

EVALUATION OF UNHEALTHY CERVIX IN KASHMIRI WOMEN BY COLPOSCOPY, LIQUID BASED CYTOLOGY AND HISTOPATHOLOGY-A TERTIARY CARE HOSPITAL BASED STUDY

Dr. Maraj Ud Din¹, Dr. Sahilanazir², Dr. Arshiandleeb³, Dr. Syed Basit⁴ and
Dr. Javid^{5*}

¹Lecturer at Department of Gynaecology and obstetrics LD Hospital GMC Srinagar.

^{2,3,4}Senior Resident at Department of Gynaecology and obstetrics LD Hospital GMC
Srinagar.

⁵Associate Professor GMC Srinagar.

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*Corresponding Author

Dr. Javid

Associate Professor GMC
Srinagar.

ABSTRACT

Objectives: (1) To evaluate the various causes of unhealthy cervix in Kashmiri women. (2) To assess the utility of colposcopy and cytology in detecting the various causes of unhealthy cervix. (3) To correlate the findings of cytology and colposcopy with each other and with histopathology. **Methodology:** 200 women attending gynecology OPD with clinically unhealthy cervix were subjected to evaluation by liquid-based cytology, colposcopy and directed biopsy and the findings were noted. **Results:** Majority of women were in the age group of 30-39

years. Commonest complaint was vaginal discharge in 50% cases followed by menorrhagia in 19.5% women. 18% had abnormal discharge in 50% cases followed by menorrhagia in 19.5% women, 18% had abnormal LBC findings with 11% women had LSIL, 5.5% had HSIL, and 1.5% had squamous cell carcinoma (SCC). 32.5% had abnormal women had LSIL, 5.5% had HSIL, and 1.5% had squamous cell carcinoma (SCC). 32.5% had abnormal colposcopic findings, 21% had low grade lesion and 11.5% had high grade lesion. In our study, on correlating LBC findings with histopathology, out of 8.5% women with ASCUS on LBC, 4% had positive histopathological findings. Out of 5% patients with LSIL on LBC, 3.5% were having positive histopathological findings. Out of 3% patients with HSIL on LBC, 1.5% were positive on histopathological examination. On correlating colposcopic findings with histopathology, 5.5% patients which appeared normal on colposcopic evaluation had dysplasia on histopathology, 15.5% women with low grade lesion on colposcopy had

negative histopathological findings. Out of 21% patients with low grade lesion, 3.5% had LSIL and 1.5% had HSIL on histopathology. 4.5% women with high grade lesion on colposcopy were negative histopathologically. 7% out of 11.5% women with high grade lesion had positive histopathological findings. Sensitivity and specificity of LBC was 58.3% and 91.5% respectively. Sensitivity and specificity of colposcopy was 69.4% and 75.6% respectively. **Conclusion:** Though, the study was conducted in a tertiary care hospital which is not representative of the general population but still we had significant number general population but still we had significant number of cases with premalignant and malignant cervical lesions. Therefore, all women with complaints of suspicious looking cervix should be examined and screened in a single visit by LBC, colposcopy and directed biopsy to help in detecting cases in premalignant state which may otherwise be missed.

KEYWORDS: LBC, Colposcopy, LSIL, HSIL, Cervical Cancer.

INTRODUCTION

Cervical carcinoma is the most common malignancy among women in developing nations.^[1] In India, cervical cancer ranks number one among genital cancer in females with an annual incidence of more than 132,000 and around 74,000 deaths every year.^[2] It is a potentially preventable cancer. It is preceded by premalignant lesions which may take 5-15 years to progress to invasive cancer. If detected and treated timely, preinvasive disease has 100 per cent cure rate with simple surgical procedure, while advanced cancers have less than 35 per cent survival rate. Fortunately, cervix is that portion of the genital tract which is easily accessible to examination and screening.

Recent studies substantiate the view that cervical carcinoma develops from well-defined precancerous lesions in a variable period of time and that cervical carcinoma is preventable and curable if detected early at preinvasive stage. Colposcopy is a clinical method which evaluates changes in the terminal vascular network of cervix that reflects the biochemical and metabolic changes in the tissue. It consists of examination of connective tissue of the cervix across the mucosa using stereoscopic vision. Liquid based cytology is now the preferred method of sample collection where a cervical brush is used to collect the specimen which provides almost twice as many epithelial cells. LBC offers advantages over conventional smears in women who have excessive cervical mucus, discharge or blood stained discharge and in cases of recurrent inflammatory smear that require repeating. Virtually all cells of the

sample are collected in case of liquid based cytology with even distribution of cells and minimal obscuring material.

METHOD

The study was a prospective observational study conducted in the Postgraduate Department of Gynaecology and Obstetrics, Lalla Ded Hospital, Government Medical College Srinagar after obtaining clearance from the institutional ethical committee over a period of one and a half year.

