



Original Research Article

To evaluate the efficacy of the cytology as an initial diagnostic procedure and the ability to distinguish between benign & malignant lesions

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ARTICLE INFO

Article history:

Received 04-02-2021

Accepted 13-02-2021

Available online 20-02-2021

Keywords:

Cytology

Diagnostic

Benign & malignant lesions

ABSTRACT

Background & Method: The material for the present study comprised of examination of 1542 cervical/vaginal smear, taken from patients attending the out-patient Department of Obstetric & Gynaecology and further sent to Department of Pathology for cytomorphological analysis. The study is done in Department of Pathology.

Study Designed: Cross sectional observational study.

Result: Maximum number of atypical epithelial cells of uncertain significance were found in age group 21-40 years (76.5%).

Conclusion: The value of exfoliative vaginal cytology is undisputed today. The question arises about the feasibility of such study. The facilities for cytology being limited in our country, the needful and under privileged population should also be taken into consideration in screening programmes. Post coital bleeding and sero-sanguinous discharge were the important symptoms associated with ASCUS and LSIL while bleeding per vaginum was the most important symptom associated with Squamous cell carcinoma.

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1. Introduction

The discoveries of premalignant cervical lesions and the role of HPV in cervical dysplasias and cancers have also enabled physicians to gradually refined the use of Pap smear screening.¹ As a result, the number of women who need Pap smears, and the frequency at which they are recommended, has changed significantly over the last several years. However, dissemination of the newest guidelines has been met with some resistance both from women and their physicians.²

Cytologic findings that are most consistent with benign reactive changes should be carefully reviewed and judiciously classified as “negative for intraepithelial lesion or malignancy” whenever possible.

Unequivocally normal-appearing cells on the same slide should be used for comparison in determining whether the interpretation of ASC is warranted.³ Abnormal-appearing

nuclei are a prerequisite for the interpretation of ASC. The finding of cytoplasmic and nuclear changes associated with HPV infection (perinuclear halos/koilocytes) warrant an interpretation of SIL. However, incomplete changes suggestive of koilocytosis (e.g., cytoplasmic halos closely resembling koilocytes but with no or minimal nuclear abnormalities) or poorly preserved cells with features suggestive of LSIL are generally designated as ASC-US.⁴

The aim of fine-needle aspiration is to obtain a high cell harvest with minimal artifactual damage or blood contamination. The basic sampling kit consists of 21- and 25-gauge needles and 3-, 5-, and 10-mL syringes. Precise technique and choice of equipment depends on physical characteristics of the lesion and whether blood contamination is a problem.

The fundamental method utilizes a 25-check needle and a 10-mL needle. The needle is embedded into the injury and more than once diverted to test various regions while applying a limited quantity of pull on the needle. Pull is delivered prior to pulling out the needle.⁵ On the off chance

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that attractions is proceeded on withdrawal, the phone test is brutally sucked into the barrel of the needle, causing cell burst. Test size is frequently tiny and might be available just inside the lumen of the needle and not in the needle. At the point when the example has been gotten, the needle is eliminated, loaded up with air, reattached, and used to delicately communicate the example onto a perfect, dry, glass slide. Communicating the example strongly will crack cells. Another slide is set on top of the example and pulled length ways to spread the example to a monolayer.⁶ Extra pressing factor ought to not be applied, on the grounds that this likewise may cause crack of the cells. Thicker zones are not a worry; the edges will regularly be sufficiently slim to analyze individual, non covering cells. The example ought to be air dried as fast as conceivable to lessen the impacts of shrinkage; a hair dryer can be utilized for this reason, however warming the example should be evaded.

This method can be adjusted to various circumstances. In the event that blood tainting is an issue, the size of the needle and measure of attractions can be decreased or the needle eliminated inside and out. This is especially an issue with bone marrow goal however is normal with all cytology tests and is believed to be because of unnecessary pull on the needle. In the event that blood defilement is unavoidable, the blood can be centrifuged.⁷ Notwithstanding, if the example is straightforwardly spread, a feathered edge ought to be analyzed, on the grounds that this is the place where the heavier cells from the tissue will in general assemble. Blood defilement can regularly be diminished with the utilization of a fine needle (25 check); this builds the opportunity of gathering enough cells for understanding.

An elective procedure utilizes a needle without a needle; no distinction in the cell gather between these two methods has been appeared. The needle is embedded without the needle and consistently diverted to test various profundities and headings inside the injury. The cells are isolates by the bleeding edge of the needle and enter the needle lumen by slim activity. After withdrawal of the needle, a needle containing air is reattached and used to delicately communicate the example.⁸ This procedure is additionally especially helpful to test delicate cells, for example, lymphoid cells from lymph hubs. A much better cell collect is acquired from splenic sores with this method than by applying pull. Moreover, there is more prominent affect ability in position of the needle, which is particularly valuable for little sores.⁹

Certain tissues will in general give an exceptionally low cell gather. These are normally made out of mesenchymal cells (connective tissue) that firmly hold fast to one another and in this way don't peel without any problem. For these sores, a bigger bore needle and expanded pull might be fundamental. Notwithstanding, a needle with a drag >21 check will in general give a tissue center more reasonable for histologic understanding than cytology.¹⁰

When a body liquid (eg, pee, pleural or peritoneal liquid) is gotten, a cytospin planning is by a wide margin the best technique for cell fixation. Be that as it may, not many practices approach a cytospin, so centrifugation of the planning and inspecting of the centrifuged residue is the typical technique for cell focus. When the slide has been readied, it ought to be quickly air dried prior to staining.¹¹

2. Materials and Method

The material for the present study comprised of examination of 1542 cervical/vaginal smear, taken from patients attending the out-patient Department of Obstretic & Gynaecology and further sent to Department of Pathology for cytomorphological analysis. The study is done in Department of Pathology.

