Visual Inspection of the Cervix with (Acetic Acid or Lugol s Iodine) for Cervical Cancer Screening

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Abstract

Objective: To assess the visual inspection with acetic acid (VIA) and Lugol's iodine (VILI) as alternative screening methods for cancer cervix**.**

Materials and methods: Comparative cross-sectional study was conducted on 1000 women with age range from 18 to 61 years were attending the obstetric and gynecology Department in Zagazig university hospital from January2013 to October 2015. Each one was done Papanicolaou smear (PAP), visual inspection with 5% acetic acid (VIA) and with 5% Lugol's iodine (VILI). All women underwent Colposcopy. Analyse of the sensitivity, specifcity and predictive values of the results using colposcopic directed biopsy as reference was done.

Results: From 80 positive screening tests by (either PAP, VIA, VILI or colposcopy). Pap smear was positive in 14/80 (17.5%), including 4 cases of atypical squamous cell with undetermined signifcance (ASCU), 4 cases of low grade squamous cell intraepithelial lesion (LSIL) and 5 cases of high grade squamous cell intraepithelial lesion (HSIL) and one case with malignant cells. Biopsy was positive in 11/14 of PAP smear. VIA accounted positive in 23/80 (28.7%) and VILI results were positive in 12/80. Biopsy was positive in 21/23 for VIA and 8/12 was positive for VILI , The ' positive predictive value 43.51% and negative predictive value of 98.31%.
resource locality. Using both testes in matching improves the specifcity of both to make them good options for screening of cancer cervix in this society.

Ke d : Vi a in c i n; VIA; VILI; Pa a ; Sc nin ; D in c n i ; P n i n; C ica canc

I d c

A a f 84% f n ca and 86% f d a cc d in d in i n [1]. Canc c ix i f c n canc in n, and n a , i an ab 528000 n ca and an 250000 d a in 2012. i an a n f i i incid nc a ac f a ab Sc nin c ic and ani d c [2]. P nc f a ac f c i c nin a i i an [3]. C ica canc can b a n ab di a b a d c i n and i a n i n. d c inin f incid nc and ai a d c ica canc ind d c n i i d ci n c nin a Pa anic a (Pa) a [4]. 80% f c ica canc in d in c n i , a n a ab a i f di c d i ad anc d a [5]. Pa anic a (PAP) a a ac ic d f c nin f c ica canc a b c c a f n i n a a a a c nin . I i a i , af, n n in a i and c i b a i c i n , i i di c in ci c n ic in b ca f i ifac d c f a in a , a a i n, ainin , adin , in and d a b n c nin and f c . S b n , in i n i d b d f . N da i i f c nin a c n acc ib f a di a n i f c ica canc c d b f in a a [6]. Vi a in c i n f c ix f in a ica i n f 3 5% ac ic acid (VIA) and a b n a ica i n f L ' i din (VILI), a b n b ad a a d a a nai c nin in and d in c n i , b ca a i , in x n i and f a ib [7]. i d a c nd c d ab i ibi f aci Pa a b i a in c i n i i 310.0753 650 nc d f in i c a a i c c i n d . c f d a i d and a d b ca ica and a c C i Za a i Uni i H i a . Eac an n d in in d a ba and a i inf d c n n. Exc i n c i ia - P nan n, n i ac i a ina b din , and an n ad nd n c an a n f

di c a a d i d b c n ab . In c i n f c ix i na d in af c a a d n na PAP a a a n b ca in a c n nc i n n b A ' a a and c b , i dia fix in a n a ia in 95% a c n a a id ain b a anic a ain. Vi a in c i n (VIA) a f a d 4% ac ic acid a a i d i a c n ab and b a i n f 1 in f nc f a -d fin d a ac i i n x c a c na nc i n (SCJ). A a c c ic xa ina i n a d n a a i n b an n i n a a n findin f VIA. W n c c ic xa ina i n a c d a a fin ac ic acid, (VILI) a d n b a c nd ici an b a in L ' i din c ix, ic a a d b di in 5 f i din and 10 f a i i did in 100 di i d a and ai f 1 in and xa in d c ix b na d and c a if if, VILI n a i (n ain in f c ix) VILI i i (nc f a -d i i d n n- ain in a a).

