

ORIGINAL ARTICLE

Colposcopic Findings among VIA Positive Women: Experience at a Tertiary Care Hospital

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Abstract

Background: Visual inspections of the cervix after acetic acid application (VIA) are widely recommended as the method of choice in cervical cancer screening program in resource-limited settings. **Objective:** The purpose of the present study was to see the status of VIA test result at a tertiary care hospital. **Methodology:** This cross sectional study was carried out at Shaheed Suhrawardy Medical College, Dhaka and Dhaka Medical College, Dhaka from April 2012 to March 2013 for a period of one year. VIA was performed and colposcopy was done among the VIA positive patients.. **Results:** A total number of 65 VIA positive patients were evaluated colposcopically In all VIA positive patients, colposcopically positive was in 47.7% cases. Among colposcopically positive patients CIN-I was 27.69%; CIN-II was 18.46% and CIN-III was 1.54%. **Conclusion:** VIA test is positive in a high number of patients which has a great number of abnormalities were found.

Keywords: colposcopy, VIA, screening program

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Introduction

Cervical cancer is the leading malignancy among world and it is about 9% of all female cancer¹. Developing country carry biggest burden of cervical cancer¹. Cervical intraepithelial Neoplasia (CIN) is

precancerous condition for cancer cervix. It takes 10-15 years for transformation of CIN to cancer cervix¹. The incidence of cervical cancer has fallen in many countries by screening procedure. Conventional cervical cytology is the most widely used cervical cancer screening test in the world. Cytology screening program in several developed

countries have been associated with impressive reduction in cervical cancer burden².

The Papanicolaou's (PAP) smear is a simple, safe, noninvasive, and effective method for detection of precancerous, cancerous, and noncancerous changes in the cervix and vagina³. The much higher incidence of cervical cancer in developing nations, as compared with that in developed nations, has been ascribed to the fact that it has been possible to maintain effective Pap smear screening program in the developed world but not in the developing world⁴. An effective Pap smear screening program requires many consecutive steps, including the collection in the clinic of cells from the transformation zone of the cervix and the endocervix, smearing the cells on a slide and fixing them, staining and reading the slide by a cytopathologist, transmitting the cytology results to the health care provider, communicating the cytology results to the woman and arranging for a second visit if the smear is abnormal, and a second visit by the woman for additional tests like colposcopy and cervical biopsy or for treatment. The infrastructure required for all these steps have not been available in the developing world and there has been a strong need for a screening test that is simpler and can be interpreted immediately and combined with treatment, if necessary, at the initial screening visit. The use of acetic acid during visual examination of the cervix, termed visual inspection with acetic acid (VIA), has been advocated as an alternative screening method to Pap smear in developing countries⁴. The attractive features of VIA include low cost, simple administration, real-time screening, of results, and accuracy comparable to good quality Pap smears⁶. In a developing nation like Bangladesh VIA would be a possible alternative screening tool for early detection of cervical cancer in a low resource setting.

A colposcopy is a special way of looking at the cervix. It uses a light and a low-powered microscope to make the cervix appear much larger. This helps health care provider to find

suspicious area and then biopsy is taken from abnormal areas in cervix. Colposcopy is a worldwide-accepted method for detection of early cervical neoplasia⁷. Common problem encountered in colposcopy is inadequate expertise, interpretation difficulties, disagreements, and failure to follow standard diagnostic protocol⁸. So it is better to do colposcopy in all VIA positive patients rather as a screening procedure. A large number of incorrectly diagnosed VIA positive cases will lead to unnecessary colposcopy examination. It will lead to overload for medical persons.

The purpose of this present study was to find out the proportion of false positive results in VIA cases in tertiary level hospitals. This will help to take action for improving quality of VIA service and thereby reduce undue burden on colposcopy service.

