

**COLPOSCOPIC EVALUATION OF POST-MENOPAUSAL WOMEN WITH NORMAL CERVICAL CYTOLOGY****Dr. Uma Jain***

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ABSTRACT

1. Introduction The most common genital cancer seen in Indian women is Carcinoma cervix Its incidence is approximately 1 in 53 Indian women during their lifetime compared to 1 in 100 in developed countries. In women ≥ 50 years where the lifetime risk of cervix cancer is estimated as 3.5%, which can be reduced to 0.8% with screening. Pap smear evaluation alone is inadequate for predicting the precancerous lesions in postmenopausal women due to hypoestrogenic changes of menopause which makes it difficult to differentiate atrophic cellular changes from other pathologic conditions, giving more false negative results which can be reduced if combined with colposcopy examination and guided biopsy wherever needed **2. Aim & Objective** To diagnose intraepithelial lesions in postmenopausal patients with normal cytological findings and to assess the usefulness of cytological screening, colposcopy, and colposcopy-directed biopsy in these patients. **3. Material And Method-** A retrospective study was carried out from 1st January 2018 to 31 October 2022 at a colposcopy clinic, in district Shivpuri M.P. on 104 post-menopausal females of age group 45-68 years. After detailed history and examination, a pap smear in all 104 patients was taken. All patients with negative cytology reports for Intra epithelial lesions with persistent symptoms and suspicious signs were subjected to colposcopy. 23 Patients with positive Colposcopic findings were subjected to Colposcopic guided biopsy. histopathological evaluation was done. **4. Result** This study analyzed 104 postmenopausal patients who had Pap smear reports with NILM (Negative for intraepithelial Lesion or Malignancy). 58% of the patients were referred by other Doctors. The most common post-menopausal age group find in this study was between 45-55 (52.88%), Most of the patients were of a low socioeconomic group (54.81%), Multipara (3-5 parity 66.35%). with a history of menopause of 5-10 years (49.04%) duration. Only 5.77% of patients had 3 Pap smear reports with them, and a history of smoking was present in 6.73% of cases. The most common presenting symptom was discharge PV (47.11%) followed by Foul smelling bloody discharge (14.42%). Post-coital bleeding (12.5%), Post-menopausal bleeding (8.65%), and dyspareunia (4.80%). On colposcopy, (77.89%) of cases had normal Colposcopic findings while (22.11%) had abnormal Colposcopy findings. In 17.30% of cases, LSIL was suspected, in 4.80% of cases HSIL was suspected on colposcopy Colposcopy-guided biopsy was done in 23 (22.11%) patients with suspected CIN. On histopathology 9.61% of cases were positive for intraepithelial lesions, CIN1 was found in 7.69%, and CIN2 in 1.92%. Carcinoma in situ and Invasive carcinoma were not found in any case. 10(9.61%) out of 104 patients had cervical intraepithelial neoplasia diagnosed on colposcopy-guided biopsy and histopathology report. **5. Conclusion-** In our study, despite the Pap smear report as NILM (Negative for intraepithelial lesion or malignancy), 10(9.61%) out of 104 patients had cervical intraepithelial neoplasia diagnosed on colposcopy guided biopsy, thus we recommend, the combined use of cervix cytology, colposcopy, and histopathology in postmenopausal cervix cancer screening evaluation to improve the diagnosis of the cervical intraepithelial lesion.

KEYWORDS :**1. INTRODUCTION-**

The most common genital cancer seen in Indian women is Carcinoma cervix¹, Its incidence is approximately 1 in 53 Indian women during their lifetime, compared to 1 in 100 in developed countries.²

Cervix cancer is commonly diagnosed in women ≥ 50 years (In India, it is about 14% of the total population)³In unscreened or poorly screened women, where the lifetime risk of cervix cancer is estimated as 3.5%, which can be reduced to 0.8% with screening.^{4,5}

Most screening efforts have focused on women of reproductive age because cervical cancer precursors most often occur in younger women. However, precursors can take as long as 15-20 years to progress to invasive cancer, which often appears after the age of 50 years⁶

The Pap test is a simple and cost-effective cytology technique that is very commonly used for screening cervical cancer and pre-invasive lesions of the cervix. its sensitivity is 51% which increases to 86.8% after three tests.⁷ But it is inadequate for predicting the precancerous lesions in postmenopausal

women,⁸ as hypoestrogenic changes of menopause make it difficult to differentiate atrophic cellular changes from other pathologic conditions⁹. so atrophic smears may be responsible for more false negative results. Studies outside the United States had proved that Pap smear test sensitivity in detecting moderate-to-severe cervical dysplasia decreases with increasing age.^{10,11}

