

ROLE OF PAP SMEAR AS A SCREENING TEST IN PRECANCEROUS AND CANCEROUS LESIONS OF CERVIX.

Dr. B. Naga Raja¹, Dr. Sridhar Reddy Bodhireddy²

¹Associate Professor, Department of Pathology, Government Medical College, Kadapa, Andhra Pradesh.

²Associate Professor, Department of Pathology, SV Medical College, Tirupathi, A.P

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Corresponding author: Dr. Sridhar Reddy Bodhireddy, Associate Professor, Department of Pathology, SV Medical College, Tirupathi, A.P

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Abstract

Introduction: A pap smear is a simple, co-effective, non invasive screening test in detecting precancerous and cancerous lesion of cervix and also useful for early detection and implementation of appropriate treatment in pre invasive cervical lesions. Early epithelial changes are recognised by pap smear test. Based on pap smear results to educate the women regarding symptoms of cervical cancer. **Aim:** Based on results of study, to differentiate between pre invasive and invasive carcinoma of cervix. **Materials and Methods:** The present study was done over a period of three years period (February 2016 - January 2019). The total number of 966 cases was studied in department of pathology, Government medical college, Kadapa. All the cases were categorised based on cyto-morphological features of pap smear. **Requirement of materials:** Cervical smears, coupling jars, suitable fixative is Isopropyl alcohol, Alcohol fixed slides were taken for Papanicolaou stain. **Results:** The present study done on total 966 cases, out of these inflammatory lesions were 628 cases (65.01%), ASCUS were 228 cases (23.60%), LSIL were 62 cases (6.41%), HSIL were 28 cases (2.89%) and malignancy seen in 20 cases (2.07%). Predominate age group in ASCUS and LSIL was fourth decade. HSIL was seen in Fifth decade. Depending on clinical data predominant cases 760cases (78.67%) were presented with leucorrhoea.

Keywords: Cervical smears, Papanicolaou stain, Cervical lesions

INTRODUCTION

According to the World Cancer statistics, >80% of all the cervical cancer cases are found in developing and low-resource countries, because of a lack of awareness and difficulty in running cytology-based screening programs.[1] More than one-fifth of all cervical cancer deaths occur in India.[2] Every year, 122,844 women in India are diagnosed with cervical cancer, and 67,477 women die from the disease.[3] A pap smear is a primary screening test in detecting precancerous and cancerous lesions of cervix and also useful for early detection and implementation of appropriate treatment in pre invasive cervical lesions. Early epithelial changes are recognised by pap smear test. Based on pap smear results to educate the women regarding symptoms of cervical cancer. Pap smear positive women need adequate treatment and regular follow up. The overall sensitivity of the Pap test in detecting a high-grade squamous intraepithelial lesion (HSIL) is 70.80%.[4] A Pap screening done in association with an HPV DNA

test increases the sensitivity for early detection of precancerous lesions.[5]

Cancer of cervix has a long latent period of about 10 years.[6] Cervical cancer starts as a precancerous condition called dysplasia also termed as cervical intraepithelial neoplasia (CIN). CIN starts at the transformation zone especially in relation to the squamous metaplasia and reserve cell hyperplasia. [6]

MATERIALS AND METHODS:

The present study was done over a period of three years period (February 2016 - January 2019).The total number of 966 cases were studied in department of pathology, Government medical college, Kadapa. All the cases were categorised based on cyto morphological features of pap smear.

Requirement of materials: Cervical smears, coupling jars, suitable fixative is Isopropyl alcohol, Alcohol fixed slides were taken for Papanicolaou stain.

RESULTS

The present study was done on total 966 cases.

Table 1: Symptoms of women attending gynaecological OP

Symptoms	n=966
Asymptomatic	100
White discharge per vaginum	760
Pain in abdomen	110
Postcoital bleeding	31
Irregular cycle	51
Postmenopausal bleeding	32

Depending on clinical data predominant cases 760cases (78.67%) were presented with leucorrhoea.

Table 2: Age wise distribution of cases in cervical lesions

Age	Inflammatory lesions	ASCUS	LSIL	HSIL	Malignancy
21-30	52	-	-	-	-
31-40	326	38	20	-	-
41-50	190	190	42	8	-
51-60	60	-	-	20	14
61-70	-	-	-	-	6
TOTAL CASES	628	228	62	28	20

Note:

Atypical squamous cells of undetermined significance (ASCUS)

high-grade squamous intraepithelial lesion (HSIL)

low-grade squamous intraepithelial lesion (LSIL)

Predominate age group in ASCUS and LSIL was fourth decade. HSIL was seen in Fifth decade.

