Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/jptcp.v31i3.5296

INCIDENCE OF ENDOMETRIAL CANCER IN WOMEN WITH POST MENOPAUSAL BLEEDING ON HYSTEROSCOPIC ENDOMETRIAL SAMPLING

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Abstract

Background and Aim: Endometrial carcinoma (EC) is the most common cancer among women in developed countries, accounting for approximately five percent of all cancer cases and exhibiting a global morbidity rate of up to 2% in women. The present study aimed to determine the frequency of endometrial cancer in women with postmenopausal bleeding (PMB) on hysteroscopic guided dilatation and curettage at a tertiary care hospital in Karachi.

Patients and Methods: A descriptive cross-sectional study was carried out on 149 post-menopausal bleeding patients in the Obstetrics and Gynecology Department at Liaquat National Hospital, Karachi. Patients (age >45 years) with postmenopausal bleeding who underwent hysteroscopy guided dilatation and curettage were enrolled. Patient age, past medical and gynecological history, medical records, and endometrial thickness on ultrasound, pathology, and diagnosis were recorded. SPSS version 22 was used for descriptive statistics.

Results: The overall mean age of patients was 56.28±8.46 years. Patients were distributed based on their age groups as follows; 44 (29.5%) in 45-55 years, 86 (57.7%) 56-65 years, and 19 (12.8%) >65 years. Majority of patients 112 (75.2%) belonged to rural areas and 88 (59.1%) were illiterate. The incidence of nulliparous and multiparous was 43% (n=64) and 57% (n=85) respectively. Of the total 149 PMB cases, the incidence of malignancy was 20.1% (n=30). Benign endometrial polyps was the most prevalent 56 (37.6%) histopathological findings on hysteroscopy followed by uterine cancer (polypoidal growth) 30 (20.1%), simple hyperplasia and cystic hyperplasia 28 (18.8%), hyperplasia with atypia 19 (12.8%), normal-proliferative endometrium 9 (6%), and benign endocervical polyps 7 (4.7%). Out of 30 polypoidal growth cases, the incidence of endometrial adenocarcinoma, endocervical carcinoma, and uterine sarcoma (large polypoidal growths) was 22 (73.3%), 3 (10%), and 5 (16.7%) respectively.

Conclusion: The present study found that the incidence of malignancy was 20.1% in PMB women. The gold standard protocol for PMB cases consists of hysteroscopy-guided curettage with subsequent histopathological examination.

Keywords: Endometrial cancer, post-menopausal bleeding, hysteroscopy, incidence

INTRODUCTION

Endometrial cancer in developed countries is the most prevalent in gynecologic cancer, accounting for 5% of cancer cases, and 2% mortality caused by cancer [1]. Post-menopausal bleeding (PMB) is a prominent symptom in 90% of women diagnosed with Endometrial cancer; however, less than 10% of women who develop PMB have a malignant cause [2-4]. Current guidelines from the National Institutes of Health recommend immediate screening for symptomatic postmenopausal women, although guidelines remain unclear for postmenopausal women Factors existing methods for diagnosing PMB, such as transvaginal ultrasound, pelvic examination, and/or outpatient pelvic examination, present their advantages as well as disadvantages [5].

Hysteroscopy provides direct visualization of the uterus with the use of a microbore scope, enabling acute diagnosis and therapeutic procedures such as targeted biopsies and polypectomy. It is also indicated for those with recurrent or prolonged bleeding or when random cervical examination is not diagnostic [6]. Hysteroscopy as a clinical treatment is more cost-effective and effective when touched a single clinical stop as the best method for diagnosing unexplained postmenopausal bleeding (PMB) [7]. In a study by Garuti et al [8] , hysteroscopy image correctly identified endometrial cancer in 514 cases (54.2%), while ophthalmic biopsy pathology agreed with the correct diagnosis in 722 cases (76.2%) , classified as polyp, hyperplasia or others underestimated this resulting in a sensitivity of 54.2%, a specificity of 47.2%, and an accuracy of 54%. Available data on this aspect are limited, reflecting gaps in the current understanding of the frequency of such abnormalities. Additionally, there is paucity of data regarding the frequency of endometrial cancer in postmenopausal bleeding women on hysteroscopy-guided dilatation and curettage in our population, as there is no local study published during the last 5 years in this regard. Therefore, it is important to investigate the recent status of it in our country, which was helpful in the early diagnosis of endometrial cancer in postmenopausal bleeding women on hysteroscopy-guided dilatation and curettage.

