

Evaluation of unhealthy cervix in correlation with Pap smear colposcopy and Histopathology

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Abstract

Introduction: Cervical cancer is the most common gynecological malignancies in women. Incidence of cervical cancer according to GLOBOCAN 2020 is 13.3, mortality rate is 7.3. Unhealthy cervix is a group of cervical lesions, usually include chronic cervicitis, Endo cervicitis, cervical erosions, polyps and leukoplakia.

Aims & objectives: to detect the Pre-cancerous & Cancerous lesions of cervix.

To correlate Pap smear, Colposcopy & Histopathology.

Materials & methods: This retrospective study is conducted in women aged 18-65 with unhealthy cervix and was carried out at department of obstetrics and Gynaecology in Kamineni Academy of Medical Sciences and Research Centre, LB Nagar between Nov 2020 to May 2022.

Inclusion criteria

1. Age: 18-65 years.

2. Patients with abnormal symptoms like profuse white discharge, post coital bleeding, intermenstrual bleeding and post-menopausal bleeding.

3. Patients with abnormal pap smear reports.
4. Patients with unhealthy cervix diagnosed by speculum examination like cervical erosion, cervical polyps, condylomas.

Exclusion criteria

1. Women with frank invasive cancer.
2. Patients with bleeding at the time of examination.
3. Pregnant women.
4. Unmarried women.

Results

Table 1: Distribution of patients according to age

Age in years	No. of patients	%
<30	5	5
31-40	86	86
41-50	9	9
Total	100	100

Table 2: distribution of patients according to symptoms

Symptoms	No. of patients	%
White Discharge	86	86
Intermenstrual bleeding	5	5
Post coital bleeding	5	5
post-menopausal bleeding	4	4
Total	100	100

Table 3: distribution of patients according to clinical appearance of cervix

Clinical Appearance of Cervix	No. of patients	%
Cervix flushed with vagina	3	3
Endocervical polyp	2	2
Erosion	44	44
Hypertrophied cervix with erosion	30	30
Hypertrophied cervix bleeds on touch	21	21
Total	100	100

Table 4: pap smear results

PAP SMEAR	No. of patients	%
Normal	4	4
INF	78	78
LSIL	13	13
HSIL	5	5
Total	100	100

Table 7: correlation between colposcopy and biopsy

Colposcopy	Biopsy					Total
	Normal	Cervicitis/ metaplasia	Mild dysplasia	Moderate/ Severe dysplasia	Malignancy	
Normal	2(66.7%)	0(0%)	1(11.1%)	0(0%)	0(0%)	3(3%)
Inflammatory/Squamous metaplasia/erosion	1(33.3%)	56(72.7%)	2(22.2%)	1(14.3%)	0(0%)	60(60%)
Hazy/Faint acetowhite areas, fine punctations or mosaicism	0(0%)	11(14.3%)	4(44.4%)	0(0%)	0(0%)	15(15%)
Dense acetowhite areas, coarse punctations or mosaicism	0(0%)	4(5.2%)	2(22.2%)	5(71.4%)	2(50%)	13(13%)
Unsatisfactory	0(0%)	6(7.8%)	0(0%)	1(14.3%)	0(0%)	7(7%)
Malignancy	0(0%)	0(0%)	0(0%)	0(0%)	2(50%)	2(2%)

Table 5: colposcopy results

COLPOSCOPY	No. of patients (n=100)	%
Normal	3	3
Abnormal	97	97
Inflammation/squamous metaplasia/erosion	60	60
Hazy/faint acetowhite areas. Fine punctations or mosaicism	15	15
Dense acetowhite areas. Coarse punctations or mosaicism	13	13
Unsatisfactory	7	7
Malignancy (intense acetowhite lesion, coarse irregular punctations, cork screw vessels)	2	2

Table 6: biopsy results.

Biopsy	No. of patients (n=100)	%
Normal	3	3
Abnormal	97	97
A. Cervicitis	75	75
B. Chronic non- specific polypoidal Endocervicitis with Benign Polyp	2	2
C. Mild dysplasia	9	9
D. Moderate/Severe dysplasia	7	7
E. SCC	4	4

Table 8: diagnostic efficacy of pap smear

Pap smear	Biopsy		Total
	Positive	Negative	
Positive	10(50%)	8(10%)	18(18%)
Negative	10(50%)	72(90%)	82(82%)
Total	20(100%)	80(100%)	100(100%)

Table 9: diagnostic efficacy of colposcopy and biopsy

Colposcopy	Biopsy		Total
	Positive	Negative	
Positive	17(85%)	13(16.2%)	30(30%)
Negative	3(15%)	67(83.7%)	70(70%)
Total	20(100%)	80(100%)	100(100%)

Table 10: correlation between pap smear and biopsy

Pap Smear	Biopsy					Total
	Normal	Cervicitis	Mild dysplasia	Mod/Severe dysplasia	Malignancy	
Normal	2(66.7%)	2(2.6%)	0(0%)	0(0%)	0(0%)	4(4%)
Inflammatory	1(33.3%)	67(87.01%)	6(66.7%)	4(57.14%)	0(0%)	78(78%)
LSIL	0(0%)	8(10.3%)	2(22.2%)	2(28.57%)	1(25%)	13(13%)
HSIL	0(0%)	0(0%)	1(11.1%)	1(14.2%)	3(75%)	5(5%)
Total	3(100%)	77(100%)	9(100%)	7(100%)	4(100%)	100(100%)

Table 11: diagnostic efficacy of tests

	Sensitivity	Specificity	PPV	NPV	TP	FP	TN	FN	Accuracy
Pap Smear	50%	90%	55.50%	87.80%	10	8	72	10	82%
Colposcopy	85%	83.75%	56.60%	95.70%	17	13	67	3	84%

From the results of this study, it is evident that colposcopy and colposcopic guided biopsy is definitely more sensitive and accurate than Pap smear. By combining Pap smear with colposcopy and colposcopic guided biopsy, we can maximize the sensitivity and specificity of cervical cancer screening.

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