

# Polypoid endometriosis: A rare variant and a mimic of ovarian malignancy

Neha Kumar, Nidhi Nayyar, Deepasha Garg, Rajan Duggal, Narottam Khadaria

## ABSTRACT

**Introduction:** Polypoid endometriosis is a rare form of endometriosis, distinct from classical or usual endometriosis. Unlike usual endometriosis which usually presents in young women, polypoid endometriosis occurs more commonly in postmenopausal women. It mimics malignancy and simulates ovarian cancer, not only on preoperative investigations but also intraoperatively, causing a diagnostic dilemma.

**Case Report:** We describe here, a case of polypoid endometriosis that was presumed to be a case of ovarian cancer with peritoneal dissemination preoperatively. Contrast enhanced computed tomography (CT) scan revealed bilateral solid-cystic adnexal lesions, moderate ascites, and peritoneal thickening. Serum CA-125 was 1057 U/mL and serum HE4 was 88 pmol/L. Due to high index of suspicion of malignancy, the patient was taken

for exploratory laparotomy and underwent hysterectomy with bilateral adnexectomy with excision of deposits over pouch of Douglas and both ureters and excision of adherent thickened omentum. Intraoperative frozen section as well as the final histopathology was reported as polypoid endometriosis.

**Conclusion:** It is imperative for the gynecologist, oncologist, and pathologist to know of this rare benign entity and distinguish it from ovarian malignancy, in order to avoid radical surgery and overtreatment. Surgery with complete removal of all lesions is the cornerstone of management of polypoid endometriosis and the patients generally have a good prognosis.

**Keywords:** Cancer mimic, Endometriosis, Ovarian cancer, Polypoid endometriosis

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## INTRODUCTION

Polypoid endometriosis is an uncommon variant of endometriosis, more commonly found in postmenopausal women, which mimics an ovarian malignancy both preoperatively and intraoperatively. It has histological features akin to an endometrial polyp and most commonly affects the ovaries, colon, mesentery, uterine serosa, cervical canal, vaginal mucosa, fallopian tubes, ureters, bladder peritoneum, and paraurethral and

paravaginal regions [1]. Here, we report a case of ovarian polypoid endometriosis that resembled ovarian cancer on preoperative clinical features and radiological imaging as well as on the intraoperative gross findings. Intraoperative frozen section and the final histopathology confirmed this rare benign entity.

## CASE REPORT

A 36-year-old woman with previous two normal deliveries presented with complaints of abdominal distension and bloating sensation for seven days. She had past history of an endometriotic cyst 10 years back, for which she received GnRH analogs for 3 months followed by laparoscopic left ovarian cystectomy. She was asymptomatic thereafter and was not on any follow-up or hormonal therapy for the same.

The ultrasound done at the time of presentation of current complaints revealed a 10×6×5 cm solid cystic lesion in left adnexa with few calcific foci within it and moderate ascites. The serum CA-125 and HE 4 values were elevated 1057 U/mL and 88 pmol/L, respectively. Rest of the tumor markers namely, carcinoembryonic antigen (CEA), CA-19.9, alpha-fetoprotein (AFP), Beta human chorionic gonadotropin (HCG), and lactate dehydrogenase (LDH) were within normal limits. Contrast enhanced CT scan of whole abdomen showed solid cystic mass lesions in bilateral adnexa (left 11.3×7.1×8.8 cm; right 5.0×3.4×5.8 cm) extending into pouch of Douglas, bilateral tiny anterior sub-diaphragmatic lymph nodes, moderate free fluid in abdomen, and peritoneal thickening (Figure 1A and B).

In view of high index of suspicion for malignancy, the patient was taken up for exploratory laparotomy. Intraoperative findings showed a 10×7 cm polypoidal, exophytic left adnexal mass adherent to left ureter, bulky right ovary with few cysts on ovarian surface, deposits present over uterus, both ureters, ovarian fossae, appendix and pouch of Douglas, thickened omentum and around 750 mL of serosanguinous ascitic fluid. Left adnexal mass was excised and sent for frozen section which was reported as polypoidal endometriosis (Figure 2A).

Type I hysterectomy with bilateral adnexectomy with adhesiolysis, excision of deposits over pouch of Douglas and both distal ureters, excision of adherent thickened omentum, appendectomy, and bilateral DJ stenting was done. Final histopathological report was suggestive of polypoidal endometriosis presenting as left adnexal mass and causing extensive hemorrhagic deposits in pouch of Douglas, left parametrium and right and left ureters with endometriosis of right adnexa (Figure 2B). Immunohistochemistry was positive for estrogen receptor (ER) and CD10, ER highlighting the benign endometrial glands and CD10 the surrounding endometrial stroma. The postoperative period was uneventful and bilateral DJ-stents were removed after six weeks. The patient

received two doses of injection Leuprolide Depot 11.25 mg, and has had follow-up visits till 18 months post-surgery. She has been disease-free and symptom-free till present.



Figure 1: Contrast-enhanced CT scan (A: axial section, B: coronal section) showing left adnexal mass, bulky right adnexa, ascites, and peritoneal thickening.

