



Giant endometrial polyp in a post-menopausal woman: a rare case report from Nepal

Kailash Mani Pokhrel^{a,*}, Popular Pokhrel^b, Utsha Mulmi^a, Kapil Khanal^a, Anup Panthi^a, Suraj Aryal^a, Asmita Ghimire, MBBS MD^c

Introduction: Endometrial polyps (EPs) result from the overgrowth of endometrial glands and stroma. Giant endometrial polyps, defined as those exceeding 4 cm, are rare, and their association with phytoestrogen (PE) intake is infrequently reported.

Case presentation: The authors present a case of a giant endometrial polyp in a 59-year-old post-menopausal woman from Nepal. The patient presented with lower abdominal pain and a history of vaginal spotting. She was not under any drugs or medications, including hormones, but had a regular intake of PE-rich foods. Imaging revealed a giant endometrial polyp and a uterine fibroid. Total abdominal hysterectomy and bilateral salpingo-oophorectomy (TAH-BSO) were performed and histopathology examination confirmed the diagnosis of endometrial polyp and fibroid.

Discussion: In our case, the patient's increased age and PE-rich diet were identified as potential risk factors for the giant endometrial polyp. Giant endometrial polyps are rare, with limited cases reported to date, often associated with tamoxifen or raloxifene use. Phytoestrogens can exhibit oestrogenic effects, contributing to endometrial polyps. This case emphasizes the importance of further research to explain the relationship between phytoestrogen intake and giant endometrial polyps.

Conclusion: Giant endometrial polyps are uncommon, and their association with phytoestrogen intake remains underexplored. Clinicians should consider dietary factors in history while evaluating endometrial polyps, and further research is necessary to explore the potential role of phytoestrogens in the development of giant endometrial polyps.

Keywords: case report, giant endometrial polyp, phytoestrogen

Introduction

Overgrowth of endometrial glands and stroma leads to the formation of endometrial polyps (EPs). The most common symptom of endometrial polyp is abnormal uterine bleeding and the prevalence of polyp in patients with abnormal uterine bleeding ranges from 10 to 40%^[1]. The exact pathogenesis of polyps remains unclear. EPs are usually smaller than 2 cm, and those exceeding 4 cm are classified as giant endometrial polyps^[2]. Although endometrial polyps are common, only a handful of cases of giant endometrial polyps have been reported to date^[3]. Among those reported giant endometrial polyps cases, even fewer cases have reported the association between phytoestrogens (PE)

HIGHLIGHTS

- This case presents a rare occurrence of a giant endometrial polyp in a post-menopausal woman from Nepal.
- Unlike conventional cases linked to pharmaceuticals, this report underscores the significance of phytoestrogen-rich foods in the formation of giant endometrial polyps.
- The recognition of phytoestrogen-rich foods as potential contributors to giant endometrial polyps emphasizes the need for broader dietary assessments in clinical practice.

and giant endometrial polyps^[2]. In this case report, we present a rare instance of a giant uterine polyp associated with phytoestrogen in a post-menopausal woman from Nepal. This case report is drafted in line with the SCARE 2023 guidelines^[4].

Case presentation

A 59-year-old female (P2L2) presented to the gynaecological outpatient department with a complaint of lower abdominal pain for the past 6 months. Despite having undergone menopause 9 years ago, she reported a history of vaginal spotting over the last 4 years. For this complaint, she had been undergoing annual Pap smear tests, all of which yielded negative results for intraepithelial lesions or malignancy. However, she had not approached any gynaecologist regarding her lower abdominal pain until now.

The patient, with a history of two full-term normal vaginal deliveries, denied any use of drugs, especially hormone derivatives, recent intercourse, or vaginal trauma. Her medical history revealed no major diseases or prior surgeries, and there was no family history of cancer. Her dietary history revealed that she had

^aMaharajgunj Medical Campus, Institute of Medicine, Tribhuvan University,

^bB.P. Koirala Institute of Health Sciences, Dharan, Nepal and ^cDepartment of Obstetrics and Gynecology, Tribhuvan University Teaching Hospital, Kathmandu

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*Corresponding author. Address: Institute of Medicine, Tribhuvan University, Maharajgunj, Kathmandu Nepal. P.O. Box 1524. Tel.: +977 986 707 8118. E-mail: kailashmanipokhrel@iom.edu.np (K. M. Pokhrel).

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been consuming soybeans, chickpeas, and lentils regularly since her childhood, along with daily intake of turmeric, garlic, ginger, and onion, which are rich in phytoestrogens.

