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Case Report

Ovarian mucinous cystadenoma recurred 2 years after laparoscopic surgery: A case report

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ABSTRACT

Objective: Recurrence of ovarian mucinous cystadenomas is very rare. This report describes a case of ovarian mucous cystadenoma in a women that recurred 2 years after surgery.

Case presentation: A 22-year-old patient, with a sizable ovarian tumor underwent laparoscopic-assisted cystectomy. On histopathology, the tumor was diagnosed to be an ovarian mucinous cystadenoma. The mucinous cystadenoma recurred 2 years after surgery and subsequently laparoscopic left adnexectomy was performed.

Discussion: It has been reported that intraoperative cyst rupture and cystectomy instead of adnexectomy are risk factors for mucinous cystadenoma recurrence. Close follow-up is required for post-cystectomy patients because of the possibility of recurrence.

Conclusion: The risk of recurrence and the preservation of fertility should be carefully considered when deciding on treatment in young patients with a mucinous cystadenoma. The follow-up is required for post-cystectomy patients because of the possibility of recurrence.

Keywords: ovarian mucinous cystadenoma; laparoscopy; cystectomy; recurrent

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Introduction

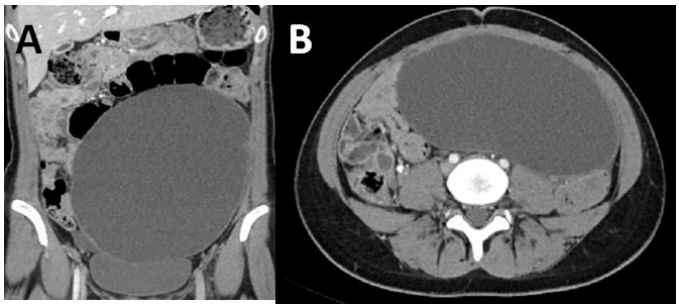
Benign neoplasms of the ovaries are of epithelial origin in 50%. Mucinous tumors are the second most common type of epithelial tumors and comprise 8–10% of ovarian tumors. They may macroscopically reach massive dimensions, although the size of the tumor is not included as a criterion for malignancy. All of mucinous neoplasms, 80 % are benign. Ovarian mucinous cystadenomas are characteristically unilateral, with only 5% presenting bilaterally [1]. Benign mucinous tumors typically have a lobulated, smooth surface, and contain mucoid material within the multilocular. Laparoscopy has become the standard of care in the management of ovarian cysts, because of the lower morbidity rate, improved postoperative recovery. Conservative procedures such as ovarian cystectomy may be preferred in patients with ovarian benign tumors who desire to retain their fertility. Recurrent mucinous cystadenoma after optimal excision is very rare.However, when faced with a huge mass, saving the ovarian tissue may be difficult. . If the cystectomy procedure is not completed thoroughly, recurrences may occur. The data on recurrence of benign ovarian mucinous cystadenomas are limited. A literature search resulted in 11 cases from the first report in 2001 to the present.

This report a 22-year-old nulliparous. women with a huge benign mucinous cystadenoma managed by laparoscopic cystectomy, followed by recurrence within 2 years. Left salpingo-oophorectomy was performed on a repeat laparoscopy. This report discusses a patient, who underwent a laparoscopic unilateral salpingoophorectomy after recurrent mucinous cystadenoma.

Case Report

A 22 year old presented to our hospital. She experienced menarche at age 12, and menstrual cycle was regularly. No medical history, medication history, or allergies were noted. At age 22, she had presented with complaints of abdominal distension for 3 months duration. Computed tomography showed a 18x10x15 cm cystic ovarian tumor (Fig. 1. A-B).

Figure 1. Preoperative computed tomography images revealing large multi-locular pelviabdominal cyst



(A, B) At the time of initial diagnosis, CT showed a large cystic mass occupying the abdominopelvic cavity. CT: computed tomography

The patient's tumor markers including AFP, CEA, CA-125, CA 15-3 and CA19-9 were all within the normal ranges. Lateral trocars were inserted directly in the cysts that were aspirated for decompression. Laparoscopic cystectomy was performed. The contents of the ovarian tumor were aspirated and the tumor was enucleated. The tumor originated from the left ovary and contained 3,325 mL of clear mucinous fluid.

