PAP SMEAR STUDY FOR PREMALIGNANT LESIONS OF CERVIX IN A REMOTE MEDICAL COLLEGE HOSPITAL IN SOUTH INDIAS. Shyamala Devi¹, B. Vijai Anand Babu², Prashanti³**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: OBJECTIVES: To know the prevalence of premalignant lesions of cervix in this remote part of Andhra Pradesh, South India. **MATERIAL AND METHODS:** The study was conducted in Gynecology OP Dept. of Govt. General Hospital, Anantapur by screening the symptomatic women attending the Gynecology OPD of this hospital. They were examined by cervical Pap smear cytology to know the prevalence of premalignant lesions of cervix in this part of India. Total of 300 women were screened from April 2012 to March 2013 by the conventional Pap smear and the slides were reported according to the modified Bethesda system, by the Pathology dept. of Govt. Medical College, Anantapur. **RESULTS:** Out of the 300 cases studied, 20 cases showed premalignant and malignant lesions, thus the ratio of inflammatory and other lesions to premalignant and malignant lesions was found to be 93.33% and 6.67% respectively. **CONCLUSION:** The premalignant epithelial abnormalities like ASCUS, LSIL and HSIL were found to be highest in the age group of 31-50 years in our study, which correlated well with other similar studies. Hence we should advocate pap smear study at least from 30 years onwards in our settings, by which we can prevent further advancement of the cervical cancer, if we detect them at the stage of ASCUS or LSIL etc.,

KEYWORDS: Pap smear, Screening, Cervical cancer, Premalignant lesions, ASCUS, LSIL, HSIL, SCC, Bethesda system.

INTRODUCTION: India tops the world in cervical cancer deaths. Cervical cancer is a preventable disease and it kills more women in India, than anywhere in the world. According to cervical cancer Global crisis card, 2013, India alone represents 26.4% of all women dying of cervical cancer globally¹. Since early detection predicts better prognosis, one of the most effective ways of preventing and controlling cervical cancer is regular screening and early diagnosis and if detected early, it is one of the most successfully treatable cancers.

By contributing to the earlier diagnosis of cervical precancerous lesions, the Pap smear cytology has evolved to be the gold standard for cervical cancer screening. The anatomical accessibility of the cervix to the direct examination and the long preclinical stage during which approximately 95% of precursor lesions can be treated conservatively and successfully, make cervical precancerous lesions an ideal target for secondary prevention efforts such as screening and treatment.² It has been observed that abnormal pap smears are found in 5-10% of the screened population depending on the population characteristics. The aim of this study is to know the prevalence of premalignant lesions of cervix in this remote part of Andhra Pradesh, South India.

MATERIALS & METHODS: The present study was carried out at Govt. General Hospital, Anantapur during April 2012 to March 2013 and total 300 patients were screened. The patients were in age range of 21 years to 80 years, having complaints such as white discharge, mass per vaginum, pain

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abdomen, menstrual irregularities, dysmenorrhea, post coital bleeding and post-menopausal bleeding etc.,

Their detailed history was taken and general examination and per speculum and bimanual pelvic examination was done. Then cervical smear was taken by Ayre's wooden spatula and stained with pap method and reported according to the 2001 Bethesda system by the pathology dept. of Govt. Medical College, Anantapur.

RESULTS: The results of the analysis are summarized in tables 1 to 5. Amongst the 300 cases ranging from 21 years to 80 years, the age group of 31-40 years formed the largest group with 38% falling in this group, followed by 41-50 years age group with 29.33% of cases (Table – 1). In large 42.66% of the cases presented with white discharge, followed by 32% of the cases with history of mass per vaginum and the other cases had various other symptoms like menstrual irregularities and post-menopausal bleeding etc., (Table – 2).

The analysis of Pap smear reports of these 300 cases revealed that in total 190 patients showed inflammatory lesions (63.33%), 30 cases showed atrophy (10%), 40 cases did not show any remarkable pathology (13.33%), while pathological epithelial abnormalities were detected in 6.67% of cases. Thus the ratio of inflammatory and other lesions to premalignant and malignant lesions was 93.33% and 6.67% respectively (Table – 3).

The further analysis of epithelial abnormalities has shown that 8 cases (2.67%) had ASCUS, 2 cases (0.67%) had LSIL, while 6 cases (2%) shown HSIL, and 4 cases (1.33%) were reported as squamous cell carcinoma of the cervix (Table – 4). The 8 cases of ASCUS report were seen in 21-40 years age group, while we had 6 cases of HSIL in 41-50 years age group and 4 cases of Squamous Cell Carcinoma (SCC) were seen in the age group of 50-70 years and no epithelial abnormalities were seen in 71-80 years age group (Table – 5).

DISCUSSION: In India cervical cancer is still the most common cancer and occupies the top rank among cancers in women in most developing countries. According to WHO report 2010, about 134,000 new cases of cervical cancer are diagnosed each year in India and about 73,000 die of cervical cancer annually in India.³ The best way of preventing and controlling cervical cancer is regular screening and early diagnosis and we all know that the value of Pap smear testing in cervical carcinoma screening is undisputed. In USA, the Pap smear had much success in dramatically decreasing the incidence of and mortality from cervical cancer by almost 70% between 1955-1992, in large due to the effectiveness of PAP smear screening.

The WHO recommended that in low resources settings, the aim should be to screen every woman once in her life time at an age from 40-45 years, which can significantly reduce the mortality from cervical cancer.⁴ It is well established that the rate at which invasive cancer develops from premalignant lesions is usually slow, measured in years. This long natural history provides the opportunity for screening, to effectively detect this process during the pre-invasive phase, thus allowing early treatment and cure.⁵ And it has been found that the risk of developing cervical cancer is 3-10 times greater in women, who have not been screened before.