METHODOLOGY

A descriptive cross-sectional study was carried out on 149 post-menopausal bleeding patients in the Obstetrics and Gynecology Department at Liaquat National Hospital, Karachi. Patients (age >45 years) with postmenopausal bleeding who underwent hysteroscopy guided dilatation and curettage were enrolled. The sample size was calculated based on WHO calculator by taking the following parameters: P= 54.2% [8], Confidence level=95%, Margin of error= 8%, Sample size (n) = 149 number of women with postmenopausal bleeding. Women with diagnosed CA Breast, on HRT, and any other gynecologic malignancy were excluded. Brief history regarding demographic variables like age, name and medical record number & parity, place of residence, education status and occupation were noted. On hysteroscopic examination, all these women were evaluated for endometrial cancer. Informed consent was obtained, and a physical examination and relevant laboratory tests were performed. Hysteroscopy and endometrial curettage were conducted under general anesthesia, and the biopsy/ curettings were sent for histopathological assessment. The slides underwent review and classification based on contemporary pathological criteria.

SPSS version 22 was used for descriptive statistics. Frequencies and percentages were computed for categorical variables like parity, place of residence (urban/rural), education status (illiterate/ primary/ intermediate/ graduation or more), occupation (housewife/ working woman), endometrial cancer (yes/no). Values were presented as mean ± standard deviation for continuous variables like age and duration of postmenopausal bleeding. Effect modifier like age, parity, place of residence, education status, occupation, and duration of postmenopausal bleeding was controlled through stratification. Chi-square test was used to check the effect of effect modifiers on the outcome i-e frequency of endometrial cancer. $P \leq 0.05$ was considered level of significance.

RESULTS

The overall mean age of patients was 56.28±8.46 years. Patients were distributed based on their age groups as follows; 44 (29.5%) in 45-55 years, 86 (57.7%) 56-65 years, and 19 (12.8%) >65 years. Majority of patients 112 (75.2%) belonged to rural areas and 88 (59.1%) were illiterate. The incidence of nulliparous and multiparous was 43% (n=64) and 57% (n=85) respectively. Of the total 149 PMB cases, the incidence of malignancy was 20.1% (n=30). Benign endometrial polyps was the most prevalent 56 (37.6%) histopathological findings on hysteroscopy followed by uterine cancer (polypoidal growth) 30 (20.1%), simple hyperplasia and cystic hyperplasia 28 (18.8%), hyperplasia with atypia 19 (12.8%), normal-proliferative endometrium 9 (6%), and benign endocervical polyps 7 (4.7%). Out of 30 polypoidal growth cases, the incidence of endometrial adenocarcinoma, endocervical carcinoma, and uterine sarcoma (large polypoidal growths) was 22 (73.3%), 3 (10%), and 5 (16.7%) respectively. Baseline details of patients are shown in Table-I. Patient's distribution based on their age groups are illustrated in Figure-1. Different histopathology found in hysteroscopy are demonstrated in Figure-2. Hypertension and diabetes was the most prevalent comorbidities found in patients as shown in Figure-3. Table-II represents polypoidal growth cases.

Table-I Baseline characteristics of patients

Variables	Values [Mean ± SD]
Age (years)	56.28±8.46
Residential status N (%)	
Rural	112 (75.2%)
Urban	37 (24.8%)
Educational Status N (%)	
Illiterate	88 (59.1%)
Primary	12 (8.1%)
Intermediate	17 (11.4%)
Graduation or more	32 (21.5%)
Parity N (%)	
Nulliparous	64 (43%)
Multiparous	85 (57%)

