

Evaluation for Screening of Cervical Cancer by Visual Inspection with Acetic Acid (VIA) Method

Thapa K¹, Parajuli U¹

¹Department of Obs. & Gynae, Bheri Zonal Hospital, Nepalgunj, Nepal

Received: 2-Jan-2018; Accepted: 15-Jan-2018

Aims: To evaluate pre-cancer lesion and presence of risk factors by visual inspection with acetic acid.

Methods: A retrospective study was done to evaluate VIA positive women by demographic and reproductive history and presence of risk factors from the period 16th March, 2016 to 15th March, 2017.

Results: A total of 605 women were included and counseled for screening mean age of patient in year's was 39.46±9.4 years and VIA positive rate was 4.63% (28/605).

Conclusions: Cervical pre-cancer and cervical cancers were detected by VIA testing.

Keywords: Cervical Cancer, screening, VIA

<http://dx.doi.org/10.3126/njog.v13i1.21616>

INTRODUCTION

Worldwide, cervical cancer is the fourth most frequent cancer in women with an estimated 530,000 new cases in 2012 representing 7.5% of all female cancers approximately estimated 270,000 deaths every year more than 85% of these deaths occur in low and middle income countries.¹ The World Health Organization estimate that a crude incidence rate of cervical cancer in Nepal is 24.2 per 100,000 women per year with 3,504 new cases diagnosed every year and 1,872 deaths.² In Asia, 6.4 per 1000 women die each year because of this disease.³ It often affects women who are within the reproductive age group.⁴ The important reasons for these high incidences are lack of valuable screening curriculum and poor organized resources.⁵ It is an avoidable and curable disease if it is diagnosed or treated early because of slow progression of pre-cancer lesion to invasive cancer stage, could long till 10 years.⁶ Cytology based screening is not feasible in many developing countries in view of the considerable, financial, technical and manpower resources required for such programmes.⁷

There has been strong need for a screening test that is simple and can be interpreted immediately and combined with treatment if necessary.⁸ Visual Inspection with Acetic Acid (VIA) doesn't depend laboratory services could be possible and promising alternative screening tool for early detection of cervical cancer.⁹ The National Cervical Cancer Screening and Prevention Programme (NCCSP) by the government of Nepal initiated in 2011 and VIA as the screening test and Cryotherapy as the treatment of choice for positive lesion.¹⁰

METHODS

A retrospective study on cervical cancer screening by VIA was done from 16th March 2016 to 15th March 2017 at Bheri Zonal Hospital, Nepalgunj. An inclusion criterion was married women between 30 to 60 years and younger women less than 30 years who were married for more than 10 years. Unmarried, pregnant, women with lower genital tract infection and vaginal bleeding were excluded. Before VIA testing women were counseled about the importance of test and its possible result, treatment option in case of positive result and post-test follow up for negative result. The objective was to evaluate the VIA positivity and risk factors.

Freshly prepared 5% Acetic acid was used to see aceto-white lesion over the cervix if any and recorded in a special VIA form. The risk factors like early

CORRESPONDENCE

Dr. Kalpana Kumari Thapa
Department of Obstetrics and Gynaecology,
Bheri Zonal Hospital, Nepalgunj, Nepal
Email: drkalpanathapa@icloud.com
Phone No.: 9858026961

marriage (age of first intercourse), smoking, number of sexual partners, parity, current contraceptive use, family history of cervical cancer, postcoital bleeding and previous abnormal pap smear were also recorded. Positive cases were counseled for cryotherapy and suspicious lesion had biopsy.

Eligible criteria for cryotherapy were the lesion aceto-white less than 75% of the area of cervix, no vaginal extension and lesion not more than 2mm of cryotip. Double freezing technique was used for cryotherapy. Follow up was scheduled at 1 month, 3 month and retested by VIA at 1 year. If found negative client were asked for follow up after 5 years. Data were entered in the excel sheet and analyzed.

RESULTS

A total of 605 women were included who met the eligible criteria and 28 (4.63%) were VIA positive; 16 received cryotherapy, seven could not get treatment due to lack of cryo-machine and five (0.82%) had suspected cervical cancer who got referred for treatment after confirmation with histopathology. The mean age was 39.5 ± 9.4 years, the median age of marriage was 17.6 ± 3.4 years and median age of parity was 3 ± 1.76 [Table-1].

Table-1: Demographic parameters of the study population (n=605)

Characteristics	Frequency	Percent
Age Group (years)		
<30	21	3.77%
31-40	320	57.45%
41-50	170	30.52%
51-60	46	8.26%
Mean age of Patients \pm SD = 39.46 ± 9.40		
Age of Marriage (years)		
<18	313	51.74%
≥ 18	292	48.26%
Mean age of marriage \pm SD = 17.59 ± 3.40		
Parity		
0	26	4.29%
1	36	5.94%
2	179	29.54%
3	165	27.23%
4	102	16.83%
≥ 5	98	16.17%
Median parity of patients \pm SD = 3 ± 1.76		
Regularity of menstruation		
Regular	403	66.61%
Irregular	165	27.27%
Menopause	37	6.12%

Only 9% of cases had some associated risk factors and smoking was the most common one [Table-2].

Table-2: Risk factors for high grade lesion (n=605)

Risk factors	Frequency	Percent
None	551	91.07%
Smoker	35	5.79%
History of postcoital bleeding	12	1.98%
Family history of cervical cancer	5	0.83%
Previous abnormal pap smear	2	0.33%

Two-third of the clients did not practice any contraceptive measures. The common type of contraceptive is tubectomy followed by injectable and barrier method [Table-3].