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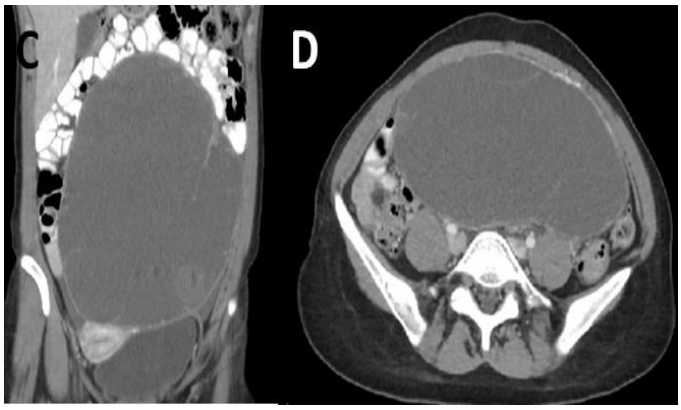
The tumor and a thin portion of the ovarian cortex were removed.
The intra-abdominal space was washed with saline solution. The histopathological diagnosis was mucinous cystadenoma of the left ovary, with included normal ovarian tissue. She was discharged from the hospital on the two postoperative day and was scheduled for follow-up 6 months after surgery. The first two follow-ups were normal.
Two years after surgery, she visited presented with complaints of abdominal distension. Computed tomography showed a 22x15x20 cm that was suspected to be recurrence of mucinous cystadenoma of the left ovary (Fig. 2. C-D).

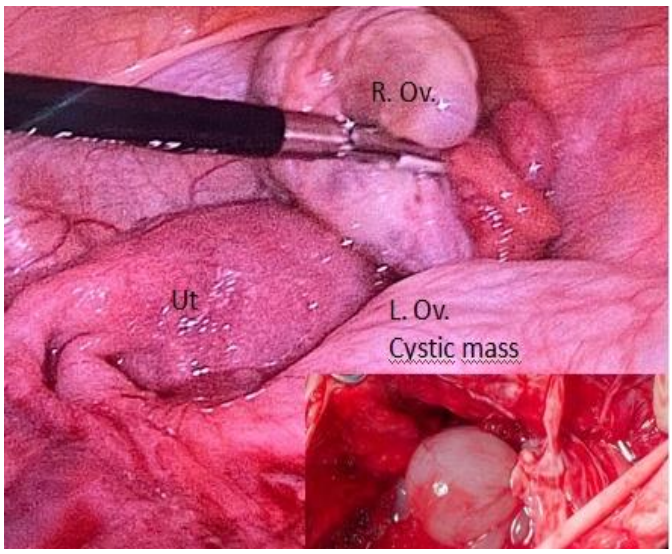
Figure 2. Preoperative computed tomography images revealing large multi-locular pelviabdominal cyst



(C,D) When the mucinous cystadenoma recurred, CT revealed a polycystic mass in the abdominopelvic cavity. CT: computed tomography

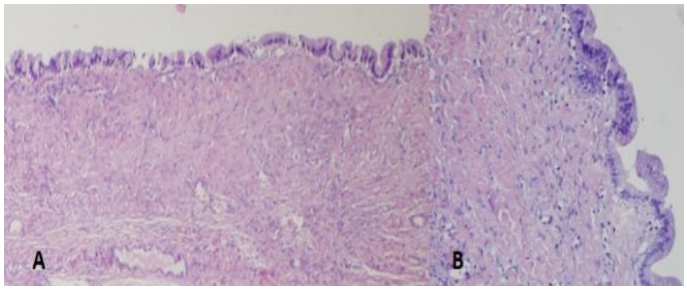
CA 125 levels (12/28 U/mL) are slightly higher than before, but are within normal range. CA19-9 and CEA were within the normal range. We gave the patient and her parents detailed explanations and psychological counseling about the procedure, the risk of recurrence, and the associated fertility on several occasions. The patient finally opted for adnexectomy, did not wish to undergo oocyte cryopreservation.
Left adnexectomy was performed by laparoscopic surgery (Fig. 3).

Figure 3. Laparoscopic view. Ut: uterus, Ov: Ovary



The tumor contained 4150 mL of sticky mucinous fluid. The histopathological diagnosis was ovarian mucinous cystadenoma (Fig. 4).