Cervical smear taken from postmenopausal women is more likely to be inadequate and unsuitable for reliable assessment. It often shows inflammatory background. In dry atrophic smear, cytoplasm frequently becomes eosinophilic, nuclear pyknosis and karyorrhexis can assume a significant proportion of it; there is poor cellular exfoliation, so inadequate sampling of the frequently small endocervical transformation zone.¹² There is a predominance of basal and parabasal cells with increased nuclear cytoplasm ratio and many cells shed their cytoplasm and appear as bare nuclei.¹³ Cell clumping and air-drying artifacts are also common. Endocervical glandular cells are often absent.^{12,13} All these features make it more difficult for the cytologist to assess the smear and identify dyskaryotic cells in an atrophic postmenopausal smear.¹³

In the last 15 years, diagnosis of CIN by Colposcopy in postmenopausal patients has markedly increased. Although in some postmenopausal patients, Colposcopy examination remains challenging due to the difficulty in the visualization of the transformation zone as it recedes inside the endocervical canal. Cervicocolpitis, pale cervix, which is hardly affected by application of acetic acid, pale-yellow staining of the cervix and vagina, after application of Schiller's iodine, (due to lack of glycogen in postmenopausal squamous epithelium). Sub-epithelial petechiae created during insertion of the speculum in thin friable and atrophic epithelium and smooth glandular epithelium with rare papillae^{12,14,15,16}.

In addition, while it has been reported that postmenopausal women with abnormal cervical cytology can be monitored in the same way as the general population, the colposcopy-guided biopsy is considered the gold standard in the evaluation of cervical lesions (Massed et al. 2013).¹⁷, The major advantage of colposcopy is to outline the most suspicious lesion on the cervix for guided biopsy for histopathological evaluation which was clinically accurate in 85% of cases.¹⁸

Biopsy report from the transformation zone in postmenopausal women shows thinner squamous epithelium with loss of glycogen, Lack of differentiation with little or no surface maturation, lifting and stripping of epithelium from the underlying stroma due to sub-epithelial infiltrate, presence of mainly basal-and parabasal-type cells, Absent or sparse stromal papillae, so trained histopathologist is must for diagnosis.

It has been shown that primary HPV DNA screening with cytology triage (cytological screening, colposcopy, and colposcopy-directed biopsy) is more specific than conventional cytology screening.¹⁹

2. AIM & OBJECTIVE

To diagnose intraepithelial lesions in postmenopausal patients with normal cytological findings and to assess the usefulness of cytological screening, colposcopy, and colposcopy-directed biopsy in these patients.

3. MATERIAL AND METHOD-

A retrospective cohort study was carried out from 1st January 2018 to 31 October 2022 at a colposcopy clinic, in district Shivpuri M.P. on 104 post-menopausal females of age group 45-68 years. Patients with a history of excessive vaginal discharge, foul-smelling bloody discharge, post-menopausal bleeding, post-coital bleeding, dyspareunia, low backache, and urinary symptoms were recruited for the study and screened. Patients were enquired about age, parity, socioeconomic status, age at marriage, duration of menopause, sexual history, H/O HIV, and any immunocompromised disease. All patients were enquired about previous reports of pap smears or any other examination. Cytological and colposcopy evaluation of the cervix was performed. Patients with H/O post cervix procedures such as excision biopsy, cryotherapy, mental illness, and unsatisfactory colposcopy were all excluded from the study.

Various problems were encountered during colposcopy in the study. 1. it was difficult to introduce speculum in some patients- due to atrophy of introitus, senile vulvitis, and senile vaginitis. 2. It was difficult to visualize the cervix and vault- due to a flushed cervix with a vaginal vault, relaxed vaginal walls, cervical descent, continuous bleeding from the cervix, and pain (due to senile vaginitis and atrophy of the vagina) in some patients.

Various corrective measurements have opted e.g. use of Sim's speculum and anterior vaginal wall retractor to

visualize the cervix/vault, use of extended lithotomy position to visualize the cervix, use of 2% xylocaine jelly to decrease pain, and oral/vaginal estrogen therapy before reviewing for colposcopy.

Pap smear was taken in all postmenopausal patients before the study. After getting cytological reports, patients were recruited for colposcopy examination according to suspicious signs and symptoms.

This study analyzed 104 postmenopausal patients who had Pap smear reports with NILM (Negative for intraepithelial Lesion or Malignancy). After counseling and written consent, the colposcopy was carried out with help of BORZE colposcope DVC 6000 of magnification of 7.5X and 15X. After inserting self-retaining Cusco's speculum (sometimes Sim's speculum and vaginal wall retractor were used) cervix was cleaned with normal saline, then examined with help of a green filter followed by 3% acetic acid and Lugol's iodine application. Margin, color, the appearance of blood vessels, size of the lesion, and iodine staining reaction were noted. Swede score was used for grading abnormal colposcopy findings. All results were noted and documented. In 23 patients with positive colposcopy findings (suspicious of the premalignant lesion), a biopsy was taken from the suspicious area and sent for histopathological examination. The result of the histopathological examination was noted.