C c a i i if ac i i i , nc a i n, a ic, i din n a i i a ica n in an f a i n n [9]. P nc Bi a a n if an c c a i i , i a i f nc f dia n i if bi i ad b n a n; i , d and da d f nc i c c dia n i . PAP a a a d b B da [10]. A a a c n id d a c - i i if a

(ASCUS): A ica a c f nd in d i nificanc /OR

(LSIL): L - ad a in a i ia i n/OR

(HSIL): Hi - ad a in a i ia i n/OR

(SCC): S a c ca cin a

An id i di a ia (id, d a ,), ca cin a *in situ* (CIS) a c ca cin a c n id d i i a ica .

(VIA) in ' ca ifi d a : N a i i i acc din nc f a -d fin d a ac i i n x c a c na nc i n (SCJ) [11]. i n a a in (VILI) a n n- ain in a a n L i a i d c ix, and in ' ca ifi d in :

N a i : H n ain in f c ix.

P i i : P nc f a -d i i d n n- ain in [12].

S a i ica a ana i f C c d da a a d n d in ci fici and n i i i , PPV, NPV f Pa a , i a in c i n b ac ic acid (VIA) L ' i din (VILI), and Pa . In c a in i c c c c i i a a d and d f nc f dia n i i 95% c nfid nc in a . U in a i ica ac a f cia ci nc (SPSS) in 13.

Re

1000 n i d in i di a ndin G na c O a i n c inic. 350 n xc d d d i n fi inc i nc i ia fai d b i n f c ni and 650 c d . an a f b c a 35.1 9.8, an f a i a 2.43 1.2 .80% a i d, 16.92% di c d and 3% id (Tab 1). 69% a a n a i n, 9.4% a i a n and 21.6% n a . ain c ain a ina di c a (61%), i c in a ni a a a (27.7%), bac ac (33%), abd ina ain 14%, ain i x a in c (2.4%), abn a a ina b din (2%), c i a b din (1.3%) (Tab 2). c n findin n ca xa ina in C c ' bi a c a c ica i n (c i n) (36%) (Tab 3). 80 ca i i b (i PAP, VIA, VILI c c). Pa a a i i in 14/80 ca f a 80/650 c n d i i ca (17.5%), inc din 4 ca f a ica a c i nd in d i nificanc (ASCU), 4 ca f ad a c in a i ia i n (LSIL) and 4 ca f i ad a c in a i ia i n (HSIL) and n ca i ain anc (Tab 4). A a ici an nd n C c and P nc Bi a a n n f an c ni c c a i i a i a i f nc f dia n i . W n bi a a n f 14 i i ; PAP a ; 11/14 i i and 3/14 n a i . VIA acc n d i i in 23/80 b c (28.7%) and VILI i i in 12/80 (Tab 5). A c c and bi 21/23 i i and 2/23 n a i f VIA. 8/12 i i and 4/12 n a i f VILI (Tab 6 and 7) d n i i i f VIA and VILI ic (91.30% 66.54%) and S ci fici f (85.33%, 91.32%) i S n i i i and S ci fici f PAP a (78.57%, 96.75%). P i i dic i a f b VIA and VILI an a f

Parameter	Range	Mean
Age	18-61	35 ± 9.8 years
Parity	0-5	2.43 ± 1.2
Parameter	**Number**	**Percentage %**
Marital state Married Divorced widow	 520 110 20	 80% 16.92 % 3.08 %
Education level Not Low Medium High	 390 130 123 7	 60 % 20 % 18.9 % 1.1%
Regularity of menstruation Regular Irregular menopause	 448 61 140	 69 % 9.4 % 21.6 %

Table 1: Sociodemographic data of screened women.

Complaint	Number (N)=650	Percentages (%)
Vaginal discharge	400	61.50%
Pruritis vulvae	180	27.70%
Back ack	210	32.30%
Lower abdominal pain	91	14%
Pain with sexual relation	15	2.30%
Abnormal vaginal bleeding	13	2%
Postcoital bleeding	8	1.23%

Table 2: Main complaints (%).

