



SCREENING FOR CARCINOMA CERVIX WITH SIMULTANEOUS USE OF PAP SMEAR, COLPOSCOPY AND COLPOSCOPY GUIDED CERVICAL BIOPSY-A PROSPECTIVE STUDY.

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ABSTRACT

OBJECTIVE

To evaluate the role of Pap smear, colposcopy and colposcopy guided cervical biopsy in screening for cancer of uterine cervix.

METHOD

Hundred patients undergoing routine cervical cytologic screening at RIMS hospital in department of OBG outpatient clinic were randomly selected. All patients were evaluated by Pap smear, colposcopy and cervical punch biopsy. Pap smears and biopsies specimens were interpreted independently.

CONCLUSION

Colposcopy followed by colposcopic guided cervical biopsy is a much sensitive method compared to cytology, especially in the high grade lesions of cervix and plays an important role in the down staging of cervical cancer.

KEYWORDS

Pap smear, Colposcopy, Colposcopy Guided Cervical Biopsy, Carcinoma cervix.

INTRODUCTION

In worldwide scenario, carcinoma cervix is second most common cancer in women, accounting for 68.5% of all gynaecological malignancies. It is most common cancer in women in developing countries accounting for 80% of cases. India accounts for 18% of them. Cervical cancer is 100% preventable and also largely treatable, if detected in early stage.^[1,5]

The histogenesis and progression of cervical carcinoma is well documented. Hence it is possible to prevent the development of invasive carcinoma by identifying and treating pre invasive lesions. Routine Papanicolaou smears are well accepted practice in detection of abnormal cervical cytology. Unfortunately the sensitivity of cytology can be as low as 50% potentially missing cervical intraepithelial neoplasia or cancer cervix up to 35% of the time. The sensitivity of colposcopy is 87-99% and specificity is 23-87%. Hence colposcopy and colposcopic guided cervical biopsy is used to evaluate the cervix for more potentially advanced pre-malignant disease that is either missed or detected as low grade on Pap smear alone.^[6,9]

MATERIALS AND METHODS

A prospective study analysing 100 cases of Pap smear, colposcopy and biopsy in the Outpatients clinic of the Department of Obstetrics and Gynaecology, RIMS Hospital, Raipur, CG.

INCLUSION CRITERIA

Women attending outpatient department (age group 25-60 yrs) with suspicious symptoms like persistent leucorrhoea, Postcoital, intermenstrual bleeding and postmenopausal bleeding, suspicious cervix such as hypertrophied or unhealthy cervix and cervix with erosion which bleeds on touch.

EXCLUSION CRITERIA

Women who already had hysterectomy, treatment for cervical precancer or cancer in the past, active genital infection (RTI, STD), Pregnant women, active per vaginal bleeding.

Patient was put in dorsal position; vagina retracted using Cusco's speculum, sample of exfoliated vaginal epithelium taken using Ayre's spatula and cytobrush. Acetic acid (5%) and Lugol's iodine applied to the cervix and colposcopic evaluation done using 40X magnification. Colposcopy guided cervical biopsy taken from suspected site in the transformation zone. Colposcopic grading done according to the Burke and co-workers recommendations.

RESULTS

The mean age of the women in the study is 38.9 yrs. 10 had

attained menopause. Mean age of marriage was 18yrs. 30% of the samples were illiterate and 54% had only primary education. In the study 52% belonged to lower socioeconomic class. 13% had habits like tobacco chewing, smoking mainly passive smoking. 57% were multiparous with 3 or more children. Different methods of contraception including permanent sterilisation were followed by 80%. Subjects mostly presented with white discharge per vagina i.e. 67% and second most common was bleeding per vagina (50%). On examination 94% had erosion in cervix. 73% had normal findings on per vaginal examination.

Pap smear showed malignancy in 5 members. 2 biopsy proven malignancy, 1 cervicitis, CIN I and CIN III each.

Colposcopy showed grade III changes in the 3 subjects who have histologically proven malignancy.

In this study sensitivity and specificity of Pap smear is 50% and 96.88% & colposcopy is 75% and 88.54%.

Pap smear	Colposcopy*	Colposcopic guided Biopsy
Normal 7	Normal 9	Normal 14
Inflammatory 46	Grade I 61	Cervicitis 47
CIN-I 27	Grade II 16	CIN I 19
CIN-II 4	Grade III 14	CIN II 5
CIN-III 11		CIN III 12
Malignancy 3	* Burke & co-workers recommendations	Malignancy 3

Table 1: Distribution of cases – total 100

Pap Smear	Histopathological Findings						Total
	Normal	Cervicitis	CIN I	CIN II	CIN III	Malignancy	
Normal	2	4	1	-	-	-	7
Inflammatory	9	29	7	-	1	-	46
CIN-I	2	13	8	3	1	-	27
CIN-II	1	-	1	2	-	-	4
CIN-III	-	-	1	-	9	1	11
Malignancy	-	1	1	-	1	2	5
Total	14	47	19	5	12	3	100

Table 2: Correlation between Pap smear and histopathological findings.