Methodology

This cross sectional study was performed among VIA positive women with a age group between 25 to 54 years who were attended in the Department of Obstetrics and Gynecology of two tertiary level hospitals in Dhaka city named as Dhaka Medical College & Hospital and Shaheed Suhrawardy Medical College & Hospital, Dhaka from April 2012 to March 2013 for a period of one year. Patients who were given their informed consent were included. Purposive sampling was done. All pregnant women, menopausal lady and women with frank growth of cervix with active vaginal bleeding were excluded from study. Complete histories of patient pertaining to complaints, any white discharge per vagina, post coital bleeding, obstetric and menstrual history were obtained. Informed written consent was taken. Detailed clinical data were obtained and noted on structured proforma. Per speculum examination of cervix was done. Squamo-columnar junction was visualized. A solution of 5% acetic acid was applied to cervix using a cotton swab. The cervix was then examined for 1-2 minutes under an adequate light source. The detection of any distinct acetowhite area was considered positive result. If no acetowhite areas were

recorded, or if a whitish appearance was doubtful, the test result was considered negative. All patients who tested positive on screening underwent a colposcopy-guided biopsy.

Colposcopy saline was used initially to clean the surface and then vascular lesions and surface lesions were assessed. Abnormal vessels were examined with the aid of green filter. Five percent acetic acid was then applied to mucosal epithelium and it caused disappearance of cervical mucus. If any acetowhite lesions were noted, their intensity, speed of appearance, and disappearance were noted. On colposcopy, findings such as dense acetowhite epithelium, sharply bordered acetowhite epithelium, dilated caliber, irregular-shaped or coiled vessels, coarse punctuation, mosaic appearance, atypical vessels, and irregular surface contour indicate dysplastic epithelium or imminent cancer. A biopsy was taken using a punch biopsy forceps from abnormal areas detected under colposcopic guidance. No more than 65 subjects were feasible to be included in the study during the study period. A structured questionnaire was designed including all the variables of interest. It was finalized following pretesting and necessary modifications.

Data were collected through direct interview of the patients at the respective departments by the researcher and competent colleagues. Collected data was checked and edited first. Then they were processed with the help of software SPSS (Statistical Package for Social Sciences) version 16 and analyzed. The test statistics used to analysis the data were descriptive statistics, Frequency and Pearson Chi-Square test. For all analytical tests level of significance was set at 0.05 and $p < 0.05$ was considered significant.

Results

Sixty five patients were included in the study. Among 65 patients about 74% patients are from Hospital-1 and 26% patients from Hospital-2 (Table 1).

Table 1: Distribution of respondent according to hospital (n=65)

Hospital	Frequency	Percent
Hospital-1	48	73.8
Hospital-2	17	26.2
Total	65	100.0

In all VIA positive patients, 47.7% are colposcopically positive, so false positive results of VIA is 52.3%. Among colposcopically positive patients CIN-I was 27.69%, CIN-II was 18.46% and CIN-III was 1.54% (Figure I).

Table 2: Frequency of colposcopic findings in VIA positive patients (n=65)

Colposcopic findings	Frequency	Percent
Normal	34	52.3
Positive	31	47.7
Total	65	100.0

False positive result of VIA in Hospital-1 was 45.8% and Hospital-2 was 70.6%. There was strong association between naked eye examination and colposcopic findings (Table 3).

Discussion

In this present study, 65 women who were attended in the Department of Obstetrics and Gynecology outdoor of two tertiary level hospitals with various presentations were included as study population. All were married women with an age range of 25 to 54 years. Mean age of them were 36.6 ± 8.131 . Most of the husbands of patients are service holder. Most of the husbands income was >9000 per month. Among 65 patients majority patients were from standard hospital (74.0%). In this study VIA was performed in a standard medical university & a Medical College Hospital by trained nurse. One study conducted by Divya et al⁷, gynecologists performed the procedure. However in other

study the colposcopy was done under supervision of six gynecologists. In contrast, trained nurses and midwives were involved in few studies⁶. Colposcopic examination was done by colposcopic expert in Hospital-1 patient but in hospital-2 patients it was not done by trained personnel. For this there is much disparity between the two hospital false positive results.