On general physical examination, she had normal blood pressure (100/70 mmHg) and a normal BMI of 24.16 kg/m². Abdominal examination revealed mild tenderness in the lower abdomen without evidence of ascites or organomegaly. Speculum examination showed the cervix and vagina smeared with blood. Bimanual pelvic examination revealed a retroverted uterus, approximately eight weeks in size, with free bilateral fornices and no palpable adnexal masses. All other physical examinations were normal. Subsequent systemic evaluations, including kidney, liver, and thyroid function tests, and urine routine examination showed normal results. Her triglycerides (TGs) (140 mg/dl), high-density lipoprotein (HDL) (65 mg/dl), random blood sugar (RBS) (117 mg/dl), and HbA1C (6.1%) were normal. She was not taking any medication for hypertension, dyslipidemia, and diabetes mellitus. Furthermore, serological assessments for human immunodeficiency virus, hepatitis B surface antigen, and syphilis were all negative. Chest X-ray, ECG and echocardiography findings were also normal. Ultrasonography of the abdomen and pelvis showed thickened endometrium with heterogeneous echo texture, measuring ~25 mm in thickness (Fig. 1A).

For further evaluation of the case, an MRI scan of the abdomen and pelvis was performed which showed well defined lobulated subserosal T2 low signal intensity lesion in the left anterolateral uterine body, measuring 4.2 × 3.6 × 3.6 cm, giving an impression of subserosal uterine fibroid. A heterogeneous signal intensity lesion measuring 5.6 × 2.9 × 2.5 cm was also noted in the uterine cavity. Eccentric T2 high signal intensity components were seen within the lesion with no evidence of diffusion restriction. These findings suggest an endometrial polyp. [Fig. 1B].

The patient underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy (TAH-BSO). The surgery was uneventful. Gross examination of the specimen revealed a pedunculated smooth grey-brown mass inside the uterine cavity

measuring 5.5 × 3 × 2.5 cm in size and another tan-coloured subserosal mass measuring 4.2 × 3.6 × 3.6 cm in size (Fig. 2A). On the cut section, cystic degeneration was seen in the fibroid and haemorrhagic areas were identified in the polypoidal mass (Fig. 2).

Microscopy examination of the polypoidal mass revealed numerous endometrial glands lined by a single layer of flattened epithelium embedded in the fibrous stroma. Some of the glands were cystically dilated. No nuclear atypia, mitosis, or dysplasia was observed in the glandular epithelium. The stroma exhibited many dilated and thick-walled blood vessels, spindle fibroblast-like cells, and extracellular connective tissue, findings suggestive of benign endometrial polyp (Figure 3A). Sections from the myometrium showed a mass with interlacing bundles and fascicles of smooth muscle cells suggestive of uterine fibroid. (Figure 3B).

Based on these histopathological findings, a final diagnosis of a giant endometrial polyp with subserosal fibroid was made. The postoperative period of the patient was uneventful. On follow-up after 2 weeks, her previous symptoms completely resolved and there were no fresh complaints. The patient remained in good health after 1 year of follow-up.

Discussion

Endometrial polyps are due to the overgrowth of endometrial glands and stroma. The prevalence of polyps in patients with abnormal uterine bleeding ranges from 10 to 40%^[1]. While the prevalence in apparently asymptomatic patients is 12%^[5]. Studies have shown that endometrial polyps are more common in patients with fibroid^[5,6]. The exact cause of the association is not known to date^[5]. Increased age (≥ 45 years), presence of hypertension, and cervical polyps are associated with co-occurrence of endometrial polyps and uterine fibroids^[6]. In our case, increased age was a risk factor for co-occurrence of endometrial polyps and uterine fibroids, among above mentioned associated factors.