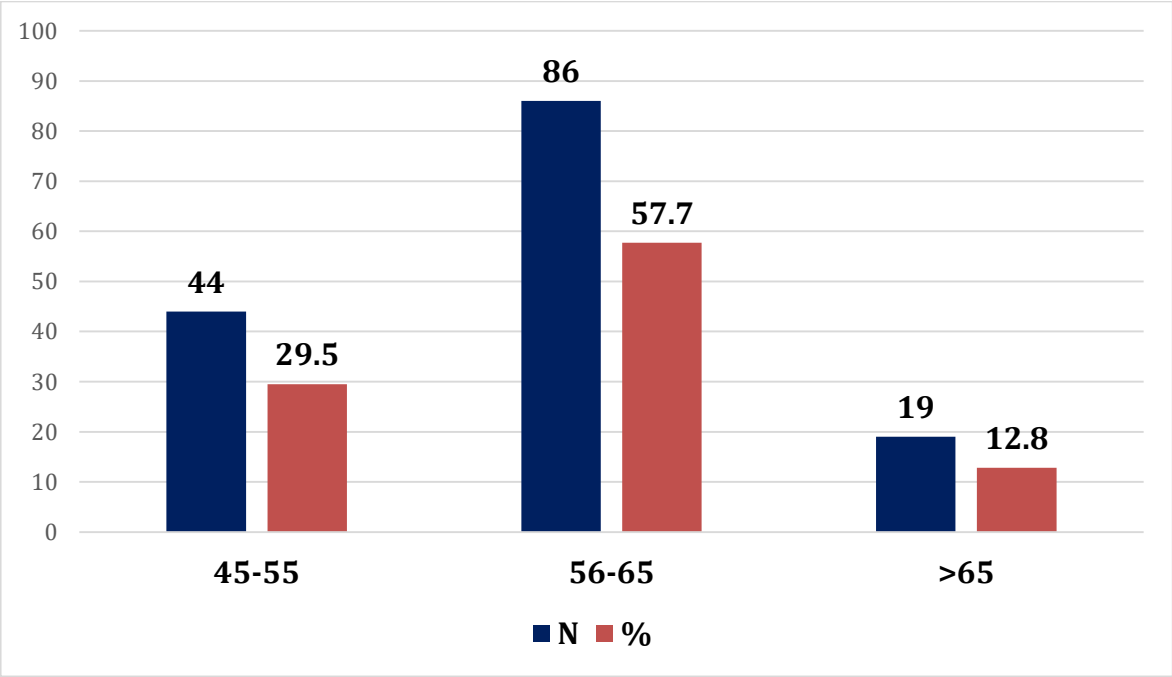

Figure-1 Patients distribution based on their age groups (N=149)

