# Endometriotic cyst in one ovary and Mixed Germ Cell Tumour in other ovary in an unmarried girl

Amit Gupta[1], Reena Sharma[2], Neelam Mahajan[3],Anju Vij[4], Anchal Gupta[5], Vivek Kaushal[6]

[1]Department of Obstetrics &Gynaecology ,Dr. RPGMC kangra at Tanda, Himachal Pradesh , India.

**ABSTRACT**

Introduction: We are reporting here a case report of an unmarried girl with diagnosis of mixed germ cell tumour in one ovary followed by endometriotic cyst in other ovary after 7 years. We want to highlight that, is there some common factors which are operating for the development of ovarian carcinoma as well as endometriosis.

Case Report: We are presenting a case report of 20 years old unmarried girl who presented with complaints of pain and distension abdomen in 2008. Exploratory laparotomy was done by general surgeon, intra-operatively it was a jumbled up right ovarian mass with ascites. Histopathological report was mixed germ cell tumour. The girl was on follow up in Gynaecology OPD post-chemotherapy when she develops the similar complaints on left side of the abdomen. Again exploratory laparotomy done, there was a left ovarian chocolate cyst of 8x10 cm size which after histopathological report was confirmed as endometriotic cyst. We want to highlight the relationship between endometriosis and ovarian carcinomas.

**Key words**: Endometriosis, Ovarian Carcinoma, Mixed germ cell tumour, Atypicalendometriomas.

**Corresponding author address:**

Dr. Reena Sharma.

Department of Obstetrics &Gynecology,

Dr. RPGMC, Tanda,

Kangra, H.P., India

**M:** 91-9418452012

**E-mail:** dreenajay@gmail.com

**Conflict of interest: No**

**Case report is Original: YES/NO**

**Whether case report publishes any where? YES/NO**

## INTRODUCTION

Endometriosis is a common oestrogen-dependent disease of reproductive age that affects up to 15% of women [1].It is likely that endometriosis is not a single disease but it is composed of different entities with completely different pathogenesis. Indeed, three different entities of endometriosis were traditionally described: ovarian, peritoneal, and rectovaginal endometriosis [2]. Although endometriosis frequently involves multiple sites in the pelvis, malignancies associated with this disease are mostly confined to the ovaries, evolving from an endometrioma [3]. Endometriosis is a common gynaecologic disorder characterized by the presence of endometrial tissue outside the uterus. It is estimated to occur in approximately 7% of reproductive age women and is often associated with pelvic pain and infertility [4]. Although endometriosis is considered to be a benign condition, it shares a number of features with cancer including invading and damaging to other tissues [5]. Several studies have focused on the relationship between endometriosis and gynecological cancer, especially ovarian cancer. Data from large studies indicate that endometriosis patients have an approximately three fold significantly higher risk of endometrioid and clear cell ovarian cancer. All types of most frequent tumors are endometrioidtumors and endometrial stromal sarcoma [6].

