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COLCOSCOPIC EVALUATION OF THE UNHEALTHY CERVIX- A STUDY CONDUCTED ON THE POPULATION OF BIHAR

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ABSTRACT

Background: The Papanicolaou's (Pap) smear is the primary screening tool for Cervical Intra-epithelial Neoplasia (CIN) and for invasive cancer of the uterine cervix. Recently, the assumed accuracy of the Pap smear which was found to be 80% to 95% for detecting CIN and early invasive cancer, was questioned. The simultaneous use of cytological studies and screening colposcopy has been shown to increase the rate of the cervical cancer detection. Hence, there is an obvious need to subject the women with clinically unhealthy cervix to colposcopy and directed biopsy. This study is done to evaluate the role of colposcopy in detecting unhealthy cervix. **Aims**: To study the role of colposcopy in the evaluation of unhealthy cervix, to localize the lesions and to obtain biopsies from the selected areas. **Materials and Methods:** 40 patients who were aged between 30-70 years and had clinically unhealthy cervix, were subjected to a colposcopic evaluation and the findings were noted. All the patients underwent both the acetic acid and the Schiller's test before they were subjected to colposcopic directed biopsies. The biopsies were taken from the acetowhite areas and the iodine negative areas. **Results**: Out of the 40 patients, 10 (26.25%) had normal colposcopic

findings. The colposcopic evaluation and the guided biopy were successful in detecting abnormalities in 10 out of 12 cases. The incidence of CIN 1 and CIN 2,3 was found to be 11.25% and 10% respectively.The sensitivity of colposcopy in the present study is 83.33%. **Conclusions**: The value of colposcopy has been recognized, mainly in the evaluation of patients with abnormal cervical smears because of their less sensitive and false negative cytologies and because of the poor compliance of the patients for follow up. It has been felt that apart from cervical smears, colposcopy should be offered as diagnostic method in all the patients with unhealthy cervix.

KEYWORDS: Colposcopy, Cervix, Patient Evaluation.

INTRODUCTION

India has a disproportionately high burden of cervical cancer. 126,000 new cases of cancer cervix are added and 71,000 patients die annually due to the disease[1].Carcinoma of the cervix is the most frequent of all the genital tract cancers. It is a very common for the gynaecologists who work in tertiary care institutes in the developing countries to get referrals from practitioners and peripheral health centres for patients with a clinical diagnosis of an "unhealthy cervix".[2]

The Papanicolaou's (Pap) smear is the primary screening tool for Cervical Intra-epithelial Neoplasia (CIN) and for invasive cancer of the uterine cervix. Recently, the assumed accuracy of the Pap smear, which was found to be 80% to 95% for detecting CIN and early invasive cancer, was questioned. Conversely, a false negative rate of the Pap smear had been reported under carefully controlled conditions.[3] The simultaneous use of cytological studies and screening colposcopy has been shown to increase the rate of the cervical cancer detection. A colposcopic evaluation and a guided biopsy remains a critical diagnostic step for women with squamous intraepithelial lesions, in order to identify the women who require treatment.[4] Hence, there is obvious need to subject women with clinically unhealthy cervix to colposcopy and directed biopsy. This study was done to evaluate the role of colposcopy in the detection of unhealthy cervix.

AIMS AND OBJECTIVES

- To study the role of colposcopy in the evaluation of unhealthy cervix.
- To detect carcinoma of the cervix in its pre invasive stage.
- To localize the lesions and to obtain biopsies from the selected areas.

MATERIALS AND METHODS

This was a prospective clinical study on the women who attended the Gynaecology Oupatients Department. The instituitional ethical committee clearance was obtained and an informed consent was taken from all the study subjects. 40 patients who were aged between 30-70 years, with clinically unhealthy cervix, were subjected to a colposcopic evaluation and the findings were noted. All the patients underwent both the acetic acid and the Schiller's test before they were subjected to colposcopic directed biopsies. The biopsies were taken from the acetowhite areas and the iodine negative areas. The women with frank cervical lesions and bleeding were excluded from the study. The findings were broadly catergorized into 5 groups – normal, unsatisfactory, abnormal colposcopy, invasive carcinoma (colposcopically suspected) and miscellaneous.

RESULTS

Out of the 40 patients, 19 (47.5%) were in the age group of 23-34 years, 24 (58.75 %) were married before they were 18 years of age. The major presenting complaints among the study patients were a white discharge per vagina and lower abdominal pain. [Table-1] shows the major presenting complaints and their relationships with the biopsy findings.

Table. 1: Shows major presenting complaints and relationship with biopsy findings.

