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Case Report

Postmenopausal Vaginal Bleeding with Cystic Endometrial Changes: A Case Report

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Abstract

Postmenopausal bleeding (PMB) is a common gynecological complaint requiring prompt assessment due to the potential risk of underlying pathology such as endometrial hyperplasia or malignancy. We present a case report of a 58-year-old postmenopausal woman with a six-month history of moderate to severe vaginal bleeding. Gynecological imaging, including ultrasound and MRI pelvis, revealed a thickened, heterogeneous endometrium with internal cystic spaces, raising suspicion for an endometrial polyp or neoplasia. Pre-operative laboratory evaluation showed mild normocytic anemia and a slightly elevated BUN level, but no signs of infection or systemic illness. Based on clinical findings and risk stratification, the patient underwent hysterectomy with bilateral salpingo-oophorectomy. Histopathological examination of the excised specimen revealed adenomyosis and chronic cervicitis, with no evidence of malignancy. This case highlights the importance of early detection and appropriate surgical intervention in patients with postmenopausal bleeding to rule out serious pathology and guide effective management.

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Introduction

Postmenopausal bleeding (PMB) refers to any bleeding that takes place after a woman has experienced 12 consecutive months without a menstrual period, provided she is not undergoing hormone therapy (HT). Women who are on continuous hormone therapy involving progesterone and estrogen may experience irregular vaginal bleeding, particularly during the initial six months of treatment. This bleeding is expected to resolve within one year [1]. The World Health Organization indicates that the majority of women undergo menopause between the ages of 45 and 55, which is a natural aspect of biological aging characterized by the cessation of ovarian follicular function and a reduction in circulating estrogen levels in the blood [2].

Bleeding after menopause is one of the primary reasons for referrals to gynecological services [3, 4], primarily due to concerns regarding a potential underlying endometrial cancer. Postmenopausal bleeding is a prevalent issue in gynecology, affecting 5% to 10% of postmenopausal women. Of those experiencing this symptom, about 10% may have a malignancy, primarily endometrial or cervical cancer, while ovarian cancer is less common [4]. A retrospective study's results show that the main cause of postmenopausal bleeding is benign, with endometrial hyperplasia without atypia being the most common. In contrast, endometrial adenocarcinoma was the most frequently observed malignant cause. Thus, raising awareness among postmenopausal women is crucial [5].

Case Presentation

A 58-year-old postmenopausal woman, Gravida 8 Para 7 + 1 (G8P7A1), presented in the gynaecology clinic of a secondary care hospital with a complaint of vaginal bleeding for the last 6 months. The bleeding was moderate to severe in amount, with mild pain radiating to the back.

The patient, an overweight individual (BMI-27), had non-vesicular breath sounds and normal heart sounds (S1 and S2). Vital signs: BP- 135/90 mmHg, temperature 37°C, respiratory rate of 24 breaths per minute, and a pulse rate of 95 beats/minute. She was a known case of cholelithiasis. She has been post-menopausal for the last 15 years.

The patient, before visiting this secondary care hospital, went to another clinic, where she was first advised ultrasound of the pelvis. The ultrasound result showed thickened heterogeneous appearing endometrium with an ill-defined junctional zone and multiple internal cystic spaces (Figure 1), and a Magnetic Resonance Imaging (MRI) pelvis was ordered.

A B C

Figure 1: The ultrasound result showed thickened heterogenous appearing endometrium with ill-defined junctional zone and multiple internal cystic spaces.

A: Longitudinal view of the uterus showing thickened, heterogeneous endometrium with internal cystic spaces.
B: Transverse views highlighting irregular endometrial texture and multiple small cysts.
C: Sagittal view showing ill-defined junctional zone and distorted endometrial contour.

Endometrial hyperplasia or neoplasia was suspected on MRI, which showed an enlarged endometrial cavity measuring 41.4 mm. Pre-operative laboratory evaluation was conducted for a comprehensive assessment.

The complete blood count (Table 1) reveals mild anemia, indicated by a hemoglobin level of 10.9 g/dL and hematocrit of 34.3%, both below normal ranges. The red blood cell count is also slightly reduced. Other red cell indices, such as MCV and MCH, are within normal limits, suggesting normocytic, normochromic anemia. White blood cell count and differential are within normal limits, showing no evidence of infection or inflammation. Platelet count is normal, indicating adequate clotting potential.

Table 1: Complete Blood Count

Tests	Results	Normal Range
Hemoglobin	10.9 g/dl	(13.7-16.3)
Hematocrit	34.3 %	(41.9-48.7)
R.B.C	3.94 x10E12/L	(4.5-6.5)
M.C.V	86.8 fL	(76.0-96.0)
M.C.H	27.6 pg	(26-32)
M.C.H.C	31.7 g/dL	(32-36)
T.L.C	7.3 x10E9/L	(4.0-10.0)
Lymphocytes	42 %	(20-45)
Neutrophils	50 %	(40-75)
Eosinophils	02 %	(1-6)
Monocytes	06 %	(2-10)
Platelets	203 x10E9/L	(150-400)

The patient's BUN is mildly elevated at 24 mg/dL, which may suggest early signs of prerenal azotemia or increased protein catabolism. Serum creatinine is within normal range, indicating preserved renal function. Electrolyte levels are largely normal, except for a slightly low serum sodium (134 mmol/L), which could reflect mild hyponatremia. Bicarbonate is at the upper end of normal, possibly pointing to a compensatory metabolic process or a mild alkalotic state (Table 2).