The data were analyzed using IBM SPSS Ver.20 software. Cross-tabulation and frequency distribution were used to prepare tables. Data were expressed as numbers, percentages, and mean.

4. RESULT-

Table 1:-The Demographic Characteristics of Post menopausal patients. Distribution as per age group (N= 104)

Age	Frequency	Percent
45-55	55	52.88
55-65	34	32.69
>65	15	14.42
Total	104	100
Socio-economic	Frequency	Percent
High	14	13.46
Middle	33	31.73
Low	57	54.81
Total	100	100
Parity	Frequency	Percent
0	3	2.88
1-2	20	19.23
3-5	69	66.35
>5	12	11.54
Total	104	100
Duration of menopause	Frequency	Percent
<5	31	29.81
5-10	51	49.04
10-15	18	17.31
>15 years	4	3.85
Total	104	100
No. of Previous normal pap smear	Frequency	Percent
1	87	83.65
2	11	10.58
3	4	5.77
Total	104	100
Smoking (%)	Frequency	Percent
7	7	6.73

This study analyzed 104 postmenopausal patients who had Pap smear reports with NILM (Negative for intraepithelial Lesion or Malignancy). 58% of the patients were referred by other Doctors.

The most common post-menopausal age group found in this

study was between 45-55 (52.88%), Most of the patients were of the low socioeconomic group (54.81%), Multipara (3-5 parity 66.35%). with a history of menopause of 5-10 years (49.04%) duration. Only 5.77% of patients had 3 Pap smear reports with them, and a history of smoking was present in 6.73% of cases.

Table 2:- Distribution of presenting signs and symptoms

Sign-symptoms	Number	Percent
Discharge PV	49	47.11
Foul-smelling bloody discharge	15	14.42
Post-coital bleeding	13	12.5
Post-menopausal bleeding	9	8.65
Dyspareunia	5	4.80
Pain in abdomen	2	1.92
Backache	1	0.96
Others	10	9.61
Total	104	100

The most common presenting symptom was discharge PV (47.11%) followed by Foul smelling bloody discharge (14.42%). Post-coital bleeding was found in (12.5%), Post-menopausal bleeding (8.65%), and dyspareunia (4.80%) were found.

Table 3:-Colposcopic diagnosis (In all cases pap's smear from ectocervix and cytology after sampling with an endocervical brush was normal)

Findings	Number	Percent
No suspected CIA (Negative cases, No biopsy)	81	77.89%
Normal postmenopausal changes	52	50.0
Erosion (decubitus ulcer)	7	6.74
Cervical polyp	9	8.65
Cervicitis due to atrophy	13	12.5
Suspected CIN or more (Biopsy done)	23	22.11%
LSIL	18	17.30
HSIL	5	4.80
Invasive carcinoma	0	0
Total	104	100

(LSIL-Low grade squamous intraepithelial lesion, HSIL-High grade squamous intraepithelial lesion, CIS-Carcinoma in situ)

On colposcopy, (77.89%) of cases had normal Colposcopic findings while (22.11%) had abnormal Colposcopy findings. In 17.30% of cases, LSIL was suspected, and in 4.80% of cases, HSIL was suspected.

Table 4:-Histopathological Diagnosis of CIN suspected cases (No. 23)

Histopathology report	Number	Percent
Negative	13	12.5
Normal	4	3.84
Chronic cervicitis	8	7.69
Endocervicitis	1	0.96
Positive for intraepithelial lesion	10	9.61
CIN1	8	7.69
CIN2	2	1.92
CIN3	0	0
Invasive carcinoma	0	0

(Low grade squamous intraepithelial lesion, High grade squamous intraepithelial lesion, Carcinoma in situ)

Histopathology was done in suspected CIN Cases found on Colposcopy. On histopathology, 9.61% of cases were positive for intraepithelial lesions. CIN1 was found in 7.69%, and CIN2 in 1.92%. Carcinoma in situ and Invasive carcinoma were not found in any case.

4. DISCUSSION-

Cervical cancer is the second most frequently occurring cancer worldwide in women after breast carcinoma. However, invasive cancer of the cervix is considered to be a preventable condition as it is associated with a long pre-invasive stage (CIN) making it amenable to screening and treatment. The atrophic changes after menopause cause symptoms mimicking malignancy of the lower genital tract. Due to the presence of genital atrophy in elderly women, lesser programs are implemented for postmenopausal women. Therefore it has limited diagnostic methods such as colposcopy and smear, because of these reasons the risk of invasive cervical cancer have been continued to increase with age.

Cervical cancer screening usually ends after 65 years of age but many women reach menopause before they become too old for the screening process. This will inevitably lead some women to need colposcopy post menopause, especially if they have not received any regular screenings in their younger years and any cervical abnormalities progressed.