Figure 4. Histopathology examination & Histopathological diagnosis was ovarian mucinous cystadenoma



She was discharged from the hospital on the two postoperative day. We follow her up every 3 to 6 months, to check for tumor recurrence, healthy right ovary and to monitor ovarian function.

Discussion

The data on recurrence of benign ovarian mucinous cystadenomas are limited. The recurrence of ovarian mucinous cysts is very rare. A literature search resulted in 11 cases present (Table 1).
First report described an 11-year-old premenarcheal girl who underwent laparotomic cystectomy because of a recurrent mucinous cystadenoma [1]. Another case of recurrent bilateral ovarian mucinous cystadenoma was described in a 31-year-old woman who had received ovulation induction therapy after a 5-year period of primary infertility. She underwent a hysterectomy and bilateral salpingo-oophorectomy after the failure of numerous fertility treatments [2]. The third case was a 20-year-old patient who had originally undergone a left-sided adnexectomy and a right-sided cystectomy. After the first recurrence, she had a right-sided cystectomy and ultimately underwent a total abdominal hysterectomy and right-sided adnexectomy after a second recurrence [3].
The fourth case report described a 25-yearold nulliparous woman with a huge benign mucinous cystadenoma managed by laparoscopic cystectomy, followed by an early recurrence (within 2 months). A left-sided salpingo-oophorectomy was performed on a repeat laparoscopy [4] .
Another case reported patient was a 27-year-old woman who underwent left-sided laparotomic cystectomy of benign mucinous cyst and had a recurrence within 13 months. Because she had completed her family planning, she underwent a left-sided laparoscopic adnexectomy [5].
Ben-Ami et al. reported that the recurrence rates of cystadenomas may not be as low as reported in the literatüre [6]. They showed that three of 42 patients (7.1%) included in their study had mucinous cyst recurrence in the ipsilateral ovary. The risk factors that they found to be related to mucinous tumor recurrence were intraoperative cyst rupture and the procedure of the cystectomy [6].
Surgical approach for ovarian cysts depends on the patient's age, parity, the preservation of fertility and the size and structure of the cyst [7-10]. An important question related to the recurrent mucinous cystadenomas is whether or not these cases underwent sufficient surgical excision in the first surgical procedure. Incomplete resection may be one of the hypotheses for recurrence. Although they are classified as benign, there is a risk of recurrence, especially in huge multi-loculated mucinous cysts [11]. Therefore, close follow-up is required for early detection of recurrences and for rendering conservative and laparoscopic management possible before the cyst reaches huge dimensions.

Table 1. Correlations between the endometriosis score and demographic characteristics, preoperative hematologic markers, and combined markers.

Author	Age	First operation	Recurrence time months	Second operation
Olesen H 2001[1]	11	L/S cystectomy	5	L/S cystectomy
Gotoh et al. 2004[2]	31	L/T cystectomy	3	TAH BSO
Baksu et al. 2006[3]na	20	L/T cystectomy	7	L/T cystectomy
Mittal et al. 2008[4]	25	L/S cystectomy	2	L/S ooferectomy
Turkyilmaz 2008[5]	27	L/S cystectomy	13	L/S ooferectomy
Ben-Ami et al. 2010 (3 case)[6]	21	L/S cystectomy	<12	?
Mizrachi et al. 2015[7]	33	L/T cystectomy	14	L/T ooferectomy
El-Agwany 2018[8]	24	L/T cystectomy	24	L/S cystectomy
Fujishima et al. 2021[9]	37	L/S cystectomy	24	L/S ooferectomy
Gundogdu et al. 2021[[10] b	37	L/S cystectomy	24	L/T cystectomy

[a] have a third operation after 14 month TAH+Uso, [b] have a third operation of L/T ooferectomy. L/T: Laparotomy, L/S: Laparoscopy, lUSO left salpingo-oophorectomy, rUSO: right salpingo-oophorectomy, TAH: Total abdominal hysterectomy, TAH BSO: Total abdominal hysterectomy with bilateral salpingo-oophorectomy

In conclusion, the recurrence rate of benign mucinous cystadenomas after surgical treatment was found to be relatively low. Cystectomy, as opposed to salpingo-oophorectomy, may be associated with recurrence. It seems reasonable to maintain close follow-up of patients who have undergone benign mucinous cystectomy for early detection of recurrences, especially in the first consecutive year after the surgery.

Disclosure

Authors have no potential conflicts of interest to disclose.

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