The study population included all women attending Gynecology outpatient Department presenting with symptoms like excessive vaginal discharge, abnormal uterine bleeding, contact bleeding, pruritis vulvae. After detailed history and written informed consent, using the cytology broom, ectocervix and squamocolumnar junction was lightly scraped by turning it through 360 degree and the materials transferred to the medium containing the fixative.

These vials containing the detachable brush of the cytology broom were then immediately sent for liquid based cytology. Revised Bethesda system was used for describing Liquid based cytology results.^[3] It was followed by Coloscopic examination. The squamous epithelium, columnar epithelium, their junction and the transformation zone were then observed and the abnormal areas were noted. Biopsy were performed from the abnormal areas noted. The specimen was sent for histopathological examination in formalin solution and slides were analyzed.

RESULTS

This prospective study was carried out on 200 patients attending the outpatient Department of obstetrics and Gynaecology, Govt. Medical College, Srinagar. Maximum number of women i.e, 62.5% were in the age group of 30-39 yrs, 25% were in 40-49 yrs, 8% were in ≥ 50 yrs and 4.5% were less than 30 yrs of age. Maximum number of patients were multiparous, 62 (31%). Majority of women (50%) presented with complaints of vaginal discharge followed by menorrhagia 39(19.5%), intermenstrual bleeding in 26(13%), vulvalitching in 18(9%) and postcoital bleeding in 9(4.5%). LBC was reported as abnormal in 17.5% of all women. The most common cytological abnormality was ASCUS which was present in 17 out of 200 women (8.5%), LSIL was found in 10 (5%), HSIL in 6 (3%) while SCC was found in 2(1%) women. 165 (82.5%) patients were negative for intraepithelial lesion or malignancy.

On histopathology, 22 out of 200 (11%) women had mild dysplasia. 11 (5.5%) had moderate dysplasia and SCC was seen in 3 (1.5%) cases.

On correlating colposcopy with histopathology, 11.5% with high grade lesion on colposcopy, 4% had LSIL, 1.5% had HSIL and 1.5% had SCC on histopathology.

On correlating LBC with histopathology, 17 (8.5%) patients with ASCUS, 8 patients (4%) had positive histopathological findings. 7 (3.5%) out of 10 (5%) patients with LSIL had features of LSIL on histopathology as well. Out of 6 (3%) patients with HSIL on cytology, 3 (1.5%) patients had findings consistent with HSIL on histopathology and 1(0.5%) patient had features of SCC. 2(1%) patients had findings of SCC on cytology and histopathology as well.

Age (years)	Frequency	Percentage
< 30	9	4.5
30-39	125	62.5
40-49	50	25
≥ 50	16	8
Total	200	100
Mean±SD=37.9±6.48		

Types of Smear	Frequency	Percentage
NILM	165	82.5
ASCUS	17	8.5
LSIL	10	5.0
HSIL	6	3.0
SCC	2	1.0
Total	200	100

Reid's Colposcopic Score	Frequency	Percentage
Benign	135	67.5
Low Grade Lesion	42	21.0
High Grade Lesion	23	11.5
Carcinoma	0	0.0
Total	200	100

Histopathology	Frequency	Percentage
Normal	164	82.0
LSIL (Mild dysplasia)	22	11.0
HSIL (Moderate dysplasia)	11	5.5
SCC	3	1.5
Total	200	100

Reid Colposcopy Score	Histopathological Findings			
	Normal	LSIL	HSIL	SCC
Benign	124	7	4	0
	62.0%	3.5%	2.0%	0.0%
Low Grade Lesion	31	7	4	0
	15.5%	3.5%	2.0%	0.0%
High Grade Lesion	9	8	3	3
	4.5%	4.0%	1.5%	1.5%
Total	164	22	11	3
	82.0%	11.0%	5.5%	1.5%

Chi-square=52.58; P-value<0.001 (Significant)

Cytology	Histopathological Findings			
	Normal	LSIL	HSIL	SCC
NILM	150	10	5	0
	75.0%	5.0%	2.5%	0.0%
ASCUS	9	8	0	0
	4.5%	4.0%	0.0%	0.0%
LSIL	3	4	3	0
	1.5%	2.0%	1.5%	0.0%
HSIL	2	0	3	1
	1.0%	0.0%	1.5%	0.5%
SCC	0	0	0	2
	0.0%	0.0%	0.0%	1.0%
Total	164	22	11	3
	82.0%	11.0%	5.5%	1.5%

Chi-square=219.13; P-value<0.001 (Significant)

DISCUSSION

Cervical screening is easy because of its easily accessible anatomical position which allows effective screening and treatment of preinvasive state. In our study, maximum number of women i.e. 62.5% were in the age group of 30-39 years. Maximum number of patients i.e. 62(31%) were multiparous women, majority (50%) presented with complaints of vaginal discharge which was similar to study conducted by Agrawal A et al (2016)^[4] and Choudhary RD et al (2014).^[5]

