

Clinicopathological significance of Papanicolaou smear study in Postmenopausal women

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Abstract: Introduction: Cervical cancer is the most common cancer worldwide and a major fatal malignancy among women, mostly in developing countries. Human papilloma virus (HPV), a sexually transmitted oncogenic virus, plays a major role in the development of cervical cancer⁽¹⁾. Cervical cancer is readily preventable when effective programmes are conducted to detect and treat its precursor lesions⁽²⁾. Pap smear is a simple, safe, non invasive, economical and effective method for detection of precancerous, cancerous and other lesions of the cervix⁽³⁾. In India the peak age for cervical cancer is 55-59yrs. Elderly women are more likely to be diagnosed at a late stage due to lack of regular access to gynaecological care or cancer screening⁽⁴⁾. Mortality rate is higher in countries where screening and appropriate treatment facilities are not available⁽¹⁾. The aim of the present study is to determine the significance of cervical pap smear in postmenopausal women.

Aims and objectives: 1. To determine the prevalence of various cervical lesions in post menopausal women.

2. To study the distribution of cervical cancer among post menopausal women.

3. To assess the significance of screening in postmenopausal women

Material and methods: A prospective study was conducted in Department of Pathology of a tertiary care hospital from July 2016 to June 2018 after obtaining informed consent. A total of 520 smears were studied. Detailed clinical data is obtained from patients record. The prefixed conventional smears received from Department of Gynaecology were stained with Pap stain and studied. The cytospreads were reported using the cervical Bethesda system terminology.

Inclusion criteria: Postmenopausal women who attended Gynaecology clinic

-with complaints of white discharge, postmenopausal bleeding, pain abdomen etc.

-For routine screening

Exclusion criteria: Inadequate or Unsatisfactory smears

Women who had not giving consent

Results: Among 520 smears examined during the study period, most of the women presented with complaints of bleeding PV (27.11%), followed by prolapse (22.11%). NILM accounted for the majority of case (87.66%) and LSIL was the most common epithelial cell abnormality (4.80%) in our study. Highest number of epithelial cell abnormalities (27.11%) were seen in women with bleeding PV.

Conclusion: The most common presenting symptom in postmenopausal women is bleeding PV. NILM was the most common cytodagnosis. Of the epithelial cell abnormalities, LSIL was the most common followed by HSIL and SCC. SCC was diagnosed on Pap smear in 1.03% of asymptomatic women.

Key words: Pap smear, Post menopausal women, Epithelial cell abnormalities

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I. Introduction

Cervical cancer is the most common cancer worldwide and a major fatal malignancy among women, mostly in developing countries. Human papilloma virus (HPV), a sexually transmitted oncogenic virus, plays a major role in the development of cervical cancer⁽¹⁾. Cervical cancer is readily preventable when effective programmes are conducted to detect and treat its precursor lesions⁽²⁾. Pap smear is a simple, safe, non invasive, economical and effective method for detection of precancerous, cancerous and other lesions of the cervix⁽³⁾. In India the peak age for cervical cancer incidence is 55-59yrs. Elderly women are more likely to be diagnosed at a late stage due to lack of regular access to gynaecological care or cancer screening⁽⁴⁾. Mortality rate is higher in countries where screening and appropriate treatment facilities are not available⁽¹⁾.

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II. Aims And Objectives

- 1) To determine the Prevalence of various cervical lesions.
- 2) To study the distribution of cervical cancer among Postmenopausal women.
- 3) To assess the significance of screening in Postmenopausal women

III. Materials And Methods

A prospective study was conducted in Department of Pathology of a tertiary care hospital from July 2016 to June 2018 after obtaining informed consent. A total of 520 smears were studied. Detailed clinical data is obtained from patients record. The prefixed conventional smears received from Department of Gynaecology were stained with Pap stain and studied. The cytospreads were reported using the cervical Bethesda system terminology.

Inclusion criteria: Postmenopausal women who attended Gynaecology clinic
 -with complaints of white discharge, postmenopausal bleeding, pain abdomen etc.
 -For routine screening

Exclusion criteria: Inadequate or Unsatisfactory smears.
 Women who had not giving consent.

IV. Results

A total of 520 smears were examined during the study period. Out of 520 women, 81.35% were symptomatic and 18.65% were asymptomatic. Most of the women presented with complaints of bleeding PV (33.33%) followed by prolapse(27.18%), cervicitis(24.34%), Pain abdomen(8.03%) and white discharge(7.09%) (Table-1).

Table: 1- Chief presenting complaints in the study subjects:

S. NO	Chief complaints	No. of cases	Percentage
1.	Bleeding PV	141	33.33%
2.	Prolapse	115	27.18%
3.	Cervicitis	103	24.34%
4.	Pain abdomen	34	8.03%
5.	White discharge	30	7.09%
Total		423	100%

Among 141 smears taken from postmenopausal women with bleeding PV, the distribution of lesions were as shown in Table:2

Table:2- Distribution of lesions in Pap smear of Postmenopausal women with Bleeding PV:

S. NO	Type of lesion	No. of cases	Percentage
1	NILM	112	79.43%
	Normal smear	18	12.76%
	Bacterial vaginosis	1	0.70%
	Inflammatory smear	82	58.15%
	Atrophic smear	11	7.80%
2	ASCUS	2	1.41%
3	LSIL	11	7.80%
4	HSIL	13	9.21%
5	SCC	3	2.12%
Total		141	100%

HSIL was the most common epithelial cell abnormality in women with bleeding PV.