Symptoms	Number of cases (percentage)	Cervicitis	Mild Dysplasia	Moderate dysplasia	Severe dysplasia
White discharge per vagina	20 (50%)	13	03	02	02
Irregular menstruation	6 (16.25%)	02	01	01	02
Lower abdomen pain/low backache	08 (18.75%)	03	03	01	01
Post menopausal bleeding	08(10%)	02	01	01	01

Most of the patients with dysplasia had White discharge per vagina. Out of the 40 patients, 10 (26.25%) had normal colposcopic findings. The findings on colposcopy were acetowhite areas, punctation, mosaic pattern and an abnormal vasculature, which are shown in [Table-2] and [Table-3]. On biopsy, cervicitis was most commonly found (45%).

Depending on their degree of dysplasia and considering the age and the parity of the patients, they were given appropriate treatment. The young patients with mild dysplasia were subjected to conservative treatments like cryotherapy and conization. The peri-menopausal and the post-menopausal patients were subjected to surgery.

Table-2: Shows colposcopy findings.

Findings	number of cases (N=40)	Percentage
Normal	10	26.25
CIN1	5	11.25
CIN2,3	4	10
Suspect invasive cancer	2	3.75
others	15	37.5
unsatisfactory	4	11.25

Table-3: Shows abnormal colposcopy findings.

Finding	Number of cases (N=25)	Percentage
Acetowhite areas	16	64
Punctuations	10	40
Mosaic pattern	4	16
Abnormal vasculature	2	8

[Table-4] shows the analysis of the results. The colposcopic evaluation and the guided biopy were sucessful in detecting abnormalities in 10 out of 12 cases. Colposcopy failed to diagnose abnormalities in 2 cases, which were diagnosed histologically.

The sensitivity and the specificity of colposcopy were 83.33% and 46.42% respectively. The positive predictive value and the negative predictive value of colposcopy in the present study were 40% and 86.67% respectively. The incidence of CIN 1 and CIN 2,3 was found to be 11.25 % and 10 % respectively in the present study.

[Table-4] shows the Chi-square table. By applying the null hypothesis to the colposcopic evaluation and the cervical biopsy report by referring to the X2 table, we found that with 1º of freedom, the value of the calculated X2 was 1.0069, which was less than the tabulated X2 value i.e., 3.84 for a probability of 0.05. Thus, we accepted that the null hypothesis and that the results given by the two tests were the same.

Table. 4: Showing analysis of the results.

	Biopsy positive	Biopsy negative	Total
Colposcopy positive	10	15	25
Colposcopy negative	2	13	15
Total	12	28	40

DISCUSSION

Colposcopy, a clinical method of proven accuracy, is an excellent means of evaluating clinically unhealthy cervix. The population in this study varied in age and parity. Out of the

40 patients, 10 (26.25%) had normal colposcopic findings. The most common colposcopic findings in our study were the aceotowhite areas in 64% of the women, as compared to the study of Radomir Zivadinovic, where the most common colposcopic finding was the mosaic pattern, which was seen in 44% of the women.[5] In the study which was done by Rokita[6], the presence of acetowhite epithelium, the very white or gray opaque epithelium, flat mosaic, coarse mosaic, flat and coarse leukoplakia, coarse punctation and the atypical vessels correlated statistically ($p < 0.05$) with the atypical transformation zone. This study also concluded that there is a correlation between the acetowhite epithelium and the flat leukoplakia and CIN 1 and Coarse punctation, coarse mosaic and coarse leukoplakia correlate with the presence of CIN.[4]

The accuracy of the colposcopic directed biopsies in this study is 83%, which was comparable to that of the study which was done by Sukhpreet L Singh i.e., 91%.[3] The sensitivity of this test was 83.3%, which was comparable to that in the study which was done by Sukhpreet L Singh.[3] In this study, the evaluation of the women who presented with postcoital bleeding by cytology and colposcopy by Afsaneh Tehranian[7] the sensitivity of colposcopy is reported to be 79%.

In the study which was done by Sukhpreet L Singh et al.,[3], they found the positive predictive value of colposcopy to be 36 %, the false positive rate to be 63.64% and the false negative rate to be 17.98%, which were comparable to those of the present study ie 40%, 60% and 13.33% respectively. Papa Dasari[2], in his study, found the incidence of CIN 1 to be 13% and that of CIN 2/3% to be 11%, which were comparable to those in the present study ie 11.25% and 10% respectively.