In our study, LBC (liquid based cytology) was taken in all cases. It showed ASCUS in 8.5%, LSIL in 5%, HSIL in 3% and SCC in 1%. 82.5% were negative for intraepithelial lesion or malignancy (NILM) as similar to study conducted by. Choudhary RD et al (2014).^[5] Accuracy of LBC in our study was 85.6%. PPV and NPV were 60% and 90.9% respectively

Colposcopically, as per Reid's colposcopic scoring, 67.5% patients had features suggestive of benign lesion, 21% had low grade lesion and 11.5% had high grade lesion.

In our study, on correlating LBC findings with histopathology, out of 8.5% women with ASCUS on cytology, 4% had positive histopathological findings. Out of 5% patients with LSIL on LBC, 3.5% were having positive histopathological findings. Out of 3% patients with HSIL on LBC, 1.5% were positive on histopathological examination. LBC showed significant decrease in the rate of unsatisfactory smears (p value < 0.01).

5.5% patients which appeared normal on colposcopic evaluation had dysplasia on histopathology. 15.5% women with low grade lesion on colposcopy had negative histopathological findings. Out of 21% patients with low grade lesion, 3.5% had LSIL and 1.5% had HSIL on histopathology. 4.5% women with high grade lesion on colposcopy were negative histopathologically. 7% out of 11.5% women with high grade lesion had positive histopathological findings.

Sensitivity of LBC was found to be low i.e. 58.3% compared to its specificity which was 91.5%. Accuracy of LBC in our study was 85.6%. PPV and NPV were 60% and 90.9% respectively which was comparable to the study conducted by study conducted by Badri Lal Patidar *et al* (2017).^[6] Correlation between LBC and histopathology was significant as p value was < 0.01 . LBC showed significant decrease in the rate of unsatisfactory smear.

Sensitivity and specificity of colposcopy was 69.4% and 75.61% respectively. PPV and NPV were 38.4% and 91.9% respectively. Diagnostic accuracy was 74.5% similar to study conducted by Ashmita *et al* (2015).^[7] The strength of correlation between colposcopy and histopathology was significant as shown by p value < 0.01 .

CONCLUSION

Cervical cancer is the second common malignancy in females in India. The disease is preventable because of a long pre-invasive phase and easily accessible anatomical position. Therefore, all women referred with complaints of suspicious looking cervix should be examined and screened in a single visit because most of the women who undergo screening with cytology in developing countries like ours do not come for follow up or do not collect their reports in time thereby leading to delay in diagnosis and treatment. LBC shows an almost complete elimination of most causes of unsatisfactory smears by providing adequate

smear, clarity of background and increased specificity for detection of LSIL and HSIL lesions. On the other hand, colposcopic assessment is a critical step in the diagnosis of preinvasive cervical lesions, as the detection of abnormal cervical cytology is dependent on precise visual localization of micropathological changes and precise biopsy of such tissue for subsequent histopathological diagnosis. Therefore, use of single visit approach in which cytology, colposcopy and biopsy are all done in one sitting and treated accordingly will help us to detect a significant number of cases in premalignant state which may otherwise be missed if the above-mentioned screening methods are used individually.

REFERENCES

1. Sankarnarayanan R, Ferlay J. Worldwide burden of gynaecological cancer: the size of the problem. *Best Pract Res Clin Obstet Gynaecol*, 2006 Apr; 20(2): 207-25.
2. Parkin DM, Bray Ferlay J, Pisani P. Global cancer statistics, 2002. *CA Cancer J Clin*, 2005; 55: 74-108.
3. Solomon D, Davey D, Kurman R. The 2001 Bethesda System: terminology for reporting results of cervical cytology. *JAMA*, 2002; 287(16): 2114-9.
4. Agrawal A et al. Role of cytology, colposcopy and colposcopic directed biopsy in evaluation of unhealthy cervix *Int J reprod Contracep Obstet Gynecol*, 2016 Nov; 5(11): 3765-3769.
5. Chaudhary RD et al. Correlation of diagnostic efficacy of unhealthy cervix by cytology, colposcopy and histopathology in women of rural areas *Int J Reprod Contracept Obstet Gynecol*, 2014 Mar; 3(1): 213-218.
6. Badri Lal Patidar et al The comparative evaluation of LBC and conventional pap smear as a screening method of cervical cancer at tertiary care center JMSCR, March 2017; 5(3).
7. Ashmita D, Shakuntla PN et al Comparison and correlation of Pap smear, colposcopy and histopathology in symptomatic women and suspicious looking cervix in a tertiary care hospital care centre. *Int J Health Sciences Researchm*, 2013; 3(5): 50-59.