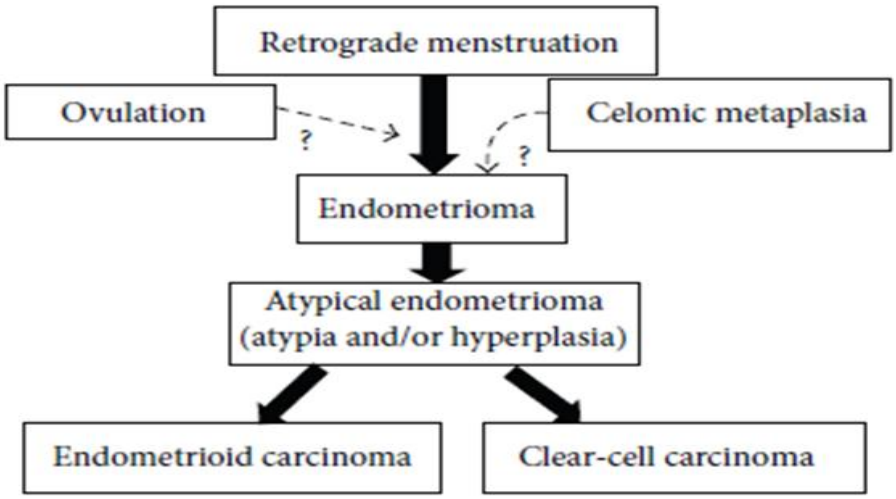
## CASE REPORT

Patient was an unmarried girl of 20 years old reported in Gynaecology OPD (April 2015) with complaint of pain in left iliac region and distension abdomen since 4 months. Patient and her relatives were apprehensive because there was past history of operated for similar complaints on right side of the abdomen 7 years back (2008). At that time right ovarian cystectomy was done. Past intra-operative record was showing: ascites present, right ovarian mass of variable consistency adherent to the small bowl, omentum and appendix. Histopathological report was mixed germ cell tumour. Patient was given 4 cycles of chemotherapy afterward. Afterward patient was asymptomatic till 2015 for 7 years. Patient attained menarche at the age of 14 years, her cycle was 2-3/30 day, regular, and no associated complaints. Pallor present, no significant findings are seen in general physical examination. Per abdomen examination: a mass was felt in left iliac fossa, tender and firm in consistency, irregular, 8X7 cm in size. Per rectum examination: a mass of 8X7cm size, firm in consistency, irregular was felt. On MRI: left ovarian mass of size 6X8X8 cm size with fluid and enhancing septa was seen. Her Hb was 7gm%, renal liver function tests were normal. CA125 was 46 IU/ml. Serum beta-HCG, LDH and alpha-fetoprotein were within normal limit. After 4 blood transfusions exploratory laparotomy was planned. Intra-operative findings were: haemorrhagic fluid present in the peritoneal cavity sent of HPE. Left ovarian chocolate cyst of 8X10 cm size (figure 1), adherent to the sigmoid colon and POD, evidence

of right salpingo-oopherectomy. Left salpingoopherectomy done. Post-operative period was uneventful. Histopathological report reveals that it was an endometriotic cyst.

**Figure 1: Left ovarian chocolate cyst of 8X10 cm size.**

**Figure 2: The proposed step by step process of transformation from retrograde menstruation to ovarian cancer.**




## DISCUSSION

Malignant ovarian germ cell tumors account for less than 5% of ovarian tumors. The peak incidence occurs in the mid and late teens. Dysgerminomas are the most frequently occurring malignant ovarian germ cell tumors [7]. Endometriosis is characterized by the presence and

/or the growth of endometrial tissue (both glands and stroma) outside the uterine cavity that causes a chronic inflammation inside or outside the cavity [1]. From the histopathologic point of view, "atypical endometriomas" are regarded as the precursor lesions for most endometrioid and clear-cell ovarian cancers. The risk of malignant transformation of atypical endometriomas is about 4-fold increase. There are histological evidences of transition from endometriosis, through atypical endometriosis, to Endometriosis Associated Ovarian Carcinomas (EAOC) [8].The most important features in the endometrial epithelium for the study of malignant transformation are cytologicatypia and/or hyperplasia [9]. In a review of a large series of studies, approximately 8% of endometriomas are reported to contain atypical endometriosis [10]. Increased awareness of the characteristics of atypical endometriomas will improve early detection of patients with endometriosis who are at risk of EAOC. The proposed step by step process of transformation from retrograde menstruation to ovarian cancer is presented in (Figure 2) [11].

## CONCLUSION

The purpose of this case report is to highlight that, is there some common mechanisms working inside the body at various level which may be in the form of oxidative stress, inflammation, hyperestrogenism and genomic alteration which are commonly responsible for pathogenesis of ovarian carcinoma, endometriosis and from atypical endometrioma to ovarian carcinoma or this was a coincidence. We are adding this case report to literature, for helping to conclude the relationship between ovarian cancer and endometriosis.

## REFERENCES

[1] Bulun SE, "Endometriosis,"The New England Journal of Medicine.2009; 360(3):268–279.
[2] Nisolle M and Donnez J, "Peritoneal endometriosis, ovarian endometriosis and adenomyotic nodules of the rectovaginal septum are three different entities," Fertility and Sterility.1997; 68(4):585–596.
[3] Kurman RJ and Shih IM, "The origin and pathogenesis of epithelial ovarian cancer: a proposed unifying theory," The American Journal of Surgical Pathology.2010;34(3):433–443.
[4] Nezhat F, Datta MS, Hanson V, Pejovic T, Nezhat C. The relationship of endometriosis and ovarian malignancy: a review. FertilSteril 2008;90:1559–70.
[5] Munksgard PS, Blaakaer J. The association between endometriosis and ovarian cancer: review of histological, genetic and molecular alterations. GynecolOncol 2012;124(1):164–9.
[6] Booth C, Zahn CM, McBroom J, Maxwell GL. Retroperitoneal mülleriancarcinosarcoma associated with endometriosis: a case report. GynecolOncol. 2004; 93: 546-549.
[7] Yoo S, Kim KR, Hong SJ, Cho KJ. Primary retroperitoneal dysgerminoma presenting as an adrenal tumor: a case report and literature review. Pathol Int. 2011; 61: 248-251.

[8] Tanase Y, Furukawa N, Kobayashi H, and Matsumoto T,"Malignant transformation from endometriosis to atypical endometriosis and finally to endometrioid adenocarcinoma within 10 years," Case Reports in Oncology.2013;6(3):480–484.
[9] Czernobilsky B and Morris WJ, "A histologic study of ovarian endometriosis with emphasis on hyperplastic and atypical changes," Obstetrics and Gynecology.1979;53(3):318–323.
[10] Gorp TV, Amant F, Neven P, Vergote I, and MoermanP,"Endometriosis and the development of malignant tumours of the pelvis: a review of literature," Best Practice and Research:Clinical Obstetrics and Gynaecology.2004;18(2):349–371.
[11] Grandi G, Toss A, Cortesi L, Botticelli L, Volpe A and Cognacci A. Review Article: The Association between Endometriomas and Ovarian Cancer: Preventive Effect of Inhibiting Ovulation and Menstruation during Reproductive Life.Bio Med Research International, Volume 2015;1-10.