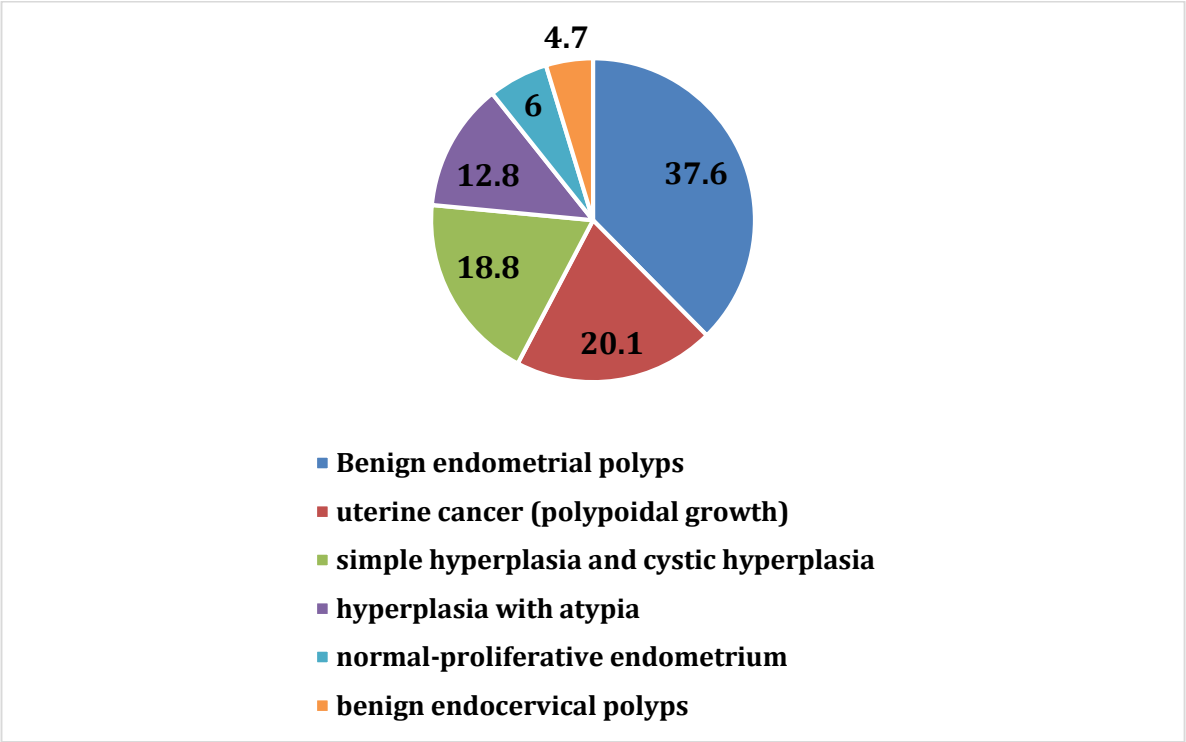

Figure-2 histopathology findings on hysteroscopy

Table-II polypoidal growth cases (N=30)

Polypoidal growth cases	N (%)
Endometrial adenocarcinoma	22 (73.3%)
Endocervical carcinoma	3 (10%)
Uterine sarcoma (large polypoidal growths)	5 (16.7%)

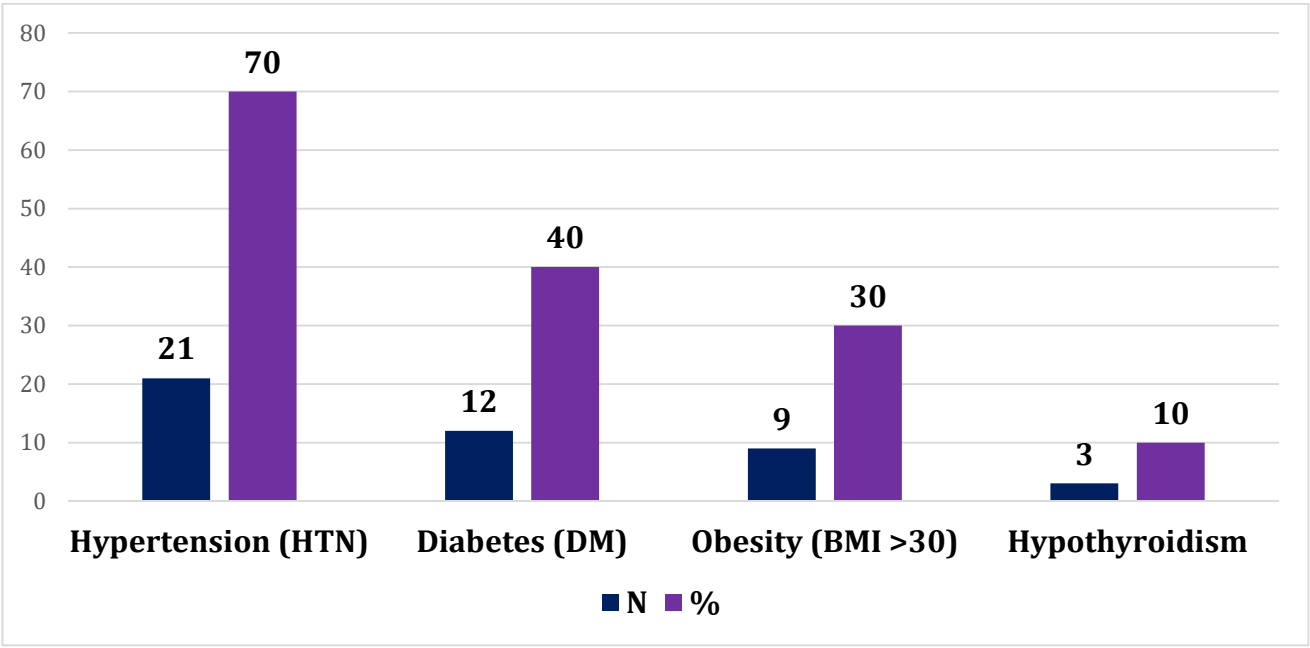

Figure-3 Comorbidities (N=30)

