



STUDY COMPARING THE EFFICACY OF VISUAL INSPECTION OF CERVIX WITH ACETIC ACID (VIA) AND LUGOLS IODINE (VILI) WITH PAPSMEAR CYTOLOGY IN SCREENING FOR CANCER CERVIX IN ASYMPTOMATIC WOMEN.

KEYWORDS

VIA, VILI, CANCER CERVIX

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ABSTRACT Cancer cervix is the leading cause of mortality and morbidity among women. Nearly 400,000 new cases diagnosed annually of which 80% in developing countries and in India it is 1.3 lakh cases contributing to 30% of world due to lack of effective screening strategies. Death toll is about 50% of annually detected cases every year and one statistics had shown every 8hrs a women dies of cancer cervix. Primary aim is to prevent cancer cervix by identifying precancerous lesions by a very cost effective and sensitive screening strategy. One such ideal screening test is visual inspection of cervix with acetic acid (VIA) & Lugols iodine (VILI) This Study aims at detecting the efficacy of VIA AND VILI in early detection of cancer cervix precancerous lesion and to compare it with papsmear and cervical biopsy and to utilise it as a easily interpretable low cost equally effective method for early detecting of cancer cervix.

INTRODUCTION:

When we consider all the responsibilities of gynaecologist in modern world none is as important as detection of neoplasia at its earliest. Cancer cervix is the most common malignancy in women in developing country like ours competing with cancer breast. Indian council of medical research 2016 update reveals cancer cervix, is the most common cancer with estimated 1.3 lakh new cases in 2016 and expected to cross 1.5 lakhs new cases by 2020 in India. Data also revealed that only 12.5 per cent of patients come for treatment in early stages of the disease 5yr survival rate is 90% for localised cervical cancer and 14% for persons with advanced stage 4 disease. The incidence of invasive cervical cancer has decreased significantly because of early detection programs. Cancer cervix is more common in developing countries with low socioeconomic status, multiple sexual partners, those with HPV infections.

Routine screening with pap smear is recommended for all sexually active women to screen for cancer cervix. However considering cost factors and manpower in low resource settings VISUAL SCREENING STRATEGY using downstaging and aided visual inspection can be used to detect cancer cervix at its earliest and as well as precancerous lesion One such strategy is VIA AND VILI (Visual inspection with acetic acid and lugols iodine) (Sankaranarayanan.r et al)

New cervical cancer cases diagnosed annually
India : 1,32,082
World : 4,93,243

Deaths due to cervical cancer annually
India : 74,118
World : 2,73,505



Fig 1. incidence of cancer cervix in world and india

MATERIALS AND METHODS

This prospective study was conducted at Govt KASTURBA GANDHI HOSPITAL, MADRAS MEDICAL COLLEGE., Chennai for 30 months on 500 patients. The study was approved by Hospital Ethical Committee.

INCLUSION CRITERIA:

1. Non pregnant women
2. Women with no symptoms like vaginal discharge, pain, ulcers
3. Both multi para and nulliparous
4. Women accompanying the patients those attending Out patient department.

EXCLUSION CRITERIA :

1. Women with symptoms like vaginal discharge, pain, ulcers
2. Pregnant women
3. Women during menstruation
4. Women with intravaginal medications

METHODS:

500 gynaec patients attending out atient department at Govt KASTURBA GANDHI HOSPITAL, Chennai who were asymptomatic and included depending on inclusion and exclusion criteria above.

THE EXAMINATION :

Procedure explained to patients, made them comfortable with utmost privacy

Placed in lithotomy and good illumination ensured Any abnormal findings in external genitalia recorded. Cusco speculum inserted into vaginal to get a clear view of cervix.

Papinacalou spatula placed at the level of cervical os and rotated through 360 degrees around the os maintaining contact with ectocervix

Endocervical brush is inserted into os and rotated through 180 degrees and angle of rotation parallel to endocervical canal. Sample rolled on to the slide in the direction opposite to that in which was used for collecting sample.

Slide fixed with 95%ethyl alcohol fixative and sent to lab.

Excess mucous or discharge cleaned with cotton soaked in normal saline

Abnormal findings noted.

Cervix applied with freshly prepared 5%acetic acid with syringe Waited for one minute noted for acetowhite areas.

Lugols iodine applied and waited for one minute

Cervix inspected for iodine uptake and non uptake areas

Findings recorded.

CHARACTERISATION OF VIA/VILI POSITIVE CASES

LOW GRADE-LESION : detection of any acetowhite/non iodine

areas.

HIGH GRADE –LESION : Detection of well defined opaque acetowhite lesions and or ,thick,bright mustard yellow or saffron yellow iodine nonuptake areas close to or touching Squamocolumnar junction.

