Postcoital bleeding (*n*=15)	8	7	-	-	-
Irregular bleeding (*n*=64)	30	25	3	6	-
Frequency of micturition (*n*=8)	4	2	1	1	-
Something coming out per vaginum (*n*=17)	12	2	1	2	-
Postmenopausal bleeding (*n*=8)	4	3	1	-	-

Table 3: Clinical symptoms of women screened for cervical cancer (n=500)

Symptoms	*No.*	%
Asymptomatic	75	15
White discharge per vaginum	184	36.8
Pain in abdomen	128	25.6
Postcoital bleeding	16	3.2
Irregular cycle	64	12.8
Postmenopausal bleeding	7	1.4
Something coming out through per vaginum	18	36
Frequency of micturition	7	1.4

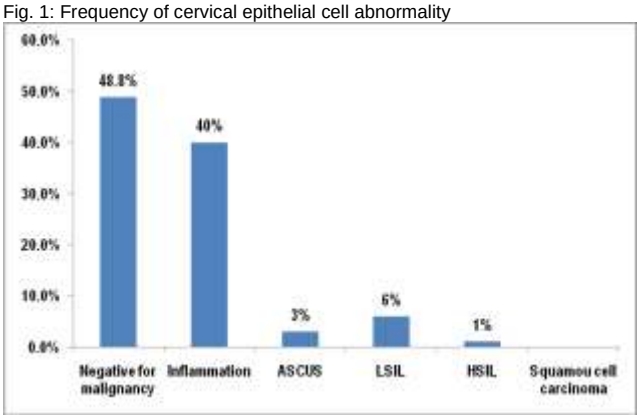
Table 4: Clinical characteristics of cervical region (n=500)

Finding	*No.*	%
Healthy looking cervix	130	26.0
White discharge per vaginum	148	29.6
Hypertrophied cervix	54	10.8
Cervical erosion	96	19.21
Ectropion of cervix	29	5.8
Bleed on touch cervix	24	4.8
UV prolapse/cystocele	17	3.40

In the present study there were 26.5% cases who had LSIL and were having abdominal pain as well as white discharge from vaginum presented as in 43.3% of the cases. Twenty percent of irregular bleeding was also clinically reported in LSIL cases. However, in HSIL only white discharge and abdominal pain was reported in 40% and 60% of the cases diagnoses through pap smear (Table 2).

The clinical symptoms included as white discharge, abdominal pain as well as irregular cycles (Table 3). Majority (148.45%) of the women had white discharge from vaginum followed by cervical erosion seen in 19.21% of the cases (Table 4).

Fig. 1: Frequency of cervical epithelial cell abnormality



DISCUSSION

The occurrence of cervical cancer is very high in countries where preventive programs are not implemented properly. Pap smear is a diagnostic primary test which is used for diagnosing the cervical cancer presence in an effective manner. Unfortunately, the public awareness about pap smear cervical cancer testing is very poor in developing countries like Pakistan. American cancer society recommends the Pap smear testing every third year of a women life especially between the ages 40-60 years[12-14].

The present research identified majority of the abnormal cytology within the age group of 40 as well as 60 years. The incidence of LSIL was found as around 5% while of HSIL as 0.4% which is correlate able with previous research results.[11] A study by Gupta et al stated majority of the abnormal cytology cases to be presented within an age group of 30-39 years with LSIL to be found higher in this age group up to 1.36% while HSIL was more raised in 40-49 years of age with a value of 0.91%[8]. The results of this study were in coordination with current study however their finding presented a lower age group to be more vulnerable for LSIL than as reported in present study.

Vaginal discharge has been reported as the major complaint as observed in the represent study as well as studies elsewhere.[12,13] In current research the pap smear test identified high number of inflammation cases. It is important to note that consistent inflammation cases should be treated in an appropriate way else might have a risk of turning into cervical intra-epithelial lesions[15-17]. The ECA detected in previous studies was between 9 to 12%. Similar results have been determined in the current research as well[18-20].

CONCLUSION

Pap smear is a highly specific and efficient test for determining pre-cancerous cervical lesions as well as cervical cancers.

Conflict of interest: Nil

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