

Correlation of Pap Smear, Colposcopy and Histopathology in Women with Unhealthy Cervix

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ABSTRACT

Cervix cancer is one of the most common cancers in women after breast cancer. Pap smear and colposcopy are cornerstone for the diagnosis for premalignant conditions, though the specificity and sensitivity of each is different. Present study was conducted to see the correlation of colposcopy, histopathology and Pap smear in low resource setting.

Keywords: Colposcopy, Pap Smear, Histopathology.

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INTRODUCTION

Cancer of cervix is one of the most common gynecological malignancies in women and significant cause of mortality in women all over the world.¹

Unhealthy cervix is a group of cervical lesions, mostly chronic, which include chronic cervicitis, endocervicitis, cervical erosions lacerations, polyps and leukoplakia. These lesions can harbor premalignant lesions even when pap smear is negative.²

The gold standard of cervical screening is pap smear, but the screening algorithm recommends colposcopy and colposcopically directed cervix biopsy. The commonly received reports are inflammatory smear, LSIL, HSIL.

AIMS AND OBJECTIVES

This study was carried out to study the correlation of pap smear, colposcopy and histopathology in women with unhealthy cervixes.

This prospective analytical study was carried out in department of obstetrics and gynecology in a tertiary care hospital. The study was approved by the institutional ethical committee.

MATERIALS AND METHODS

Two hundred women were selected at random for initial recruitment whose cervixes were unhealthy. The inclusion criteria were all married women in the age group of 21 to 45 years with unhealthy cervix.

The exclusion criteria were all unmarried women in the age group of 21 to 45 years and normally looking cervix in women in the age group of 21 to 45 years.

All pertinent questions related to age, parity, age at marriage, age at first child birth, smoking, contraceptive use, symptoms were asked.

Women were kept in dorsal position, cervix was exposed with Cusco's speculum, excess mucus was wiped with cotton soaked in saline and pap smear was taken for all women with unhealthy cervix, reporting of pap smear was done by Bethesda system, later 5% acetic acid was applied to cervix and colposcopic evaluation was done under 40× magnification, colposcopically directed biopsy was taken from abnormal, vascular, abnormalities like punctuations, coarse punctuations, mosaic pattern raised edges, cotton wool appearance. Endocervical curettage was done in indicated cases and all specimens were subjected to histopathological examination.

RESULTS (TABLE 1)

Table 1: Clinical profile of women

Mean age	29 years
Parity	2.6
Age at marriage	21 years
Age at 1st child	23.2 years
Smoker	2.3%
Contraceptive use	11.6%

Table 2: Common symptoms of women

Vaginal discharge	142
Pelvic pain	22
Abnormal uterine bleeding	15
Postcoital bleeding	12
Uterine descent	09
Total	200

Vaginal discharge was the most common presenting symptom followed by pelvic pain as shown in Table 2.

Table 3: The clinical diagnosis of women

Clinical diagnosis	Number of women
Pelvic inflammatory disease	9
Abnormal uterine bleeding	23
Cervical erosion	156
Prolapse	4
Ovarian cyst	2
Fibroid	6

Cervical erosion was seen in 78% of women with unhealthy cervix as shown in Table 3.

Table 4: The colposcopic features

Colposcopic features	Number
Normal	34
Erosion	36
Abnormal vascularity	20
Acetowhite	83
Acetowhite with abnormal vascularity	49

Table 5: Correlation of pap smear and histopathology

Histopathology pap smear	Number	Chronic cervicitis	CIN I	CIN II, III
Benign inflammation	45	32	12	01
ASCUS	01		01	
LSIL	142	15	127	
HSIL	09		06	03
CA	03			03
				CA on pap smear

Most common colposcopic feature was acetowhiteness 42.5% followed by acetowhite with abnormal vascularity in 24.5% as shown in Table 4.

Table 5 shows that most common biopsy result in women with inflammatory smear was chronic cervicitis.

DISCUSSION

Of the benign lesions HPV changes were common, koilocytosis, squamous metaplasia with koilocytosis, koilocytic atypia was grouped as HPV changes.

Incidence of invasive carcinoma was $3/200 = 0.01\%$ and was contributed to premalignant condition CIN II, III.

Cervical cancer screening is an important part of preventive health care of women. Attempts are being made to improve efficacy of screening to decrease morbidity and mortality due to cancer cervix. The cervical screening algorithm recommends treatment of infection and repeat pap smear after 4 to 6 months.³

The main reason for false negativity of cytology was due to sampling errors, samples are suboptimal and are inadequate for interpretation.⁴

In study by Seckin et al, mean age of women was 30.2 years which is same as ours.⁵

In study by Seckin et al, 29.1% had normal colposcopy.

In study by Wills et al, 2.5% had normal colposcopy in women with inflammatory smear.

In our study 71% women had normal colposcopy, Seckin found that 71% of benign lesions had normal colposcopy.

HPV-related lesions were high in our study. In Seckin's study HPV-related lesions were 64.5%, with Frisch it was 8%, Frisch is of the opinion that colposcopy of women with cytological abnormality is useful to detect unrecognized cases of CIN.⁶

Significant correlation is seen between pap smear and cervical histopathology.

Positive predictive value (PPV) was highest for malignancy followed by benign lesions LSIL and HSIL, this correlates with Bendet in which PPV was 91.8% for malignancy and 35% for benign lesions. They reported statistically significant agreement between cytology and histology in one grade of disease.

CIOCAM also reported overall concordance of 86.9% between histopathology and pap smear in their series of 3,229 women.

Thon reported sensitivity to 77% PPV of 74% and Nonpositive predictive value (NPPV) of 45% of pap smear.

In statistical analysis report of 2001 PPV of CIN III was 86%.

CONCLUSION

Thus, as cervical cancer has defined premalignant phase of many years, we can use pap smear, colposcopy and

histopathology for early diagnosis and treatment to decrease morbidity and mortality associated with carcinoma cervix.

Correlation studies can also be used by institution for evaluation of cytodiagnosis capability as a part of overall laboratory quality improvement.

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