Table 2: Serum Electrolytes and Blood Urea Nitrogen (BUN)

Tests	Results	Normal Ranges
BUN	24mg/dl	(6-20)
Serum Creatinine	0.65 mg/dl	(0.5-1)
Serum Sodium	134mmol/L	(136-145)
Serum Potassium	3.9 mmol/L	(3.5-5.1)
Serum Chloride	103 mmol/L	(98-107)
Serum Bicarbonate	29 mmol/L	(20-31)

After non-significant pre-operative results, a Total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed in the secondary care hospital. It was uneventful, and the patient was kept under observation for 24 hours post-operatively.

During recovery, she was kept nil per os (NPO) for 8 hours and received the following medications: tranexamic acid 500 mg IV every 8 hours, metronidazole 500 mg IV every 8 hours, ceftriaxone 1 g IV every 12 hours, and 5% dextrose IV fluids for maintenance. The excised specimen (Figure 2) was sent for pathological evaluation and displayed adenomyosis and mild chronic cervicitis.

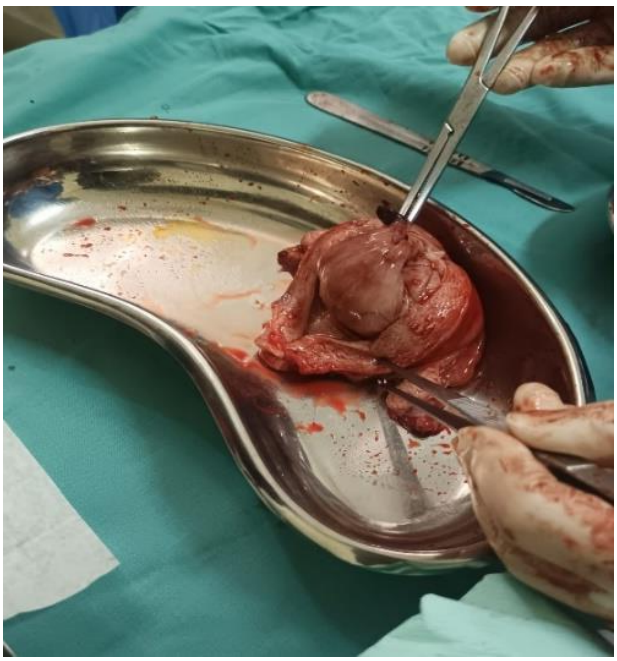

Figure 2: The excised specimen was sent for pathological evaluation. It displayed adenomyosis and mild chronic cervicitis.

On discharge the following day, she was prescribed cefixime 400 mg orally once daily, omeprazole 40 mg orally once daily,

serratiopeptidase (Danzen) 10 mg orally three times daily, and Nuberol Forte (orphenadrine citrate 35 mg + paracetamol 450 mg) orally twice daily for pain management.

Discussion

PMB refers to uterine bleeding that takes place after a woman has experienced at least 12 months of amenorrhea. The primary causes of PMB are intrauterine factors, although a small number of cases can be associated with ovarian tumors [6]. A 58-year-old postmenopausal woman (G8P7A1) with a history of irregular vaginal bleeding and endometrial cystic abnormalities is the subject of this clinical case. She was found to have moderate chronic cervicitis, adenomyosis, and a large endometrial polyp.

Women who experience their first episode of PMB should be evaluated by either transvaginal ultrasound (TVUS) or endometrial sample. According to the American College of Obstetricians and Gynecologists (ACOG), if a TVUS is done and the endometrial thickness (ET) is 4 mm or less, no endometrial sample is needed. However, women whose ET is greater than 4 mm are recommended to undergo endometrial tissue biopsy [7]. In this case, the initial ultrasound revealed a thickened, heterogeneous endometrium with numerous internal cystic regions, raising concerns about possible endometrial hyperplasia or neoplasia. A subsequent MRI revealed a significantly enlarged endometrial cavity measuring 41.4 mm, significantly exceeding the 4 mm criterion set by ACOG, even though the ultrasound report did not specify the exact ET. This finding increased the clinical suspicion of a potential cancer, necessitating additional care.

Furthermore, studies show that PMB is more common in women who are multiparous and is strongly associated with diabetes, hypertension, and obesity [3, 8]. In this case, the woman was categorized as high-risk for endometrial disorders due to her multiparous history (G8P7A1), overweight status (BMI 27, weight 80 kg), and hypertension (135/90 mmHg). These risk factors, which are associated with estrogen dominance, chronic inflammation, and metabolic abnormalities, may lead to endometrial hyperplasia, adenomyosis, and polyp formation. This example highlights the importance of a thorough risk assessment in PMB scenarios, which supports earlier research.