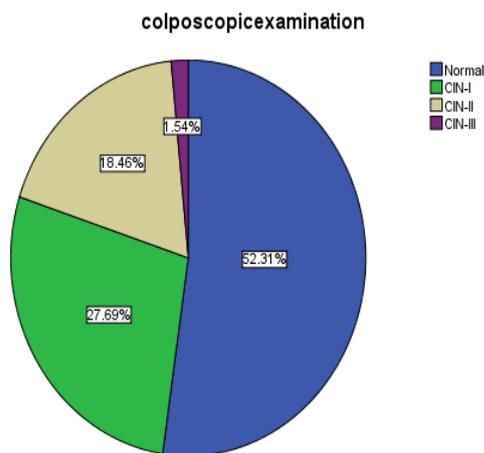


Figure I: Cervical Intraepithelial Neoplasia In VIA Positive Patients

VIA with PAPS smear with colposcopy guided biopsy being considered as gold standard. In this study PAPS smear was not performed. Colposcopy was done only in all VIA positive cases. Biopsy was taken when colposcopy revealed positive. But in our study, due to limitation of our time, comparison with histopathological findings could not be included. In another study colposcopy was done for all patients and biopsy was taken if positive findings were present on VIA, PAPS smear and colposcopy. Another study investigated effectiveness of VIA, human papillomavirus DNA testing and Pap cytology in population based study⁹. VIA can be performed at any time during the menstrual cycle, including during menses providing flow is not too heavy, during pregnancy, at a postpartum examination, or during a post abortion checkup¹⁰. It can also be done when a woman comes for care related to STIs, HIV screening, or follow-up care.

Most VIA programs recommend performing VIA screening on any sexually experienced woman age 30 or above, until the age of 40 to 50.

In this study overall false positive result is 52.3%. Among them proportion of CIN-I was greater. In Medical University false positive of VIA was 46.8% but in Medical College hospital, it was 70.6%.

Table 3: Association between Naked Eye Examination and Colposcopic Findings (n=65)

Patient Group	Colpos group		Total
	Normal	Positive	
Hospital-1	22(45.8%)	26(54.2%)	48(100.0%)
Hospital-2	12(70.6%)	5(29.4%)	17(100.0%)
Total	34(52.3%)	31(47.7%)	65(100.0%)

*Pearson Chi-Square has been performed. P value=0.0001

The screened women who came to standard hospital with various symptoms would belong to a high risk group. That would be another contributory factor to low incidence of false positive result. In this study there were also many false positive cases which make undue burden on colposcopy¹⁰. Though it was not related to the objective of this study, association of colposcopic findings with naked eye examination, vaginal discharge and age of marriage was done. The results of VIA are usually reported as VIA-negative, VIA-positive, or suspicious for cancer³.

VIA-negative means there are no significant acetowhite lesions. It is the most challenging category in VIA because there are so many variations of acetowhite areas that can appear. There may be bluish white lesions or doubtful lesions without definite margins. Nabothian cysts and polyps may also turn acetowhite, but they are not precancerous lesions⁶. There may be a faint line, appearing to be acetowhiting at the junction of columnar and squamous epithelium. There may be acetowhite lesions far away from the squamo-columnar junction or streak like acetowhiting⁷. There may also be dotlike areas on the columnar epithelium,

which are due to areas of metaplasia and more diffuse acetowhitening with columnar epithelium staining with acetic acid. Advantages of VIA is that it is a real-time screening test where results are immediately known and appropriate counseling and referral for treatment can be given. But due to its false positivity, there may be higher number of referral for colposcopy and biopsy when VIA is used. This is a potential disadvantages of VIA. But still, VIA is the appropriate screening test for developing country like Bangladesh.

Conclusion

In the conclusion VIA test is positive in high number. Any clinically suspicious cases should be screened properly to see the any abnormalities.

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