Colposcopy plays a major role in the management of premalignant lesions of the cervix, which can be detected by abnormal cytology. It is an essential part of the cervical screening program.

In the present study, we analyzed 104 postmenopausal patients who had Pap smear reports with NILM (Negative for intraepithelial Lesion or Malignancy). 58% of the patients were referred by other doctors.

The most common post-menopausal age group found in this study was between 45-55 (52.88%). A study done by Bhadarka N et al²⁰ also concluded that the most common age group in their study was greater than 51 years of age.

The present study concluded that most of the patients were of the low socioeconomic group (54.81%), similar to Bhadarka Net al²⁰ where the majority of women belonged to lower socioeconomic status (51.4%),

In this study, most of the women were multipara (3-5 parity 66.35%). In a study conducted by Subedi K et al²¹ the most common parity was 3 to 4. This is the same as concluded in our study.

In our study, most of the women had a history of menopause of 5-10 years (49.04%) duration. Demir B et al²² concluded in their study that most women had a menopausal period of 5.7 to 6.5 years.5.77% of patients had 3 Pap smear reports with them.

In this study, a history of smoking was present in 6.73% of cases. A study conducted by Dogan K et al²³ concluded that 8.7% of postmenopausal women were smokers. This finding is in accordance with our study.

The most common presenting symptom in this study was discharge PV (47.11%) followed by foul-smelling bloody discharge (14.42%). Post-coital bleeding was found in (12.5%), Post-menopausal bleeding (8.65%), and dyspareunia was found in (4.80%) of cases. In a study conducted by Subedi K et al²¹ abnormal vaginal discharge was the most common symptom (77%) which was the same as in our study. Jyothi R et al²⁴ concluded in their study that the most common complaint was discharge PV (63.5%) followed by foul-smelling discharge (15%). these findings are similar to the findings seen in our study. Another study done by Kaur A et al²⁵ concluded that post-menopausal bleeding was the most common symptom (50%), their finding was different from our study.

On colposcopy, (77.89%) of cases had normal Colposcopic findings while (22.11%) had abnormal Colposcopy findings. A

study conducted by Jammalamadaka A et al²⁶ revealed that 30% of cases had significant lesions (positive group) and 70% had inflammation (negative group). In 17.30% of cases, LSIL was suspected and in 4.80% of cases, HSIL was suspected. Jyothi R et al²⁴ observed in their study that LSIL was seen in 15% of cases and HSIL was seen in 7.5% of cases. Misra JS et al²⁷ found that the incidence of LSIL & HSIL was 9.1% and 2.2% respectively. According to Satija A et al²⁸, LSIL was reported in 35 (7.00%), and HSIL was reported in 5 (1.00%). Kannan A et al²⁹ in their study concluded that LSIL was diagnosed in 5% of women and HSIL was seen in 1.5%. All these studies suggest that LSIL was more common as compared to HSIL.

In our study, histopathology was done in suspected CIN Cases found on Colposcopy. On histopathology, 9.61% of cases were positive for intraepithelial lesions. CIN I was found in 7.69%, and CIN 2 in 1.92%. Carcinoma in situ and Invasive carcinoma were not found in any case. Dogan K et al²³ concluded that CIN I was found in 16.3% of cases and CIN II was present in 8.9% of cases. It can be concluded that certain conditions lead to an unsatisfactory colposcopy in postmenopausal women. Some of them are incomplete visualization of the transformation zone (TZ) due to its recession within the cervical canal and stenosis of the external os, severe inflammation which leads to trauma and bleeding during swabbing of the cervix, and inability to properly visualize the cervix due to severe atrophy of the vagina. These findings of our study were in accordance with the problems and pitfalls revealed in the study done by Jammalamadaka A et al²⁶.

5. CONCLUSION-

In our study, despite the Pap smear report as NILM (Negative for intraepithelial lesion or malignancy), 10 (9.61%) out of 104 patients had cervical intraepithelial neoplasia diagnosed on colposcopy-guided biopsy and histopathology report. Sometimes it is difficult to detect dyskeratotic cells in postmenopausal patient's cytology smear because of atrophic smear with inflammatory background, poor cellular exfoliation, inadequate sampling of the small endo-cervical transformation zone, the predominance of basal and parabasal cells, presence of bare nuclei. In these patients undetected mild epithelial abnormality will progress to invasive disorders which can be easily prevented if Cytology is combined with colposcopy examination and guided biopsy in suspicious individuals, thus we also recommend, the combined use of cervix cytology, colposcopy, and histopathology in postmenopausal cervix cancer screening evaluation to improve the diagnosis of the cervical intraepithelial lesion. If it is coupled with available HPV diagnostic tests, the incidence of mortality due to cervical cancer can be drastically reduced.

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