

Effectiveness of Cryotherapy in VIA positive women

Binita Pradhan,¹ Anagha Pradhan Malla²

¹Assoc. Prof., ²Asst. Prof., Obstetrics and Gynaecology, Midat Hospital, Lalitpur, Nepal

ABSTRACT

Introduction: In this study we studied the effectiveness of Cryotherapy in cases with abnormal squamous intraepithelial lesions detected only by VIA.

Method: In our study, 64 patients in reproductive age group attending gynecology OPD, with complaints of discharge per vaginum, lower abdominal pain, and post coital bleeding were screened with VIA and positive women had cryotherapy and they were followed up by same after six months.

Result: A total of 64 VIA positive women had cryotherapy. Most of the women were of age group 31-40 years (40.6%). Majority of the women were of parity 2 or more (89.1%). The most common complaint was discharge (46.9%) followed by pelvic pain (32.8%). VIA was negative among most of the women (87.5%) after cryotherapy. The outcome of cryotherapy was not associated with age and parity rather presence of symptoms was statistically associated ($p=0.034$).

Conclusion: We concluded that in low resource settings, simple and safe diagnostic test VIA and therapeutic procedure cryotherapy are safe and effective method to combat the killer disease of cervical cancer.

Keywords: Cryotherapy, Visual inspection with acetic acid (VIA), cervix

CORRESPONDENCE

Dr. Binita Pradhan

Obstetrics and Gynaecology, Midat Hospital, Lalitpur, Nepal

Email: binitapatan@gmail.com

INTRODUCTION

Cervical cancer is a preventable cancer but it causes deaths of more than 275,000 women worldwide each year occurring more than 88% in developing countries where programs to detect and treat precancerous lesions are not affordable or available.¹ The World Health Organization estimates 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 Cervical cytology (Papanicolou smear) is a well-known and successful screening method in reducing cervical cancer incidence.³ Visual inspection with acetic acid (VIA) is known as the alternative effective method in detecting precancerous lesion in the developing countries since it is easy to perform, low in cost, does not require sophisticated equipment and can be carried by a trained health care provider.⁴

Cryotherapy is a method for the treatment of cervical precancerous lesions that is considered the most suitable option to use in low-resource settings because it is low cost, requires no anesthesia and has low complication rate.⁵ National cervical cancer screening and prevention programme initiated by government of Nepal in 2010 stated VIA as the screening test and cryotherapy as the treatment of choice for the positive lesions.⁶ The effectivity of cryotherapy in treating the precancerous lesion ranges from 81.4% to 96.4% for cervical intraepithelial lesions.⁷ However, data about the effectiveness of cryotherapy is limited in our setting so this study is done to evaluate the effectiveness of cryotherapy in VIA positive lesions.

METHOD

This was a retrospective study done in the department of obstetrics and gynecology of Midat hospital from January 2019 to December 2020. Written informed consent was obtained from all the subjects. Ethical clearance was taken from the hospital prior to the study. All reproductive women of 20-55 years with various complaints were included and those who had obvious cervical lesions were excluded from the study. Data were collected in a predesigned proforma and analyzed in SPSS version 19. There were 66 VIA positive patients and 64 of them had cryotherapy but 2 of

them didn't give consent so were discarded from the study.

For VIA testing, 5% acetic acid was used and double freeze technique was applied for cryotherapy. Cryotherapy was performed using nitrous oxide refrigerant, with a 20–24 mm cryoprobe tip in ectocervix with a shallow nipple by standard double-freeze technique. No local anesthesia, sedation or analgesics were used. The cryoprobe tip, washed with normal saline, was firmly applied on the cervix to ensure adequate thermal contact. Cryotherapy involved two sequential freeze–thaw cycles, each one consisting of a 3-min freeze followed by 5 min of thawing (3-min freeze, 5-min thaw, 3-min freeze). Ice ball formation on the cryoprobe and on the cervix during the procedure was closely observed to ensure the tip did not inadvertently contact and freeze any part of the vagina during the procedure. Once the second freeze for 3 min was completed, adequate time was allowed for thawing before removing the probe from the cervix by gentle semicircular movements. The cervix and vagina was then examined for any bleeding for any accidental vaginal freezing. The vagina was not packed with gauze after cryotherapy to allow secretions to escape. Women were provided with gauze pads to prevent staining. Women were called for follow up after two weeks to see any side effects then again after 6 months. VIA was repeated in all cases.