2.1. Inclusion criteria

1. All the females presenting with discharge per vaginum presenting in the outpatient department.

2.2. Exclusion criteria

1. Females bleeding per vaginum at the time of procedure.

The proper specimen collection is one of the most important steps in pap smear screening. At least one half to two-thirds of false negatives are the result of patient conditions present at the time of sample collection and submission and the skill and knowledge of the individual who obtains the specimen.¹² Adequate cervical cytology samples should be collected and submitted to the laboratory with appropriate clinical information. The laboratory provides feedback on sample adequacy via individual reports, and may elect to provide summary information regarding patient sampling to its clients.

To obtain an ideal Pap specimen, the following guidelines have been established by the Clinical and Laboratory Standards Institute:

1. Schedule an appointment approximately two weeks (10-18 days) after the first day of her last menstrual period.
2. Do not use douche 48 hours prior to the test
3. Do not use tampons, birth control foams, jellies or other vaginal creams or vaginal medications for 48 hours prior to the test.
4. Intercourse is not recommended the night before the appointment

3. Results

Table 2 shows that maximum number of atypical epithelial cells of uncertain significance were found in age group 21-40 years (76.5%).

Table 1: Distribution of benign lesions and epithelial cell abnormality

Cytological findings	No. of cases	Percentage%
Normal smear	364	23.60
Inadequate	58	03.76
Benign lesion	1093	70.88
Epithelial cell abnormality	27	01.76
Total	1542	100.00

Table 2: Age distribution in relation of atypical epithelial cells of uncertain significance (ASCUS + AGCUS)

Age (in years)	AGCUS n=1	%	ASCUS n=17	%	Total
15-20	0	-	0	-	0
21-30	0	-	7	41.2	7
31-40	0	-	6	35.3	6
41-50	1	100	3	17.7	4
51-60	0	-	1	5.8	1
61 and above	0	-	0	-	0

Table 3: Shows distribution of HPV on the basis of cytomorphological features among cases of epithelial cell abnormality

	HPV – No. of cases n=9	Percentage
ASCUS	0	00
AGCUS	0	00
LSIL	2	22.22
HSIL	2	22.22
SCC	5	55.56

4. Discussion

In our study shows ASCUS (1.11%), AGCUS (0.06%), LSIL (0.13%), HSIL (0.13%) and SCC (0.33%) and inflammatory smear suspicious of HSV, 2 cases (0.13%). Study by Hemali J. Tailor et al.¹³ shows ASCUS 0.77%, ASC-H 0.35%, HSIL 0.35%, SCC 0.14% and AGCUS 0.28%. 0.18% ASCUS, 0.12% Atypical glandular cells (AGC), 6.36% LSIL, 1.18% HSIL and 0.35% malignancy. Ghaith J. Al Eyd et al.¹⁴ studied that the overall frequency of cervical intraepithelial abnormalities was 3.3%, out of which 1.8% had atypical squamous cells of undetermined significance (ASCUS), 1.2% had low-grade squamous intraepithelial lesion (LSILs), and 0.3% had high-grade squamous intraepithelial lesions (HSILs). Edelman et al.¹⁵ studied Pap smears from 29295 females over a period of one year and the Pap smear abnormalities were as follows: 9.9% ASC-US, 2.5% LSIL, 0.6% HSIL, and 0.2% invasive cancer. Kaustubh Mulay et. al.¹⁶ 0.64% ASC-US, 0.31% AGCUS, 0.21% LSIL, 0.16% HSIL, and 0.06% invasive cancer.

One of the significant discrepancies between our study and the previously published data from other countries is the higher rate of ASCUS and lower rate of LSIL. We assume that as the women included in our study were routinely screened and/or re-screened, they presented with an early form of cytological interpretation in the cervical smear, and thus, ASCUS rate was higher.

5. Conclusion

The value of exfoliative vaginal cytology is undisputed today. The question arises about the feasibility of such study. The facilities for cytology being limited in our country, the needful and under privileged population should also be taken into consideration in screening programmes. Post coital bleeding and sero-sanguinous discharge were the important symptoms associated with ASCUS and LSIL while bleeding per vaginum was the most important symptom associated with Squamous cell carcinoma.

6. Source of Funding

None.

7. Conflict of Interest

The authors declare that there is no conflict of interest.

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Cite this article: Kaur D, Agarwal P. To evaluate the efficacy of the cytology as an initial diagnostic procedure and the ability to distinguish between benign & malignant lesions. *Indian J Pathol Oncol* 2021;8(1):64-67.