



COMPARATIVE STUDY OF PAPS CYTOLOGY AND VIA WITH CERVICAL BIOPSY

Obstetrics & Gynaecology

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ABSTRACT

All the patients coming to Gyne OPD between 30-65 years of age were subjected to VIA and PAP cytology after applying the inclusion and exclusion criteria as given ahead.

Although Pap cytology is a well established screening test but it is a costly investigation and requires at least 3 visits of patients. VIA is a simpler and almost free of cost procedure and can be performed while doing Gynae checkup itself. Patients who were ready for both investigations were chosen for study. Those with positive results in any one of the above test were then subjected to cervical biopsy. Results of both VIA and PAP test were then compared with HPE reports to findout the reliability of the simpler test like VIA for using it as a more widely utilized method as a screening test for detection of precancerous lesions. It was found that although false positive results were very high with VIA, but false negative results were almost nil. Therefore it was concluded that all the patients above 30 years may be advised to undergo screening by VIA and the group which turns out to be positive may then be subjected to Pap cytology and managed according to results of Paps cytology.

AIM: Comparative study of Pap cytology and VIA with Cervical biopsy in detecting precancerous lesions of cervix to evaluate their effectiveness for use as cervical cancer screening test.

KEYWORDS

Cervix, Cancer, VIA, Paps cytology, Biopsy

INTRODUCTION

cervical cancer is a public health problem in developing countries like India, so much so that India alone accounts for one-quarter of the worldwide burden of cervical cancers.[1,2]

It is the one of the leading causes of cancer mortality, accounting for 17% of all cancer deaths. Invasive cervical cancer is preceded by a long phase of precancerous lesion that can be detected by screening and treated effectively by simple treatment, which can prevent invasive cancer. This fact is utilized in screening for cancer which is known to reduce mortality by early detection and treatment. However, there are two prerequisites for screening to reduce the rate of death from cancer. First, screening must advance the time of diagnosis of cancers that are destined to cause death. Second, early treatment of these cancers must confer some advantage over treatment at clinical presentation.[3,4] Unlike other cancer sites, cervix can be subjected to screening for early diagnosis and treatment, because of its approachability.

Published results show that VIA has similar sensitivity but somewhat lower specificity when compared to quality cytology.

PAPANICOLAOU test is the standard test used as a screening method to detect precancerous lesions of the cervix, and if warranted may then be followed and managed to prevent its progression to cancer.

Generally it is advised from 21 years of age until the age of 65. However, some countries do not recommend Pap testing in non-sexually active females. Guidelines on frequency vary from every three to five years.

As the test involves frequent visits of patient as well as the cost to be borne by patient for every test at recommended intervals is too high, many a times it is not being followed. Therefore it was thought that a much simpler and cost effective procedure like VIA if performed in the Gynae OPD itself, and if the results are reasonably reliable, can be used to select a smaller group of patients who need to be submitted to costlier investigation like PAP test at regular intervals, thereby minimizing the financial burden and visits of females to Gynaecologist and pathologist at the same time without missing cases of potential precancerous lesions.

MATERIAL AND METHODS

SELECTION CRITERIA

Inclusion criteria

Patients in the age group of 30-65 years were included in the study and priority was given to patients with the following risk factors:

- Early marriage.
- Early pregnancy (teenage pregnancy).
- Sexual activity at early age.
- Multiparity.
- Multiple sexual partners.
- Women with STI, leukorrhea, abnormal vaginal bleeding.

EXCLUSION CRITERIA

- Unmarried patients.
- Patients below 30 years and above 65 years.
- Patients with bleeding P/V and active infection at the time of examination.
- Women with frank invasive cervical cancer

Female patients between 30-65 years of age visiting OPD of Koteshwar hospital for any Gynae complaint were informed about VIA and PAP test, and those patients which were qualifying selection criteria and ready to undergo both tests, were selected for study. Total 1076 patients were subjected to both tests from September 2018 to February 2020.

Those with positive results in any one of the above test were then subjected to cervical biopsy. Results of both VIA and PAP test were then compared with HPE reports to findout the reliability effectiveness of the simpler test like VIA for using it as a more widely utilized method as a screening test for detection of precancerous lesions.

Using a cuscus speculum 2 slides of cervical cells were prepared from transformation zone using spatula for one slide and brush for another slide. Both slides were sent to pathologist after proper fixing using ethanol.