DISCUSSION

The present study mainly focused on the incidence of endometrial cancer in postmenopausal bleeding (PMB) on hysteroscopic-guided dilatation and reported that the incidence of malignancy was 20.1%. Benign endometrial polyps was the most prevalent histopathological findings on hysteroscopy followed

by uterine cancer (polypoidal growth). Combined hysteroscopy and endoscopy will enable curettage with near 100% histopathology. Specific diagnosis of endometrial carcinoma is premalignant lesions. The findings parallel those of Devabhaktuni et al, wherein malignancy was detected in 16% of cases [9]. Endometrial cancer is the sixth most common cancer in women and the 15th most common cancer. Irregular or abnormal vaginal bleeding, especially postmenopausal bleeding, is commonly seen in women 45 years of age and older. The estimated incidence of such bleeding is surprisingly high in postmenopausal women. Endometrial carcinoma stands out as the most common malignancy found in the female uterus [10].

Although the primary focus in the evaluation of postmenopausal bleeding is endometriosis, it is important to recognize that bleeding can originate from a variety of sources, including the uterus, vagina, or abdomen. Physicians are often challenged to assess underlying malignancy, although bleeding often results from benign conditions. A study of 50 patients in Pakistan reported a prevalence of malignancy of 30%, with cervical and cervical cancers occurring at equal rates with benign disease at 48%, pre-existing conditions at 14%, there was undiagnosed disease in 8% of cases [11].

Several predictive models have been developed including transvaginal ultrasound, power Doppler, and hysteroscopy [12, 13]. However, these samples were either underpowered or included reports of studies that were difficult to implement in a primary care setting. Predictive models that do not rely on tests such as ultrasound, hysteroscopy, dilatation & curettage will be valuable in hospitals where affordable tests are not readily available. Clear referral guidelines would be useful for early detection of cancer. Higher negative predictive values, especially in FAD31 scores less than 4, may help prioritize referrals to secondary care, allowing low-risk women to be assigned as the endometrial cancer will be metastasized at an early stage [14].

Lee Y. L. et al. [15] reported a rare diagnosis of endometrial carcinosarcoma (2%) associated with successful hysteroscopy in 98% cases (44/45). This technique was used in postmenopausal women with bleeding from uterine origin. Multinu et al. [16] recorded the findings of 295 cases of postmenstrual bleeding and reported endometrial malignancies were found in 15 cases (5.08%), and atypical hyperplasia was found in 6 cases (2.03%) when endometrial curettage was performed with hysteroscopy guidance.

Cervical carcinosarcomas, also known as malignant mixed mesodermal tumors, exhibit high aggressiveness and are traditionally considered a sarcoma subtype with recent evidence suggesting that most of these tumors are of monoclonal origin, challenging the concept of true collision tumors. The sarcomatous stage is thought to originate from the cancer itself or from abnormally differentiated stem cells and, consequently, cervical cancer sarcomas are equally classified as metaplastic carcinomas. Immuno-histochemical and molecular studies have revealed their epithelial origin [17].

The most common endometrial soft tissue tumors are benign leiomyoma, other soft tissue tumors such as soft tissue tumors of unknown malignant potential, and leiomyosarcoma [18]. Zhang et al. reported dramatic abnormalities in asymptomatic patients, including 10 mm. Asymptomatic uterine fibroids in postmenopausal women, as detected by ultrasound examination, often pose a challenge in clinical management [19]. Despite the relatively low incidence of uterine cancer in nonbleeding women ideal most associated with early diagnosis.

When a woman presents with the first episode of postmenopausal bleeding at more than or equal to 10 years, the relative risk of endometrial cancer was found to be significantly increased [20]. In our study, both diabetes and hypertension were identified as significantly associated with endometrial cancer.

Hyperplasia without atypia is considered reassuring in terms of histology, given its low risk (1-3%) of progressing to endometrial cancer [21]. Consequently, routine follow-up for this patient group is typically not recommended. In contrast, atypical hyperplasia poses a significant risk of progression to carcinoma, with an 8% risk for simple atypical hyperplasia and a higher 29% risk for complex atypical hyperplasia [22].

CONCLUSION

The incidence of malignancy was 20.1% in PMB women. The gold standard protocol for PMB cases consists of hysteroscopy-guided curettage with subsequent histopathological examination.

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