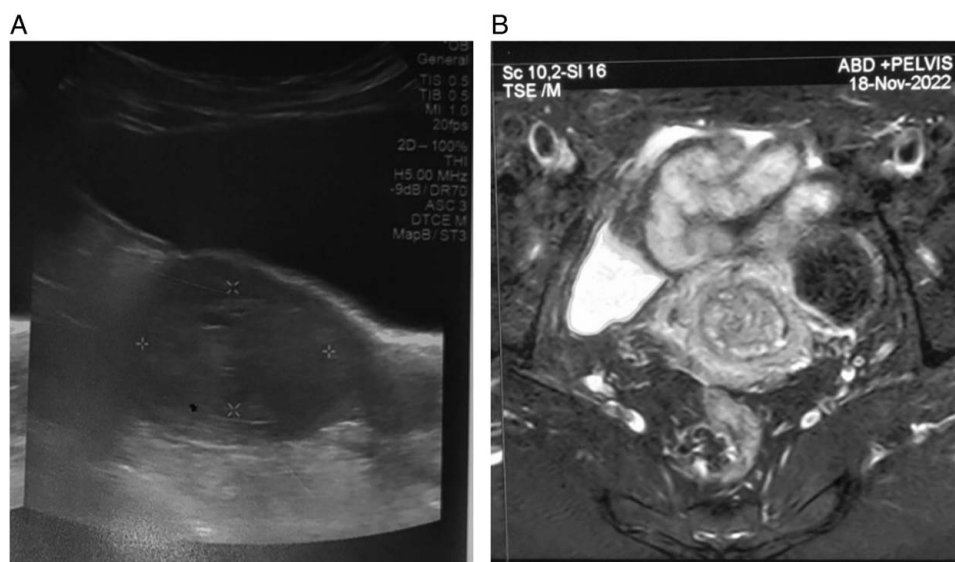


Figure 1. (A) Ultrasonography of the abdomen and pelvis showing thickened endometrium. (B) MRI of abdomen pelvis showing uterine fibroid in left anterolateral uterine body and endometrial polyp in the uterine cavity.

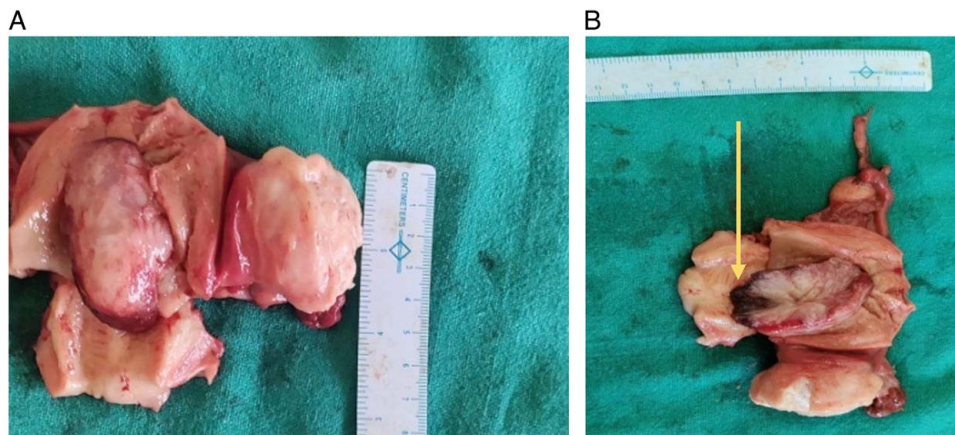


Figure 2. (A) Gross specimen after total abdominal hysterectomy and bilateral salpingo-oophorectomy showing polypoidal mass (on the right side) and cut section of fibroid (on the left side). Scale to measure the size of the mass. (B) Cut section of polypoidal mass showing haemorrhagic areas (shown in arrow).

A retrospective study revealed that abnormal uterine bleeding is the most common symptom of women with endometrial polyp and uterine fibroid, followed by lower abdominal pain. Other symptoms are pelvic pressure, dysmenorrhoea, and urinary symptoms^[6]. In our case, the patient presented with abnormal uterine bleeding and lower abdominal pain.

The exact pathogenesis of endometrial polyps is not known to date. A systematic semi-quantitative review showed that endometrial polyps arise mostly because of oestrogen hypersensitivity in some endometrial areas, caused by a hyper-activation of the beta-oestrogen receptor (ER β) on the alpha receptor (ER α). Other risk factors for endometrial polyps are aging, BLC-2 expression,

obesity, tamoxifen intake, unbalanced oestrogen therapy, and imbalance between oestrogen and progestins^[7].

Endometrial polyps greater than 4 cm are considered giant endometrial polyps^[2]. Hence, our case was a giant endometrial polyp. Giant endometrial polyps are rare variants of classical polyps. Only a handful of cases have been reported in the literature so far and mostly associated with tamoxifen and raloxifene treatment^[3,8]. This is the first case of a giant endometrial polyp reported from Nepal.

Phytoestrogens are plant-derived phytochemicals that are functionally and structurally similar to 17 β -estradiol (isoflavones) or synthetic estrogens such as diethylstilboestrol