According to ACOG guidelines, the appropriate course of action after the abnormal ultrasound would have been an endometrial biopsy. In this case, however, the patient did not undergo endometrial screening beforehand and instead went straight to surgical intervention, namely a total abdominal hysterectomy with bilateral salpingo-oophorectomy. The severity of the patient's symptoms, the imaging results, and clinical judgment that supported a definitive therapeutic strategy may have all played a role in the decision to proceed with surgery. A prospective cohort study revealed that out of 593 women experiencing PMB, 18 (3.0%) were diagnosed with endometrial intraepithelial neoplasia (EIN), while 47 (7.9%) had endometrial cancer (EC). The findings indicated that women with recurrent PMB faced greater risks of developing EIN and EC, with rates of 4.5% and 10.1%, respectively, compared to those who had a first episode of PMB, which showed rates of 0.5% and 5.1% ($P = 0.002$) [7]. These results highlight the necessity of comprehensive assessment in all PMB cases, considering the possibility of hidden premalignant or malignant conditions.

Postmenopausal women can still present with adenomyosis, which is characterized by the presence of endometrial glands and stroma outside of their typical location inside the myometrium. Its identification in this patient suggests a chronic illness that persisted after menopause, even though it is often associated with menorrhagia and dysmenorrhea in premenopausal persons. Furthermore, although it is regarded as a secondary issue, the persistent cervicitis mentioned in the histology report could have contributed to her symptoms.

In this case, the histopathological examination showed a large endometrial polyp on the posterior uterine wall, along with signs of adenomyosis and chronic cervicitis. While it is well-known that polyps can lead to postmenopausal

bleeding, they can also be completely asymptomatic and might only be found during imaging or surgical procedures. A recent study found that polyps were the most commonly identified endometrial lesions in both women experiencing PMB and those who were asymptomatic but had a thickened endometrium. Among the asymptomatic group, polyps made up 76.6%, followed by hyperplasia without atypia at 7.4% and endometritis at 6.4% [9]. This emphasizes the dual nature of polyps—they are a frequent cause of bleeding but often remain unnoticed until a transvaginal sonography (TVS) is performed or histological confirmation is obtained. These findings highlight how crucial it is to consider endometrial polyps when diagnosing postmenopausal women who have abnormal imaging results or ongoing symptoms.

This case underscores the critical role of comprehensive diagnostic evaluation in PMB. The preliminary imaging results suggested the possibility of endometrial hyperplasia or neoplasia, leading to an MRI that reinforced the necessity for intervention. Considering the ambiguous risk of malignancy and the patient's clinical symptoms, a total abdominal hysterectomy along with bilateral salpingo-oophorectomy was carried out. Although standard guidelines usually advocate for endometrial sampling before conclusive surgery, tailored management may be required in situations involving considerable endometrial thickening, high-risk patient profiles, and strong clinical suspicion of malignancy [10].

Limitations

One significant drawback of this case is the lack of preoperative endometrial sampling, which might have offered a clearer risk evaluation prior to surgery. Furthermore, endometrial hyperplasia or neoplasia was suspected on MRI, although the combination of benign findings — including a large endometrial polyp, adenomyosis, and chronic cervicitis — was detected through histopathological examination. It is still unclear which of these was the primary source of PMB, as it could be either an incidental or causative discovery. This limitation underscores the need for consistent adherence to guideline-recommended endometrial sampling in PMB cases, even in high-suspicion scenarios. Future studies should investigate the effectiveness of advanced imaging techniques in differentiating benign cystic endometrial alterations from malignant tumors in postmenopausal women, which could enhance diagnostic and treatment approaches.

Conclusion

This case highlights the importance of conducting a comprehensive diagnostic evaluation in cases of PMB. Although imaging indicated potential concerns for endometrial hyperplasia or neoplasia, the histopathological findings revealed benign conditions such as a large endometrial polyp, adenomyosis, and chronic cervicitis. This situation serves as a reminder that imaging and histopathological findings do not always match, so it is important to keep a broad differential diagnosis in mind. Tailoring clinical judgment based on risk factors and the severity of symptoms is key to determining the most appropriate management strategy for each patient. This study also underscores the need for standardized protocols recommending preoperative endometrial thickness biopsy in all cases of PMB to avoid unnecessary surgical intervention and to prevent delayed diagnosis of malignancy.

Disclosures

Author Contributions

Dr. Saba Pario contributed to the conception of the case, clinical management, and drafting of the initial manuscript. Aman Advani conducted the literature review, contributed to the original manuscript draft, and assisted in formatting. Dr. Kamran Ali participated in radiological data interpretation, contributed to the original manuscript draft, and helped correlate imaging findings with the clinical presentation. Ali Qaisar Jadoon contributed to data collection and patient history documentation. Saad Ahmed Mughal, the corresponding author, supervised the overall project, coordinated between team members, performed editing, and revision of the manuscript for intellectual content. Prof. Parveen Hussain (FRCOG) provided expert clinical guidance, supervision, and final approval of the manuscript. Kunal Kumar reviewed and interpreted the histopathological findings and contributed to the

diagnostic discussion. All authors have read and approved the final version of the manuscript and agree to be accountable for the integrity and accuracy of the work.

Conflict of Interest
None

Declaration
None

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