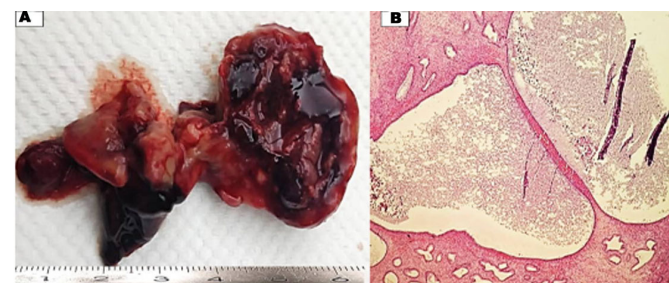


Figure 2: (A) Photo panel shows hemorrhagic polypoidal tissue fragment in gross morphology. (B) Microscopy shows polyp composed of few cystically dilated endometrial glands with intervening fibrocellular stroma. There is no evidence of dysplasia or invasive malignancy. Hematoxylin & Eosin, original magnification × 20.

## DISCUSSION

Polypoid endometriosis is a rare variant of endometriosis presenting as polypoidal mass(es) which may be misinterpreted as a neoplasm, preoperatively on clinical examination and imaging, intraoperatively on gross examination, and postoperatively on pathological assessment. It occurs over a wide age range (23–78 years) but more commonly in the postmenopausal women (mean age 52.5 years), unlike usual or classical endometriosis which is commoner in younger women [1]. The usual symptoms are abdominal pain, vaginal bleeding, and urinary symptoms like frequency, hematuria, and urgency. The clinical presentations include pelvic mass, vaginal polypoid mass, large bowel obstruction, or an incidental finding in hysterectomy with bilateral salpingo-oophorectomy specimen. The most common sites of involvement are large bowel and its mesentery, ovary, uterine serosa, vaginal and cervical mucosa, ureter, fallopian tube, omentum, bladder, paraurethral and paravaginal regions, and the retroperitoneum [1].

The term “polypoid endometriosis” was coined by Mostofizadeh and Scully for a distinct type of

endometriosis with histopathological features simulating an endometrial polyp [2]. Nearly half the cases occur in a milieu of exogenous hormone intake, including hormone replacement therapy (unopposed estrogen or mixed estrogen-progestin), tamoxifen (which acts as an estrogen agonist on endometrium) or after the withdrawal of GnRH analogs (used in the treatment of usual endometriosis) [1, 3–5].

The imaging of choice is an magnetic resonance imaging (MRI) where the lesion appears as a T2 hyperintense polypoidal mass with a T2 hypointense peripheral rim. On contrast enhancement, the pattern appears similar to that of endometrium and there is lack of diffusion restriction [6].

In this case, the patient was a young 36-year-old woman, with prior history of use of GnRh analogs for three months followed by left ovarian cystectomy for endometriotic cyst done 10 years back. Although MRI is the imaging of choice, there was a high index of suspicion for malignancy in this case, with the ultrasound showing a large solid cystic adnexal mass and moderate ascites, and hence a contrast CT scan of the whole abdomen was ordered. The benign nature of the left adnexal mass on frozen section report was informed to the patient's relatives, but they opted for removal of the bulky right ovary and uterus instead of only right ovarian cystectomy followed by close surveillance.

Histopathological presentation of polypoid endometriosis includes presence of polypoid tumor-like masses projecting from a serosal or mucosal surface or the lining epithelium of an endometriotic cyst. On gross examination, the lesions are fleshy with cystic changes and hemorrhage. Microscopic examination shows endometrial glands and stroma with a variety of architectural patterns in glandular epithelium. The most common glandular pattern is simple cystic and noncystic hyperplasia without atypia. Other patterns include simple or complex hyperplasia with atypia, disordered proliferation, and cystic atrophy. Epithelial metaplasia (tubal, mucinous, papillary, and squamous), hemorrhage, fibrosis, hemosiderin laden histiocytes, and decidual changes are also present. In some cases, the lesion may resemble an intrauterine endometrial polyp. Stromal cell atypia is generally absent and most of the cases are found in the proliferative phase stroma. The main differential diagnosis in a case of polypoid endometriosis is a mullerian adenosarcoma. Unlike adenosarcoma, polypoid endometriosis lacks periglandular stromal hypercellularity, stromal papillae, and stromal atypia.

In the largest series of 24 cases of polypoid endometriosis reported by Parker et al., synchronous or contiguous usual type endometriosis was found in 75% of cases and/or previous history of endometriosis in 29% cases [1]. Polypoid endometriosis is generally associated with a benign course and surgery with complete removal of all the lesions is the key to the management of the disease.

## CONCLUSION

Polypoid endometriosis is a distinct and rare variant of endometriosis which may simulate a neoplasm on clinical presentation, imaging, intraoperative findings, and histopathological evaluation. Unlike classical or usual endometriosis, it is commoner in postmenopausal women, although it may occur over a wide age range. It usually occurs in the milieu of exogenous hormone intake. Surgery with complete removal of all lesions is the cornerstone of management of the disease. In spite of presence of hyperplastic or metaplastic glands and occasional cytological atypia, the disease follows a benign course and progression to neoplasm, if any, is rare. Although it is an uncommon entity, the gynecologists and pathologists should be aware of this form of endometriosis since the clinical, radiological as well as the intraoperative findings resemble that of malignancy, and being a benign mimic, it can be treated with a conservative surgery with excision of lesions rather than the radical surgery (staging/cytoreduction) done for ovarian cancer.

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## Author Contributions

Neha Kumar – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related

to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Nidhi Nayyar – Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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**Conflict of Interest**

Authors declare no conflict of interest.

**Data Availability**

All relevant data are within the paper and its Supporting Information files.

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