After preparing the slides 4% acetic acid was used to wet the cervix for 1 minute. After one minute cervix was inspected for any aceto- white lesions and the result were noted down.

PAP test results CIN 1 or above was considered positive. VIA showing opaque aceto white lesion at transformation zone on applying 4% acetic acid were considered positive. Patients who were positive in any of the two tests were then subjected to histopathology of biopsy specimen and then a comparison of reports was done.

RESULTS AND DISCUSSION

Out of 1076 VIA done, about 56 were VIA positive and 1020 were VIA negative.

Out of 1076 cases 6 reports of pap test were Low grade squamous intraepithelial lesion (LSIL)

One report was atypical squamous cells of undetermined significance (ASC-US)

Rest of the reports of PAP test were NILM (no intraepithelial lesion or malignancy) with some insignificant inflammatory or bacterial infections.

Histology of biopsy specimens in 06 cases was suggestive of CIN and carcinoma

It was noticed that all the PAPS reports which were LSIL or ASC-US were VIA positive.

All the cases of confirmed precancerous lesions on Biopsy were positive in pap test too.

It clearly shows that VIA has got high sensitivity but specificity is low. As none of the cases of negative VIA had any positive finding or intraepithelial lesion even in PAP test.

The most common finding in per speculum examination is cervical erosion. The sensitivity of VIA is 89% (versus pap smear-52%) the specificity of VIA is 87% (versus pap smear-95%). The accuracy VIA is 87% compared to pap smear-93%.

DISCUSSION

This high incidence of cervical cancer may be attributed to the lack of awareness among the masses as well as even in some of the doctors working in the periphery. The lack of effective screening program leads to reporting of very advanced cases of cervical cancer cervix where mortality and morbidity is very high. It is a fact that many cases reporting for vaginal bleeding or discharge are not even examined vaginally, thus, missing the diagnosis at an early stage. Advanced diseases involve high financial burden, limited treatment options, stress, loss to the family and higher mortality. This grim scenario prevalent in our society is preventable provided we can create awareness and implement effective screening program as a public health measure.

PAP smear screening needs good infrastructure, trained manpower to make & interpret the slides which is not feasible considering the facilities available in the periphery.

The patient also usually does not come back to collect the report and may be lost to follow up.

There is also interpersonal interpretation variation in case of Pap smear.

In today's era, in spite of the availability of HPV vaccines and affordable and effective methods for early detection and treatment of cervical cancer precursor lesions, cervical cancer still continues to be a public health problem in India.

Our study highlights the success of visual screening tool in early detection and mortality reduction of cervical cancer in a resource-poor setting and thus, provides a unique opportunity for developing countries to integrate screening of cervical neo plasia in primary health-care settings.

However VIA can be done even by sisters in the remotest place with minimum facilities & patient is diagnosed. So patient compliance is also better. The VIA is accurate screening test and suitable to reduce burden of pap smear. So we want to include VIA in screening programme.

CONCLUSION

From the results of this study it is evident that VIA is more sensitive than Pap smear and specificity of VIA is slightly less to Pap smear (generally speaking Pap smear is more specific).

Thus by combining VIA along with Pap smear we can maximize the sensitivity and specificity of cancer cervix screening, which are more cost effective and practically implementable.

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Table 1 Association between cervical biopsy report with result of pap smear and via

	POSITIVE	NEGATIVE	FALSE +ve	False -ve
CERVICAL BIOPSY REPORT	6	50	--	--
PAP SMEAR TEST	7	1069	1	0
VIA	56	1020	50	0

Pap smear negative result and VIA negative results correlate well with biopsy negative results so the negative predictive value of both is good, 100% in this study.

But positive results donot correlate well so the positive predictive value is not so good.

Table 2 Sensitivity and specificity of VIA with cervical biopsy report

VARIABILITY	VALUES
SENSITIVITY	100
SPECIFICITY	95%
+VE PREDICTIVE VALUE	52%
-VE PREDICTIVE VALUE	99-100%
Accuracy	87-95%

Table 3

Sensitivity and specificity of pap smear with cervical biopsy report interpretation

It has been found that there is significant association between the histopathology report and pap smear report

Variable	Values
Sensitivity	52-100%
Specificity	95-99%
+ve predictive value	45-85%
-ve predictive value	96-100%
Accuracy	93-99%

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