Amongst the 300 smears examined in this study, the ratio of inflammatory and other lesions to premalignant and malignant lesions was 93.33% and 6.67% and this is comparable to study by Mandakini Patel et al,⁶ which had the ratio as 94.5% and 5.5% and by Urvashi et al which had ratio of 91.8% and 8.2%.⁷

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Most common complaint in our study was white discharge constituting 42.66% of cases, which is comparable to the study by Sherwani et al at 42.5%⁸, where as it was 35% in the study by Srivastava et al.⁹ The Pap smear analysis of this study showed 63.33% inflammatory lesions, which is similar to study by Wasti et al, which showed 59.3%¹⁰ and it was 57.4% in the study by Mandakini Patel et al⁶. Our study had 10% reports under 'atrophic' category which is comparable to study by Mulay et al¹¹ which had 16% cases under this category.

In our study 13.3% of cases had no remarkable pathology which is comparable to 13.76% of cases in the study by Srivastava et al.⁹ About 6.67% of reports were labeled as unsatisfactory smears, which is comparable to study by Srivastava et al,⁹ who found 8.09% as unsatisfactory smears. The analysis of prevalence of epithelial abnormalities in our study showed ASCUS – 2.67%, LSIL – 0.67%, HSIL – 2% and SCC – 1.33%, which is comparable to the study by Altaf et al, which showed ASCUS – 2.4%, LSIL – 0.6%, HSIL – 0.4% and SCC – 1% results.¹²

Our result of 2.67% under ASCUS category is also comparable to study by Deb. P. et al at 3.7%¹³ and it was 2.42% in the study by Fonns et al.¹⁴ We had 0.67% of cases under LSIL category, which is comparable to 0.16% in the study by Mulay et al,¹¹ 2% cases were reported under HSIL category, which is comparable to study by Srivastava et al⁹ with 3.52%. We had 1.33% of cases under squamous cell Carcinoma (SCC) category, which is comparable to 1.6% of cases by Srivastava et al⁹, 1.5% of cases by Desai M et al¹⁵ and 1% cases by Altaf et al.¹²

The overall analysis showed that we could find about 8 cases of ASCUS in the age group of 21-40 years, 2 cases of LSIL in the age group of 31-40 years, 6 cases of HSIL in the age group of 41-50 years and 4 cases of SCC in the age group range of 51 to 70 years. At the same time we did not find any pathological abnormalities in the age group of 71-80 years (Table. 5) in our study.

CONCLUSION: A randomized controlled trial in India, showed that even a single life time screening test, significantly decreased the risk of mortality from and incidence of advanced cervical cancer, compared to no screening.¹⁶ The highest prevalence of Cervical cancer in our study was in the age group of >50 years which is comparable to other such studies. The premalignant epithelial abnormalities like LSIL and HSIL were found to be highest in the age group of 31-50 years in our study, which correlated with other similar studies.

Hence we advocate Pap smear study at least from 30 years onwards, in our settings, which can prevent further advancement of the cancer, if we detect them earlier at the stage of ASCUS or LSIL etc.,¹⁷ The available evidence supports the conclusion that cervical screening does offer protective benefits and is associated with a reduction in the incidence of cervical cancer mortality. Hence by increasing public awareness, by availability of screening services and by training paramedical workers at periphery level to screen by VIA like methods and referring to tertiary centers with infrastructure to carryout higher testing with PAP, LBC and HPV testing etc., we can reduce the mortality and morbidity of cervical cancer.

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Sl. No.	Age Group	No. of Cases	Study Group Percentage	ASCUS	LSIL	HSIL	SCC
1	21-30	36	12%	4	0	0	0
2	31-40	114	38%	4	2	0	0
3	41-50	88	29.33%	0	0	6	0
4	51-60	38	12.66%	0	0	0	2
5	61-70	12	4%	0	0	0	2
6	71-80	12	4%	0	0	0	0
	Total	300	100%	8	2	6	4

Table 1: Distribution of Premalignant Lesions based on age group of study population

Sl. No.	Complaint	No. of Women	Percentage
1.	White Discharge	128	42.66%
2.	Mass per Vaginum	96	32%
3.	Pain Abdomen	28	9.33%
4	Dysmenorrhea	6	2%
5.	Menstrual irregularities	34	11.33%
6.	Post coital bleeding	2	0.66%
7.	Post-Menopausal bleeding	6	2%
	Total	300	100%

Table 2: Clinical Presentation of Study group

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Sl. No.	PAP Smear Report	No. of Cases	Percentage
1.	No Remarkable Pathology	40	13.33%
2.	Inflammatory	190	63.33%
3.	Atrophic	30	10%
4.	Pathological	20	6.67%
5.	Unsatisfactory or Inadequate	20	6.67%

Table 3: PAP smear Results

Sl. No.	Type of Abnormality	No. of Cases	Percentage
1.	ASCUS	8	2.67%
2.	LSIL	2	0.67%
3.	HSIL	6	2%
4.	SCC	4	1.33%

Table 4: The Prevalence of Epithelial abnormalities

Sl. No.	Age Group	No. of Cases SCUS	No. of Cases LSIL	No. of Cases HSIL	No. of Cases SCC
1.	21-30	4	0	0	0
2.	31-40	4	2	0	0
3.	41-50	0	0	6	0
4.	51-60	0	0	0	2
5.	51-70	0	0	0	2
6.	71-80	0	0	0	0

Table 5: Relation of age group to epithelial abnormalities

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