Findings by speculum examination	Number (N)=650	Percentage (%)
Looks normal	390	60%
Cervical erosion (ectropion)	234	36%
Cervicitis	123	18.90%
Hypertrophied cervix	97	14.90%
Unhealthy cervix	5	0.76%
Bleed on touch	7	1.07%
Suspicious cervix	3	0.46%

Table 3: Clinical fndings of cervix by local examination (%).

Pap smear	Number (N) total=14/80	Percent total=17.5 % (%)
ASCUS	4	5%
LSIL	4	5 %
HSIL	5	6.25%
Malignant cells	1	1.25%

PAP (40.11%, 43.51% 75.12%) i a i dic i a f c ni n a ac (98.05%, 98.31%, 97.09%) a f C c (99.06%).

D c

Canc c ix i a ib a idab canc . P ai nan i n a 5-15 a in ai canc . S , if c i d and ana d a ia , i a n a 100 c n c a [13]. P a d Pa a a c nin f canc c ix a n b n ab i d in d d c n i b in d in n , i n a d a d ic d an a i n, ain d n and c [14]. S , a na i a i f a d c i n f c ica canc . S c a VIA, VILI, HPV in , c ic a and ib , c nin c c ca n [15]. i ici and -c f i a in c i n f c ix i ac ic acid and L ' i din (VIA and VILI) a i ab and i in a ac b c ni a c nin f canc c ix in - c in . d n i ac ica d ab a c nica i n i c ica c and i dia acc ibi i f ' a dia n ic in i a i n i i a c c and bi b ca i d in a i i. i a a n b ann d and d i x a ca [16].

M di c a d VIA, VILI i PAP, in a n i i i and cifici f b i c a in c c i bi a d anda d. S a d a can a ain i i a b an Pa a in d c i n f CIN. Acc din f Rana a . ca f canc and canc f c ix can b c n d i VIA. f nd a VIA ad b n a i dic i a and cifici an a f Pa a . S , n ' i n a i , an can b a d a i n bab a an a ic i n c ica [17]. n i i i and cifici f c in S d f Sa i a a . 52.6% and 72.1% c i a c a d a f C n in 2001 i n i i i f 19.3% and cifici f 99.3%. W i i a 44.3% and 90.6% c i in a d b Ga in a . [18].

In d , n i i i f c (PAP) a a 78.57% ic i b an a f (VIA) ic a 91% b d an a f VILI ic a 66.54%. cifici a 96.75% ic i n a a f b VIA and VILI (85%, 91.32%) c i .

Pa a n i i i a i d in di n di f 40% in D nn a . [19], 50% in G a ., 53% in GHOSH a . 56% in Ra na a . S , b id n i i i f Pa a , i a a a i f i i a i n i ; i n f a d i i , a in f , a n f abn a and a n , and n c i f ab a in f a c , i ain d c a i and a f a ca c nin .

n i i i and cifici f i a in c i n i ac ic acid (VIA) in di n d d id an (Tab 8). O c a ab a f di . a a ia i in indica a a a iab a a c c a ac f i b ainin , c i ia f i i i , in - b a ia i n, i c , nc f c - xi in inf c i n, in a a i n and a a ia. VILI a a fad an a ic a a i f d, c , a i dia a a i ab . n i i i and cifici f d c b a d i di in di b n i (Tab 9). VILI ad a n i i i (66.54%) c a d VIA (91%). B i a c ni (VIA,VILI) a i n a i dic i a (98.05, 98.31). i an , a an n a i b VIA/ VILI d n n d f in i a i n. H , n a ad i d nd a VIA VILI a a ini in a f 3 a . On 10-15 c n n a i i i i a c ni i f a a i n. S a ad ic d C bin d in d c n b f bi i a n ba d n i a n [20].

C c

Sc in f ca c c ix in c in c d b ca i d n b c a and a i b ainab d in i a in c i n f c ix a a ica i n f ac ic aci d (VIA) and L ' i di (VILI) a a d n i i i d c an ad f d a ia, i a a i ic cifici facii a c in and b ain i a ca a i n in c ci .

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