Colposcopy	Histopathological Findings						Total
	Normal	Cervicitis	CIN I	CIN II	CIN III	Malignancy	
Normal	3	5	-	1	-	-	9
Grade I	9	39	13	-	-	-	61
Grade II	2	3	5	2	4	-	16
Grade III	-	-	1	2	8	3	14
Total	14	47	19	5	12	3	100

Table 3: Correlation between colposcopy and histopathological findings.

DISCUSSION

Routine Papanicolaou smears are well accepted practice in detection of abnormal cervical cytology. Unfortunately the sensitivity of cytology can be as low as 50% potentially missing cervical intraepithelial neoplasia or cancer cervix up to 35% of the time. Hence colposcopy and colposcopy guided biopsy should be done to improve the accuracy of diagnosis. The sensitivity of colposcopy is 87-99% and specificity is 23-87%.^[9,10] Various characteristics and predisposing factors for carcinoma cervix have also been analysed. Accuracy of different screening methods for Carcinoma cervix and their comparison has been done. This will help in diagnosing missed cases if only one test was used.

Mean age in the present study was 38yrs. An increased incidence of sexually transmitted infections in patients <25 years of age and hence many showing abnormal colposcopic features in this age group. 1/3 women of >30yrs have persistent inflammatory lesions of cervix. Majority were illiterate or had only primary education. Subjects had no knowledge regarding Pap smear or about carcinoma cervix. We observed an inverse relationship between the distribution of cervical cancer and the educational status of women. 51% belonged to low socioeconomic status. Many Indian studies have reported that women from lower socioeconomic strata had higher incidence of cervical cancer.^[12] Subjects mostly presented with white discharge per vagina i.e. 67% and second most common symptom was bleeding per vagina (50%). [3] In this study positive correlation was seen between substance abuse and occurrence of preinvasive or invasive lesions of cervix.^[11] In the present study, mean age of marriage was 18 years. In the study population 57% of the women were multiparous (Parity>2). In the present study women who were diagnosed to have invasive lesions of the cervix were multiparous and had early coitarche. A positive correlation of carcinoma cervix and early coitarche and with multiparity was found in our study. In present study 63% were tubectomised. Only 5% used barrier method. No preinvasive or invasive lesions were seen in patients who used barrier method. This study concluded that barrier method protects against sexually transmitted diseases and hence no HPV infection. On per speculum examination abnormality was detected in 84% of subjects, The most common finding on per speculum examination was erosion, which was present in 49% subjects. All 3 subjects who were diagnosed to have malignancy had erosion which bleeds on touch. In the Pap smear study 46% were reported as inflammatory and 5% as malignant. This is comparable to the study done by Robyr et al, which showed that 50% of the cases had inflammation on cytological examination.^[13] Colposcopy showed 61% as Grade I lesion and Grade III changes which are equivalent to CIN III and malignancy are seen in 14% of cases. In biopsy 14% were reported as normal, majority were reported as cervicitis (47%), malignancy was reported in 3% of the study population. In study population, 2 subjects who were reported as having malignancy in Pap smear, actually had cervicitis and CIN I and colposcopy had showed grade I changes in them. This indicates that colposcopy much accurately helps in diagnosing mild degrees of lesions of uterine cervix. In present study about 15% of the patients with normal smear had CIN I at biopsy and one with inflammatory smear had CIN III at biopsy. Walker et al reported CIN II and CIN III at histology in one third of their patients with mildly atypical cervical cytology.^[4] These data suggest that a mildly abnormal smear identifies a group of patients at increased risk of CIN but gives little or no information on the disease severity. The latter information, which is essential for proper management of the patients, is obtained by colposcopically directed biopsy

Matsuura et al showed that accuracy rates of cytology, colposcopy and punch biopsy were 52%, 66% and 66% respectively. Hence he suggested that a composite diagnosis with cytology, colposcopy and punch biopsy is necessary for a correct evaluation of women.^[7]

Usha Saraiya et al stated that, cytology and colposcopy are complementary to each other and should be used simultaneously as both methods mutually and continually control each other.^[14]

CONCLUSION

Comparison of Pap smear and colposcopy in a hospital based screening for premalignant lesions of cervix revealed that Pap smear had a less sensitivity when compared to colposcopy. Colposcopy on the other hand errs on the side of over diagnosis and had a higher sensitivity. Hence, both tests can be used to complement each other in a hospital based screening programme, where facilities for both modalities are available. Colposcopies being better than Pap smear in detecting higher order abnormalities of uterine cervix. Hence colposcopy should be encouraged along with routine cytology screening. Abnormal cytology as well as inflammatory smears needs further evaluation by colposcopy. Attention to follow-up is mandatory to overcome the limitations of these screening methods.

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