Kavanagh studied the consequences of the current patterns of the Pap smear and colposcopy use in the Australian capital ter-ritory. He found that 44% of the women had undergone Pap smear examinations and that 2.5% had undergone colposcopy. The ratio of the women who had undergone Pap smear examinations to the women who had undergone colposcopy was 17-8:1. An estimated 247 women had undergone colposcopy for every cervical cancer death. A 15 year old woman who is exposed to the current rates of colposcopy (adjusted for hysterectomy) has a 76.8% chance of having a colposcopy during her life time. He concluded that many more women will have colposcopy than will develop cervical cancer, which undermines the cost effectiveness of Australia's cervical cancer screening programme.[8]

The recent technological advancements which utilize the properties of fluorescence, reflectance and spectroscopy which are intrinsic to the in vivo tissues, have led to the development of a useful adjunct to improve the colposcopic detection of high-grade CIN. The addition of the LUMA™ (MediSpectra, Inc., MA, USA) cervical imaging system to colposcopy has been shown in two prospective, randomized controlled trials, to result in a 25% or greater increase in the true positive biopsy rate of the colposcopy for patients with atypical squamous cell or low-grade squamous intraepithelial lesions on Pap smear examinations, with only a 4% increase in the false-positive rate, versus that of colposcopy alone.[9]

As the threshold for the abnormal screening results has shifted from the Papanicolaou Class III cytology to mild dysplasia to ASCUS and now to the detection of persistent oncogenic HPV in the face of a normal cytology, the task of identifying the increasingly subtle preinvasive lesions has become more difficult. Until better strategies are developed in order to find CIN2+ in women with borderline changes, the biopsies of all the acetowhite lesions will yield the greatest sensitivity for detecting cervical precancer.[10]

The earlier diagnosis of CIN and of invasive cervical cancer in adult women is a desirable goal. Hence, a colposcopic evaluation of unhealthy cervix in necessary for the earlier detection of premalignant lesions of the cervix, so that a conservative line of management can be chosen, especially in young women.

CONCLUSION

Colposcopy was found to be useful in understanding the morphology of the cervical lesions, both of the neoplastic and the non neo-plastic ones and this was very helpful in planning their management.

Cytology is an accepted method for screening for cervical neoplasia and the value of colposcopy has been recognized, mainly in the evaluation of patients with abnormal cervical smears, because of the low sensitive and the false negative cytology and the poor compliance for follow up. So, it has been felt that apart from cervical smear evaluation, colposcopy should be offered as a diagnostic method in all the patients with unhealthy cervix.

A detailed colposcopic evaluation of the cervix with a guided biopsy is an important diagnostic method for the detection of preneoplastic and early cervical cancer.

REFERENCES

1. India has a disproportionately high burden of cervical cancer 1. 126,000 new cases of cancer cervix are added and 71,000 patients die annually due to the disease.
2. Dasari P. A grossly abnormal cervix: Evidence for using colposcopy in the absence of a squamous intraepithelial lesion by the conventional Papanicolau's test. Journal of Gynecologic Surgery, 2011 March; 27(1).
3. Singh SL, Dastur NA, Nanavat MS. A comparision of colposcopy and the Papanicolaou smear: sensitivity, specificity and predictive value. Bombay Hospital Journal, 2000 July; 42(3).
4. Pimple SA, Amin G, Goswami S, Shastri SS. Evaluation of colposcopy vs cytology as a secondary test in triage women was found to be positive on the visual inspection tests. Indian J Cancer, 2010 Jul-Sep; 47(3): 308-13.
5. Zivadinovic R, RadovicM, Lili V, Petric S. Grading the severity of the preinvasive changes of the uterine cervix by colposcopy and exfoliating cytology. Medicine and Biology, 2005; 12(1): 55-59.
6. Rokita W. Colposcopy of the abnormal transformation zone. Wiadomosci Lekarskie, 2006; 59(7-8): 486-89.
7. Tehranian A, Rezaii N, Mitra M, Eslami B, Arab M, Asgari Z. Evaluation of the women who present with postcoital bleeding, by cytology and colposcopy. International Journal of Gynecology and Obstetrics, 2009 April; 105(1): 18-20.
8. Kavanagh AM, Santow G, Mitchell H. Consequences of the current patterns of the Pap smear and colposcopy use. J Med Screen, 1996; 3(1): 29-34.
9. Kendrick JE, Huh WK, Alvarez RD. Device Profile: the LUMA™ Cervical Imaging System. Expert Review of Medical Devices, 2007 March; 4(2): 121-29.
10. Massad LS, Jeronimo J, Katki HA, Schiffman M. The accuracy of the colposcopic grading for the detection of high-grade cervical intraepithelial neoplasia. J Low Genit Tract Dis., 2009 Jul; 13(3): 137-44.