Table-3: Contraceptive used (n=605)

Contraceptives	Frequency	Percent
None	398	65.79%
Tubectomy	99	16.36%
Depoprovera	38	6.28%
Barrier	31	5.12%
Implant	16	2.64%
Vasectomy	16	2.64%
IUCD	7	1.16%

Among those treated with cryotherapy 3 patients came within four weeks with complaint of vaginal discharge and on examination it was found normal. Among 16, who had got treatment, only 12 patients came for one year follow up, and 2 patients had persistent small lesion with negative Pap smear who received repeat cryotherapy.

DISCUSSION

Simple and inexpensive methods based on visual examination of the cervix being investigated an alternative method of cervical screening.¹¹ In the present study, VIA positive women were 4.62% which is less in comparison to other's study.^{12,13,14} It may be due to large population or presence of large high risk group in those studies. It indicates people are not much aware of cervical screening programme facility in hospital. Study also shows low prevalence of contraceptive use that is 34.16% in comparison of NDHS (Nepal Demographic and Health Survey) report 2016 which is 42.8%. Barrier method was used by 5.12% of people in comparison to other's study (10.5%).¹³ It may be due to unmet need or due to ignorance of the people. It indicates need of strengthening of family planning program in this area.

CONCLUSIONS

VIA testing only could detect around 5% of abnormal cervical lesion and 1% of cervical cancer which were treated on time.

REFERENCES

1. WHO, Human Papilloma Virus (HPV) and Cervical Cancer Fact Sheet [Cited on 15th February 2018]. Available from [http://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-\(hpv\)-and-cervical-cancer](http://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-(hpv)-and-cervical-cancer).
2. Gyawali B, Keeling J, Tejjlingen E, Dhakal L, Aro A. Cervical cancer screening in Nepal. Ethical consideration. *Medicolegal and Bioethics*. 2015;5:1-6.
3. Chanthavilay P, Mayxay M, Phongsavan K, Marsden D, White L, Moore L, et.al. Accuracy of Combined Visual Inspection with Acetic Acid and Cervical Cytology Testing as a Primary Screening Tool for Cervical cancer: a Systematic Review and Meta-Analysis. *Asian Pacific Journal of Cancer Prevention*. 2015;16:5889-97.
4. Ajenifuja KO, Gage JC, Adepiti AC, Wentzensen N, Eklund C. A population-based study of visual inspection with acetic acid (VIA) for cervical screening in rural Nigeria. *Int J Gynecol Cancer*. 2013;23(3): 507-12.
5. Saleh H, Aza H, Hala M, Hala S, Walid A. Visual Inspection of the Cervix with (Acetic Acid or Lugol's Iodine) for Cervical Cancer Screening. *Open Access Journal*. 2016;1:1-4.
6. Kalgong G, Nwabo A, Simo R, Amvene J and Nangue C. Cervical Cancer Screening with Visual Inspection with Acetic Acid and Lugol as Primary Screening Test, a Comparable Result to Conventional PAP Smear in Northern Cameroon. *Journal of Cancer Science and Research*. 2017;2:1-4.
7. Ahmed ANR, Chen R. Practice and Barriers towards Cervical Cancer Screening among University Staff at a Malaysian University. *Journal of Community Medicine Health Education*. 2012;2:120.
8. Rashid M, Ahmed M, Chaudhary S, Ahmed S. Effectiveness of Visual Inspection with Acetic Acid as a Test for Cervical Cancer Screening. *International Journal of Non-communicable Disease*. 2017;2:3-7.
9. Rengaswamy S, Ramani W, Somanathan T, Namrata D, Bharathykutty C, Paul S, et.al. Test Characteristics of Visual Inspection with 4% Acetic Acid (VIA) and Lugol's Iodine (Vili) in Cervical Cancer Screening in Kerala, India. *International Journal Cancer*. 2003;106:404-8.
10. Hend S. Can Visual Inspection with Acetic Acid be used as An Alternative to Pap smear in Screening Cervical Cancer? *Middle East Fertility Society Journal*. 2014;19:187-91.
11. Vednatham H, Michelle I, C Rekha, B Kalpana, BP Karuna, K. Vidhyarathi, et.al. Determinant of VIA (Visual Inspection of the cervix After Acetic Acid Application) Positivity in Cervical Cancer Screening of Women in a Peri-Urban area in Andhra Pradesh, India. *American Association for Cancer Research*. 2010;19:1373-80.
12. Singh KN, More S. Visual inspection of cervix with acetic acid (VIA) in early diagnosis of cervical intraepithelial neoplasia (CIN) and early cancer cervix. *Journal of Obstet and Gynecol, India*. 2010;60:55-60.
13. Rijal P, Pradhan T, Agrawal A, Rai R, Bhatta R, Chhetri R. Assessment of Risk Factors, Feasibility and Acceptability of VIA for Cervical Cancer Screening and Prevention. *Nepal J Obstetrics Gynaecol*. 2016;11(21):54-7.
14. Sankaranarayanan R¹, Wesley R, Somanathan T, Dhakad N, Shyamalakumary B, Amma NS, et al. Visual inspection of the uterine cervix after the application of acetic acid in the detection of cervical carcinoma and its precursors. *Cancer*. 1998;83(10):2150-6. Available on <https://www.ncbi.nlm.nih.gov/pubmed/9827719>.