REFERRAL PROTOCOL

VIA/VILI NEG–Patient asked to review every three to five years or according to existing protocol

VIA/VILI POSITIVE –Positive lesions were subjected to biopsy after treating for infections

RESULT:

Most of women were in age group 30-40 yrs belonging to socioeconomic grade 3 and 4. Most of them almost 50% got married 18-20 yrs and their parity was 3 and more.

Table 1 -VIA AND VILI WITH BIOPSY-

VIA/VILI TEST RESULT	MILD DYSPLASIA	MODERATE DYSPLASIA	SEVERE DYSPLASIA	INVASIVE CARCINOMA	INFLAMMATORY	NO OF MAJOR LESION DETECTED	TOTAL
+ve	1	2	-	-	69	100	172
-ve	1				24	25	50
				TOTAL	93	125	222

Sensitivity. 98.9%
 Specificity. 39.2%
 Positive predictive value. 55.8%
 Negative predictive value. 98%
 False positive percentage 25%
 False negative percentage 75%

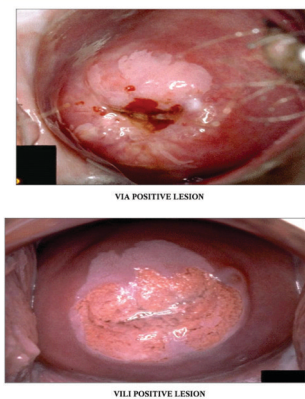


Fig 2. VIA AND VILI POSITIVE LESIONS.

Table 2-CYTOLOGY WITH BIOPSY

PAP SMEAR TEST RESULT	MILD DYSPLASIA	MODERATE DYSPLASIA	SEVERE DYSPLASIA	INVASIVE CA	INFLAMMATORY	NO OF MAJOR LESION DETECTED	TOTAL
+ve LESION	1	2			9		12
-ve LESION	1				120	39	160
	2	2			129	39	172

Sensitivity. $3/4 \times 100 = 75\%$
 Specificity. $159/168 \times 100 = 94.6\%$
 positive predictive value $3/12 \times 100 = 25\%$
 Negative predictive value $159/160 \times 100 = 99.3\%$
 False positive value. =53%
 Negative predictive value =25%

DISCUSSION:

This prospective, descriptive comparative study analyses the efficacy of visual inspection methods (VIA/VILI) with cytology and to choose VIA and VILI as an easy interpretable low cost and effective method for screening cancer cervix and detecting precancerous lesions of cervix.

All patients were subjected to visual inspection with acetowhite and Lugols iodine. VIA@VILI were positive in 172 cases (34% of screening population). This study correlates with study conducted by SHANKARA NARAYANAN et al in kokatta(involving 5881 women) showing 30% positive lesions.

Biopsy performed in 222 cases (172 VIA/VILI positive cases and in 50 VIA/VILI negative case). Normal findings in 125 cases (56.3%), inflammatory in 93 case (41.8%), mild dysplasia 1% and moderate dysplasia in 1%. There were no invasive carcinoma, severe dysplasia, carcinoma in situ.

ALL patients subjected to papsmear. There were 206 cases (53.2%) with no lesion, 222 cases inflammation (44.4%), 8 cases (1.6%) showed LSIL, 4 cases (0.8%) HSIL

These 8 cases of LSIL were subjected to biopsy and was non specific cervicitis

Among 4 HSIL cases., one had mild dysplasia was put on follow up and two other case of moderate dysplasia were offered less invasive methods like Conisation and large loop excision but since of low socioeconomic status and coming from long distance patient underwent hysterectomy. One case of inflammatory finding by cytology showed mild dysplasia on biopsy.

Comparative study of VIA/VILI RESULTS WITH BIOPSY AND PAP SMEAR RESULTS WITH BIOPSY done and results interpreted.

Sensitivity of VIA /VILI was 98.9% & papsmear was 75%. Specificity of VIA/VILI was 39.2% & pap smear cytology was 94.6%
 Positive predictive value for VIA/VILI was 55.8% & pap smear 25%
 Negative predictive value for VIA/VILI was 98% and for pap smear cytology 25%

Since the sensitivity of VIA AND VILI is higher than PAP SMEAR it can be used as a better screening tool for cancerous and precancerous lesions in cervix in low resource settings.

CONCLUSION:

1. Visual inspection of cervix with acetic acid and lugols iodine is easy and simple minimally dependent on infrastructure
2. Low startup and sustaining cost results and available immediately
3. Possible to integrate into Primary Health Care
4. Can be done by Paramedical Trained Staff
5. It is an effective and alternate strategy in low resource settings for cancer cervix where screening not possible with pap smears due to inadequate cytologists

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