Table:3- Distribution of lesions in Pap smear of Postmenopausal women with prolapse:

S. NO	Type of lesion	No. of cases	Percentage
1	NILM	107	93.04%
	Normal smear	57	49.56%
	Infections	-	-
	Inflammatory smear	42	36.52%
	Atrophic smear	8	6.95%
2	ASCUS	1	0.86%
3	LSIL	1	0.86%
4	HSIL	5	4.34%
5	SCC	1	0.86%
Total		115	100%

Among 115 women with prolapse, 107 diagnosed with NILM and most common epithelial cell lesion was HSIL.

Table:4- Distribution of lesions in Pap smear of postmenopausal women with cervicitis:

S. NO	Type of lesion	No. of cases	Percentage
1.	NILM	88	85.43%
	Normal smear	11	10.67%
	Bacterial vaginosis	1	0.97%
	Candidiasis	2	1.94%
	Trichomaonas	2	1.94%
	Inflammatory smear	71	68.92%
	Atrophic smear	1	0.97%
2.	LSIL	9	8.73%
3.	HSIL	4	3.88%
4.	SCC	2	1.94%
Total		103	100%

LSIL was the most common epithelial cell abnormality in women who presented with cervicitis.

Table:5- Distribution of lesions in Pap smear of Postmenopausal women with Pain abdomen:

S. NO	Type of lesion	No. of cases	Percentage
1.	NILM	27	77.14%
	Normal smear	4	11.42%
	Bacterial vaginosis	1	2.85%
	Candidiasis	1	2.85%
	Inflammatory smear	20	57.14%
	Atrophic smear	1	2.85%
2.	LSIL	1	2.85%
3.	SCC	7	20%
Total		35	100%

SCC was the most common epithelial cell abnormality (20%) in women with pain abdomen.

Table-6- Distribution of lesions in Pap smear of Postmenopausal women with WDPV

S. NO	Type of lesion	No. of cases	Percentage
1.	NILM	28	93.33%
	Normal smear	10	33.33%
	Bacterial vaginosis	1	3.33%
	Candidiasis	2	6.66%
	Inflammatory smear	13	43.33%
	Atrophic smear	2	6.66%
2.	LSIL	1	3.33%
3.	HSIL	1	3.33%
Total		30	100%

Table-7- Distribution of lesions in Pap smear of Asymptomatic women

S. NO	Type of lesion	No. of cases	Percentage
1.	NILM	94	96.90%
	Normal smear	12	12.37%
	Infections	-	-
	Inflammatory smear	81	83.49%
	Atrophic smear	1	1.03%
2.	LSIL	2	2.06%
3.	SCC	1	1.03%
Total		97	100%

In an asymptomatic women, 2 cases were diagnosed as LSIL and one case was reported as SCC.

V. Discussion

A total of 520 smears were studied of which NILM accounted for the majority of cases (87.66%) and SCC accounted for 2.87%.

Table-8: Distribution of lesions in women with various symptoms and in an asymptomatic Postmenopausal women

Type of lesion	Bleeding PV	Prolapse	Cervicitis	Pain abdomen	WDPV	Asymptomatic	Total
NILM	21.53%	20.57%	16.92%	5.19%	5.38%	18.07%	87.66%
ASCUS	0.38%	-	-	-	-	-	0.58%
LSIL	2.11%	1.73%	1.73%	0.19%	0.19%	0.38%	4.80%
HSIL	2.50%	0.76%	0.76%	-	-	-	4.22%
SCC	0.57%	0.38%	0.38%	1.34%	0.19%	0.19%	2.87%
Total	27.11%	22.11%	19.80%	6.53%	5.76%	18.65%	100%

In one case of Asymptomatic women, SCC was diagnosed.

Highest number of epithelial cell abnormalities were seen in women who presented with Bleeding PV. LSIL was the most common epithelial cell abnormality in women presented with other symptoms and also in an Asymptomatic women. HSIL was the most common epithelial cell abnormality in women who presented with bleeding PV and prolapse.

LSIL and HSIL were highest among the women with Bleeding PV. Pain abdomen was the chief presenting complaint in SCC.

There were no cases of Non epithelial cell neoplasms in our study.

Table-9: Distribution of lesions in various studies:

Type of lesion	Reddy CB et al. ⁽⁵⁾	Sood R et al. ⁽⁴⁾	Akshatha et al. ⁽¹⁾	Present study
NILM	84.80%	96.7%	96.7%	87.66%
ASCUS	0.8%	0.8%	0.7%	0.58%
LSIL	9%	1.7%	1.4%	4.8%
HSIL	2.2%	0.8%	1.2%	4.22%
SCC	3.2%	-	-	2.87%
Total	100%	100%	100%	100%

In the present study NILM was more common when compared to epithelial cell abnormalities, which is concordant with that of Reddy CB et al. ⁽⁵⁾, Sood R et al. ⁽⁴⁾, Akshatha et al. ⁽¹⁾ studies.

LSIL is the most common epithelial abnormality in the present study, which is in concordance with study of Reddy CB et al. ⁽⁵⁾, Sood R et al. ⁽⁶⁾, Akshatha et al. ⁽¹⁾.

VI. Conclusion

- The most common presenting symptom in postmenopausal women is bleeding PV.
- NILM was the most common cytodiagnosis.
- Of the epithelial cell abnormalities, LSIL was the most common followed by HSIL and SCC.
- SCC was diagnosed on Pap smear in 1.03% of Asymptomatic women.

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