Correlation between Colposcopy, Cytology and Histopathology in High-risk Patients for Cervical Cancer in Perimenopausal Women in Himachal Pradesh, India

Rageshwar Jyothi, Payal Gupta, Rohini Rao, PL Sood, Neelam Parasher

ABSTRACT

Objectives: To determine the correlation between cytology, colposcopy and histopathology, individually and in combination, in high-risk patients for detection of early cancer of the cervix.

Materials and methods: A total of 200 high-risk patients in the age groups of 35 to 60 years were included in the study. Pap smear, colposcopy and colposcopically directed biopsies were taken from the suspicious area.

Results: Sensitivity, specificity and positive predictive value of Pap smear are 65.2, 96.3 and 89.3% respectively. Correlation between cytology and colposcopy was 81%, between colposcopy and histopathology was 90.6%, between cytology, colposcopy and histopathology was 90.6% and between cytology, colposcopy and histopathology was 87.3%.

Conclusion: Combination of various methods increases the diagnostic accuracy over that of each method separately.

Keywords: Cervical intraepithelial neoplasia, Low grade squamous intraepithelial lesion, High grade squamous intraepithelial lesion, Carcinoma in situ.


Source of support: Nil

Conflict of interest: None declared

INTRODUCTION

Cervical cancer is the most common cancer among women in India. It comprises 12% of all cancers in women.1 It is the most common cancer in women worldwide. In the developing countries, 60 to 80% of the cases are seen in advanced stages II and III. However, cervical intraepithelial neoplasia (CIN) occurs at a much lower age and one-third of the cases are observed below 30 years.2 Downstaging is visual inspection of cervix with speculum. The gold standard for diagnosis of cervical cancer and its premalignant lesions is Papanicolaou test sensitivity of Pap test in 51% which increases to 86.8% after three tests.3 The major advantage of colposcopy is to outline the most suspicious lesion on the cervix for histopathological diagnosis by directed biopsies. The colposcopic prediction of histopathology was clinically accurate in 85% of cases.4 Keeping in view the topographical conditions and high incidence of cervical cancer in Himachal Pradesh (HP), the present study was an attempt to evaluate the high-risk patients by combination of various methods.

MATERIALS AND METHODS

The study was conducted in Kamla Nehru Hospital, Department of OBG, IGMC, Shimla, on 200 high-risk patients in the age group of 25 to 60 years, World Economic Forum (WEF), May 2008 to April 2009.

The inclusion criteria were as follows:
- Foul-smelling vaginal discharge
- Chronic vaginal discharge
- Intermenstrual and postcoital bleeding
- Multiple sexual partners
- Early age of marriage
- Smoking
- Unhealthy cervix.

Exclusion criteria were as follows:
- Frank growth of cervix
- Actively bleeding cervix
- Acute infection of cervix
- Known or treated cases of cervical cancer.

Pap smear, colposcopy and colposcopically directed biopsy were taken from suspicious areas. Correlation was made between different methods.

OBSERVATIONS

Out of 200 patients 69 (34.5%) were in 31 to 35 years age group and out of 59 preinvasive cervical cancer 24 (12%) were in 31 to 35 years age group. Most of the patients with preinvasive and invasive cervical cancer were uneducated or educated up to primary and belonged to poor socioeconomic strata. Around 26 (13%) patients with discharge per vaginum, 16 (8%) with foul-smelling discharge, 15 (7.5%) with postcoital bleeding and 2 (1%) with postmenopausal bleeding were diagnosed to have preinvasive cervical cancer (Table 1). Preinvasive and invasive lesions were common in higher parity group. Out of 23 (11.5%) smokers, 15 (7.5%) had preinvasive and 3 (1.5%) had invasive cancer. Both active and passive smoking has been observed to have more correlation. In Pap smear, 23 (11.5%) had LSIL, 19 (9.5%) High grade squamous intraepithelial lesion (HSIL), four (2%) had carcinoma in situ (CIS) and one (0.5%) had invasive carcinoma (Table 2). Colposcopically, 130 (65%) had abnormal colposcopic findings (Table 3). Colposcopic...
diagnosis was low grade squamous intraepithelial lesion (LSIL) in 30 (15%), HSIL in 15 (7.5%), CIS in 10 (5%) and invasive carcinoma in 3 (1.5%) (Table 4). On histopathology, 33 (16.5%) were normal and rest had abnormal findings.

DISCUSSION

Cervical cancer is a disease that can be controlled to a great extent by effective screening, thereby exerting morbidity and mortality. Cytology evaluates morphological changes...
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in exfoliated cells, while colposcopic evaluation changes in vascular pattern of the cervix. Alteration in vascular network reflects biochemical and metabolic changes in cervical tissues. Pap smear is a very important screening test. It has sensitivity, specificity and positive predictive value of 65.62, 93.6 and 84.8% respectively which is comparable to Harold et al (1976), Hans Jurgon et al (1991), Bruce A Jones et al (1996) and Blumenthal et al (2001). Diagnostic accuracy of colposcopy is 89.65%, while the different studies by Scott, Barton, Iyer and Bandi found it in the range of 80 to 90%. Around 59 (29.5%) patients diagnosed as preinvasive cervical cancer colposcopic diagnosis was LSIL in 30 (15%), HSIL in 15 (7.5%) and CIS in eight (1%) cases. The correlation between cytology, colposcopy and histopathology is 87.3% (Table 5), while Usha Saraiya (1980) found is 89% and Wills Shiella (1991) found it 95%.

In India and other developing countries, social, educational and medical resources lag behind. There is problem in cervical cancer screening due to lack of human and economic resources. Other social and cultural factors and less priority for women’s health issues are the reasons for high incidence of cervical cancer. Screening of high-risk women with different modalities will help in picking up the early cases and will improve the morbidity and mortality due to cervical cancer.

REFERENCES


ABOUT THE AUTHORS

Rageshwar Jyothi
Gynecologist, Department of Obstetrics and Gynecology, DDU Zonal Hospital, Shimla, Himachal Pradesh, India

Payal Gupta
Senior Resident, Department of Plastic Surgery, IGMC, Shimla, Himachal Pradesh, India

Rohini Rao
Senior Resident, Department of Obstetrics and Gynecology, KNSHM&C, IGMC, Shimla, Himachal Pradesh, India

PL Sood
Ex-Professor and Head, Department of Obstetrics and Gynecology, KNSHM&C, IGMC, Shimla, Himachal Pradesh, India

Neelam Parasher
Ex-Professor and Head, Department of Pathology, IGMC, Shimla, Himachal Pradesh, India