ORIGINAL RESEARCH PAPER

Gynaecology

Volume - 7 | Issue - 4 | April-2017 | ISSN - 2249-555X | IF : 4.894 | IC Value : 79.96

EFFICACY OF VISUAL INSPECTION TECHNIQUES IN DETECTION OF HIGH GRADE CIN AND CERVICAL CANCER AMONG SYMPTOMATIC WOMEN

KEYWORDS: VIA, VILI, Cervical Cancer

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ABSTRACT Cervical cancer is the leading gynaecological cancer and continues to be a major public health menace in India. The aim of the current study is to evaluate the efficacy of visual inspection techniques , both with acetic acid and lugols iodine in detecting high grade CIN and carcinoma cervix among symptomatic women. 120 women met the inclusion criteria and were evaluated with VIA and VILI. Biopsy was necessary in 81 women. The sensitivity and specificity of VIA and VILI in detecting high grade CIN and Carcinoma cervix were 90% & 68.86% and 70% & 80.16% respectively. Hence, VIA and VILI are simple and effective methods in detecting high grade CIN and Carcinoma cervix among symptomatic women.

INTRODUCTION

Cervical cancer is the leading gynaecological cancer and continues to be a major public health menace in India. The best screening modality to cater our general population is still under debate.PAP smear has its own drawbacks like sampling errors, lack of adequate personelle for reporting and overall poor sensitivity . Hence, the direct extrapolation of western guidelines of cervical cancer screening to the Indian population maynot be acceptable.

Visual inspection techniques have the advantage of simplicity and universal availability. Visual inspection techniques would include VIA (Visual inspection with Acetic acid) and VILI (Visual inspection with Lugols iodine).Several population based studies have evaluated the efficacy of visual inspection techniques for cervical cancer detection.

The aim of the current study is to evaluate the efficacy of visual inspection techniques , both with acetic acid and lugols iodine in detecting high grade CIN and carcinoma cervix among symptomatic women attending the Gynaecology out patient clinic in a Government tertiary referral center in India.

Materials and Methods:

This study was a prospective study conducted at the Institute of Obstetrics and Gynaecology, Tamilnadu, in November 2010 to January 2011.

Inclusion criteria were sexually active women with symptoms of leucorrhoea , menstrual disorders or abdominal pain. Patients with obvious growth on the cervix , acute cervicitis and those who already had an abnormal PAP smear report were excluded.

After thorough history and clinical examination, all women underwent VIA and VILI. A cosco speculum was used to visualize the entire cervix. Bright LED light was used for illumination . VIA was done with freshly prepared 3% acetic acid and VILI with lugols iodine. Moderate and dense acetowhitening was taken as VIA positive while faint acetowhitenning was taken as VIA negative. Clearcut iodine negativity was taken as VILI positive whereas geographic iodine negativity was taken as VILI negative. All VIA and /or VILI positive lesions were biopsied. With final histopathology report, the sensitivities and specificities of VIA and VILI were evaluated .

Results:

120 women met the inclusion criteria and were evaluated with VIA and VILI. Biopsy was necessary in 81 women.

The most common age group in this study group was 30 to 40 years accounting for 39% of cases. 75.8% of the women were premenopausal and 95.8% were multiparous. The most common presenting complaint was white discharge per vaginum (56.6%). 27.5% presented with abdominal pain, 25.8% with menstrual complaints . 20% had more than one presenting symptom.

VIA :

All acetowhitenings persistant for more than 60 seconds were taken as positive. 46 out of 120 patients were VIA positive. VIA identified 12 out of 14 cases of CIN and cancer, but was false positive in 34 patients giving it an overall sensitivity of 85.7% and specificity of 67.9%.

On analyzing the high grade lesions only VIA had a sensitivity of 90% and specificity of 68.86%.[TABLE I]

	Overall CIN or CA positive	Overall CIN or CA negative	High grade lesion positive	High grade lesion negative
VIA positive	12	34	9	33
VIA negative	2	72	1	73
	14	106	10	106

VILI:

In 5 postmenopausal women , there was no iodine uptake at all . Out of the remaining 115, 29 had clearcut iodine negative areas.. 9/29 VILI positive patients had CIN or Cancer . Of the 14 cases of CIN or CA, VILI picked up 9, but missed 5 cases , giving it a sensitivity of 64.28% and specificity of 80,19%.

On analyzing the high grade lesions only, VILI had a sensitivity of 70% and specificity of 80.19% [Table II]

	Overall CIN or CA positive	Overall CIN or CA negative	High grade lesion positive	High grade lesion negative
VILI positive	9	20	8	54
VILI negative	5	81	2	47
	14	101	10	92

Endocervical lesions :

There were 2 cases of endocervical cancer , both were missed by VILI, one missed by VIA

Discussion :

Cervical Cancer continues to be a major public health problem in India. Difficulty in implementing a nationalized screening programme, contributes to the high incidence rates. Women from low socio economic status have lower literacy rates and are reluctant to screen themselves when they are asymptomatic. The only logical way to minimize the burden of cancer in this group is by early detection , when they present to the hospital with any symptom and

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opportumistic screening. Moreover, many cases of In situ and invasive cancers are reported in final histopathology of benign hysterectomy specimens. PAP smear has been shown in multiple studies to lack the sensitivity to cater our population. The relative simplicity , ease and short learning curves associated with VIA and VILI , prompted us to evaluate the efficacy of these techniques among symptomatic women.

The sensitivity of VIA in the IARC multicenteric study by Sankaranarayanan et al in India and Africa in 2004 ranged from 56.10% to 93.90% and the specificity ranged between 74.20% and 93.80%and that of VILI ranged from 76.00% to 97.00% and the specificity between 73.00% and 91.30%. [1]

In a metaanalysis by Nanda et al. in 2000, the sensitivity of cytology to the detection of CIN 2 or worse lesions ranged from 18% to 98% and the specificity ranged from 17% to 99%.[2]

In the present study, the sensitivity and specificity of VIA and VILI were 90% & 68.86% and 70% & 80.16% respectively. The present study had comparable results to the previous studies.[3,4,5]

CONCLUSIONS

Visual inspection techniques , both VIA and VILI are simple, easy to perform tests with very short learning curves. They have high sensitivity in detecting high grade CIN and carcinoma cervix. Even if their specificity may be lower due to higher false positivity, they have an advantage of identifying suspicious lesions which may prompt further evaluation. Hence, it is of our opinion that VIA and VILI can be first line tests for evaluating the cervix of symptomatic women and also before a hysterectomy for benign conditions.

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