RESULT

During the study period, a total of 64 VIA positive women had cryotherapy. Median age of women was 35 years (28-41). Most of the women were of age group 31-40 years (40.6%). Majority of the women were of parity 2 or more (89.1%). The most common complaint was discharge (46.9%) followed by pelvic pain (32.8%).

VIA status was negative among most of the women (87.5%) after cryotherapy. Eight women who were VIA positive after 6 months were advised for cervical biopsy but only four agreed for biopsy. The outcome of cryotherapy is not associated with age and parity rather presence of symptoms are statistically associated ($p=0.034$).

Table 1. Basic characteristics

Characteristics	Category	Frequency (N)	Percentage (%)
Age in Years	≤30	19	29.7
	31-40	26	40.6
	41-50	16	25.0
	>50	3	4.7
Parity	Para 1	7	10.9
	Para>2	57	89.1

Table 2. Clinical Presentation

Category	Frequency (N)	Percentage (%)
Pelvic Pain	21	32.8
Discharge	30	46.9
Post Coital bleeding	11	17.2
No complaint	12	18.8

Table 3. Effectiveness of cryotherapy after 6 months

Category	Frequency (N)	Percentage (%)
VIA +ve	8	12.5
VIA -ve	56	87.5

DISCUSSION

Cervical cancer being one of the most easily preventable cancer owing to the easy accessibility of the cervix to the clinician and easy screening methods available, is amenable to eradication one day. A critical component of effective cervical cancer screening is the ability to offer women appropriate effective treatment for precancerous cervical lesions, thereby reducing overall cancer incidence and mortality. "See and Treat" program aims to detect and treat the cervical cancer from its precancerous lesion at the low resource setting. This program can decrease the lifetime risk of cervical cancer from 35-year-old women who have not been screened on her entire life.⁸

The age of the women ranged from 20 to 53 years in our study and the predominant population in the present study was between 31-40 years (40.6%). This finding was similar to the study done by Campbell et al and Lee et al who reported between 30-39 years (40% and 47%) and Lestari, et al showed 31-40 years (39.9%).⁹⁻¹¹

Regarding parity most of the women were parity of two or more (89.1%) in this study which was same as Rijal et al (87.3%).¹² Thapa reported more than 90% in parity two or more whereas Dekisha showed 69.2% of parity more than one.^{13,14} High parity increases the risk of precancerous cervical lesions most likely due to repeated cervical trauma during consecutive births and hormonal adjustment during and after pregnancies which may create an entry point for the HPV virus.

The most common presentation was discharge per vaginum in 46.9% followed by pelvic pain in 32.8%, no complaints in 18.8% and post-coital bleeding in 17.2% women in our study. In the study by Agarwal et al 75% cases had pelvic pain, 77 % cases had vaginal discharge, 20% had menstrual complaints and only 2% had post coital bleeding. After treatment, pelvic pain persist in 28% cases, vaginal discharge persist in 35%, menstrual complaints in 15% cases, post coital bleeding in

2.2% and 56% had no complaints and p value was significant.¹⁵

After six-month of cryotherapy, VIA was negative in 87.5% and 12.5% were still positive. Adefuye reported 95.3% VIA negative and only 4.7% were positive which was comparatively lower than our study.¹⁶ Although the cryotherapy success rate in "See and Treat" program reached 90.7%, there were 9.3% who did not show the VIA conversion to negative. Similar study by Vet JNI, et al. also showed the similar result (92%).¹⁷ Few studies repeated VIA after one year in which 2.1% were VIA positive in Ghana whereas 11% was reported to be VIA positive in study by Phongsavan et al.^{18,19} The failure of VIA conversion can be caused by several factors such as equipment, healthcare provider, VIA false-positive, referral system factor and presence of other risk factors.¹¹ Another important finding was that most of the women had done cervical screening for the first time and we can improve on that.

CONCLUSION

Cervical cancer screening with VIA and treatment with cryotherapy simultaneously is very acceptable way. Cryotherapy is a simple, less expensive and OPD based procedure. Women treated with cryotherapy cure rate can be high with proper technique, training and adequate pressure of gas. Thus in low resource setting, simple and safe diagnostic and therapeutic procedures like VIA and cryotherapy can be the good way to combat this disease. Limitation of this study is lack of histological confirmation of the precancerous cervical lesions. This was a small primary study and more studies need to be conducted on a larger scale to come to a definite conclusion.

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Conflict of Interest

None

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