Table 3: Distribution of type of cervical lesions

S. No	Type of lesions	Number of cases	Percentage of cases
1	Inflammatory lesions	628	65.01%
2	ASCUS	228	23.60%
3	LSIL	62	6.41%
4	HSIL	28	2.89%
5	Malignancy	20	2.07%

Inflammatory lesions were 628 cases (65.01%), ASCUS were 228 cases (23.60%), LSIL were 62 cases (6.41%), HSIL were 28 cases (2.89%) and malignancy seen in 20 cases (2.07%).

DISCUSSION

The incidence of cervical cancer is quite high because prevention programs are either nonexistent or poorly implemented. The Pap smear test used as a screening method to detect cervical cancer is an effective way to prevent the development of cervical cancer, but awareness within the community about the Pap smear test is very low. [7]

In our study, maximum number of patients (326) were in the age group of 31–40 years followed by 41-50 years. A study done by Patel et al [8] reported that

maximum number of patients 653 (36.1%) were in the age group of 31–40 years followed by 477 cases (26.4%) in the age group of 15–30 years. Similar findings were also noted by Suryawanshi et al.,[6] Shekhar et al.,[9] and Rana et al.[10] in which most common age group screened was 31–40 years and the percentage was 31.21%, 41.9%, and 43.7%, respectively

In this study, the mean age of patients with epithelial cell abnormality smears was in 42.8 years, which is

similar to study done by Patel et al [8] – 42.7%, Bamanikar et al. [11] in which it was 38.5 years.

The common presenting complaint was white discharge per vaginum (leucorrhoea) in 760 cases followed by abdominal pain in 110 cases. A study done by Patel et al [8] reported that the common presenting complaint was white discharge per vaginum (leucorrhoea) in 376 (20.8%) followed by abdominal pain in 312 (17.3%) patients. Out of the 1808 cases, 1563 (86.45%) were reported as negative for any intraepithelial lesion or malignancy. In 161 (8.9%) patients, smears were unsatisfactory or inadequate for reporting and 84(4.65%) cases showed epithelial cell abnormality. Other studies also reported similar findings; Shekhar et al.[9] 31.2% and Sarma et al.[11] 70.66%. A study done by Pushp et al [12] White vaginal discharge was the most common symptom found in 36.96%, abdominal pain in 25.63%, an irregular menstrual cycle in 12.78%, postcoital bleeding in 3.09%, and postmenopausal bleeding in 1.45% of the women.

Out of these inflammatory lesions were 628 cases (65.01%), ASCUS were 228 cases (23.60%), LSIL were 62 cases (6.41%), HSIL were 28 cases (2.89%) and malignancy seen in 20 cases (2.07%). In the study done by Patel et al [8], epithelial cell abnormalities such as ASCUS, ASC-H, LSIL, HSIL, AGC, and carcinoma were noted to be 4.6%, which was comparable to the study done by Altaf et al.,[13] Shekhar et al.,[9] and Bamanikar et al.[14] in which the percentage of epithelial cell abnormality noted was 3.1%, 6.7%, and 5.36%, respectively; however, Sarma et al.[11] found higher rate of 11.95%. This may be because of widespread difference in the prevalence of risk factors and difference in availability of screening program. A study done by Pushp et al [12] reported that 48.84% of the participants were negative for malignancy and 42.66% had inflammation. The epithelial abnormalities ASCUS, LSIL, and HSIL were found in 2.90%, 5.09%, and 0.48% of the women, respectively.

Padmini et al [15] also reported ASCUS (8%), LSIL (5%), and HSIL (3%) in women screened with the Pap smear test. Higher numbers of LSIL (8.6%) and HSIL (3.8%) lesions were found in a study by Nayani and Hendre.[16] The high prevalence of cytological abnormality observed in Indian studies might be due to cultural differences, age of the individuals, incidence of related infections, awareness about screening, and the presence or absence of cervical

screening programs in different parts of the country.[12]

CONCLUSION

Pap smear test is very useful, simple, low cost and safe method for early detection of precancerous cervical epithelial lesions. It is useful to reduce the morbidity and mortality of cervical lesions. The present study done on total 966 cases, out of these inflammatory lesions were 628 cases (65.01%), ASCUS were 228 cases (23.60%), LSIL were 62 cases (6.41%), HSIL were 28 cases (2.89%) and malignancy seen in 20 cases (2.07%). Predominate age group in ASCUS and LSIL was fourth decade. HSIL was seen in Fifth decade. Depending on clinical data, 760 cases (78.67%) were presented with leucorrhoea.

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