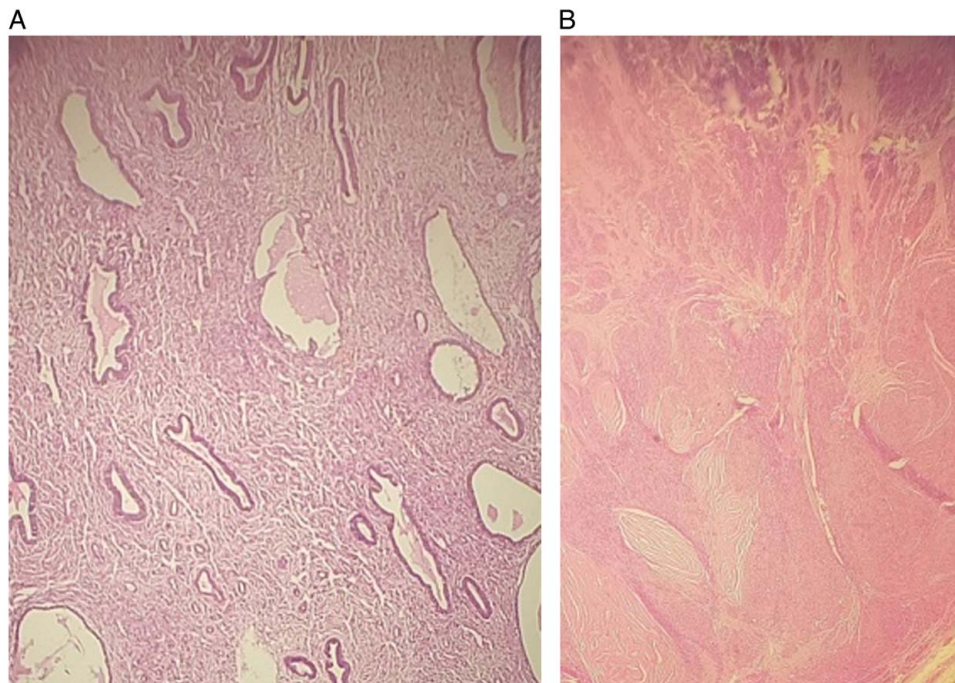


Figure 3. (A) Variable-sized endometrial glands with spindled fibroblast-like cells stroma and many dilated and thick-walled blood vessels. (B) Interlacing bundles and fascicles of smooth muscle cells.

(lignins). Phytoestrogens (PEs) are rich in legumes, grains, nuts, and other fibre-rich foods and PEs are present as glycosides in these foods^[9]. Unfer *et al.*^[10] stated that PEs show an agonist, a partial agonist, or an antagonist character depending on the different patterns of activation of the ER α /ER β . Also, when the intake of PEs is prolonged, the agonist character would be more evident. Zava and colleagues documented that the top six herbs exhibiting the highest affinity to ERs include Soy, Licorice, Red clover, Thyme, Turmeric, Hops, and Verbena. In general, they found that ER-binding herbal extracts are agonists, much like estradiol^[11]. Isoflavones are found in soybeans, chickpeas, and lentils, and are thought to be potent estrogens of the PEs^[12]. To date, only a few cases with giant endometrial polyps due to long-term use of phytoestrogen are reported^[2,8].

Our patient was a 59-year-old post-menopausal female. The increased age may be associated with the formation of the giant EP in the patient. Increased age could be the potential confounding factor that might contribute to the development of giant endometrial polyps in post-menopausal women. Metabolic syndrome and higher BMI are associated with a higher risk for the development of endometrial polyps^[13]. Metabolic syndrome was ruled out by normal TGs, HDL, RBS, and HbA1C. Also, our patient had a normal BMI. She was not taking any drugs on a long-term basis. She denied any hormonal therapy and use of any Selective OEstrogen Receptor Modulators (SERMs) like tamoxifen and raloxifene, which are shown to be associated with giant endometrial polyps^[8]. Our patient gave a history of consumption of turmeric, garlic, ginger, onion, soybeans, chickpeas, and lentils regularly on her diet, which is rich in PEs. The consumption of PE-rich diet might be the possible cause of giant endometrial polyp. Further studies need to be conducted to add more evidence to this.

Conclusion

This case report presents a rare occurrence of a giant endometrial polyp associated with phytoestrogen in a post-menopausal woman. Notably, a woman with a normal BMI and no metabolic syndrome and the absence of prior hormones or tamoxifen or raloxifene use underscores the potential role of phytoestrogen-rich foods in the development of such polyps. The potential association between dietary factors and giant endometrial polyps might help in the prevention of such polyps in women with other risk factors for endometrial polyps. This case highlights the importance of considering dietary influences in giant endometrial polyp formation and emphasizes the need for further research to clear up the mechanisms behind the association between phytoestrogen intake and giant endometrial polyps.

Ethical approval

This case report did not intervene with patient's treatment plans and hence it did not require ethical approval.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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Author contribution

Conceptualization: K.M.P. Patient management: A.G., K.M.P., K.K. Writing—original draft: K.M.P., P.P., U.M., K.K. Writing—review and editing: K.M.P., A.G., P.P., U.M., K.K., A.P., S.A. Visualization and supervision: A.G. All authors have read and agreed to the final version of the manuscript.

Conflicts of interest disclosure

There are no conflicts of interest.

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None.

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Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Provenance and peer review

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