CASE REPORT

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Multiple Bilateral Ovarian Mature Cystic Teratomas with Ovarian Torsion: A Case Report

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ABSTRACT

Ovarian tumors are a common form of neoplasm in women. Mature cystic teratoma is the most common type, with a bilateral incidence of 8–15%. However, few cases are reported as bilateral and multiple. A rare case of bilateral multiple dermoid cysts in a 19-year-old female patient presented with abdominal pain of one-day duration. Her medical history was unremarkable. Ultrasonography showed multiple bilateral ovarian cystic masses. The patient underwent laparotomy. The masses were excised while preserving the remaining ovarian tissue. Histopathology confirmed the diagnosis of multiple mature cystic teratomas with no presence of malignant tissue.

Ovarian tumors are a common neoplasm in women. The mature cystic teratoma is the most common type, forming 8–15% bilateral, but few cases were reported as bilateral and multiple.[1] Teratomas are classified as either mature or immature types and are often composed of multiple embryologic layers. While the mature type is benign, the immature type is benign with a more aggressive course.[2] Mature cystic teratoma, a germ cell tumor is the most common comprising 32% of all ovarian tumors.[3] They are bilateral in up to 15% of cases. Multiple ovarian teratomas in the same ovary are rare,[4–6] and few cases are reported as multiple and bilateral.[7,8]

Four separate pathologic reviews comprising 957 benign cystic teratomas yielded nine multiple ipsilateral ovarian teratomas.

This report is important because of the rare incidence of multiple bilateral mature teratomas. Up to 12 bilateral teratomas were found in one ovary and more than five in the other, which has been reported previously.

CASE REPORT

A 19-year-old female patient, single, with regular periods presented following one day of moderate to severe abdominal pain. The patient's pain was associated with a history of anoxia, nausea, and vomiting, with no history of change in bowel habits. On examination, the patient was ill-looking, but her vital signs were stable. She had tenderness all over her abdomen, and was felt mass reaching the umbilicus. Her complete blood count was within the normal range. Ultrasonography revealed the presence of bilateral multiple cystic lesions with calcifications. The largest measured 18 × 15 cm with minimal free peritoneal fluid. There were no other findings in the abdominal organs.

The patient underwent urgent laparotomy. Operative findings were: left huge multicystic mass largest measuring 18 × 14 × 6 cm [Figure 1], and right twisted congested multicystic ovarian mass measuring 6 × 4 × 3 cm [Figure 2].

The left mass was excised while preserving the remnant ovarian tissue. The right ovary with the mass was untwisted, inoculating of up to 12 dermoid cysts [Figure 3] preserving the remnant ovarian tissue.

Microscopy revealed multiple cysts with variable mature components of mature skin adnexa, mature neural tissue, respiratory type tissue, and lobules of cartilage. There was no evidence of malignancy.

DISCUSSION

Ovarian teratomas are germ cell tumors, usually derived from one or all three germ layers, composing multiple cell types. A study of yielded teratomas

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Figure 1: Left ovarian huge multicystic mass measuring 18 × 14 × 6 cm.

Figure 2: Right twisted congested multicystic ovarian mass measuring 6 × 4 × 3 cm.

tissues reported components of different tissues characteristics. For example, a study by Shi et al,[9] found that a cystic ovarian teratoma surface was lined with mature squamous epithelium with cornifying material and hairs. Sebaceous glands, sweat glands, hair follicles, and fat tissue were also present.

The word teratoma is derived from teras, the Greek word meaning monster, coined in the first edition of Virchow's book on tumors published in 1863.[10] They are classified into mature, immature, and monodermal types. Most have a 46XX karyotype and are thought to develop by parthenogenesis from a single haploid germ cell.[11] The peak incidence is found in women of reproductive age (20–40 years) although it occurs in patients of almost any age.[12]

Mature cystic teratomas account for 58% of benign ovarian tumors and up to 44% of all ovarian tumors.[13] They are usually unilateral with approximately 8–15% bilateral[14] and ipsilateral multiple ovarian teratomas were found in 9% of separate pathologic reviews.[6,15–18]

Benign cystic teratomas are discovered incidentally in at least 25% of cases during examination, imaging, or abdominopelvic surgery.[19] Baek[8] presented a case describing a 31-year-old patient with a mature cystic teratoma of the left fallopian tube, in addition to bilateral ovarian teratomas. The teratomas were discovered incidentally during a regular checkup. Some studies reported cases of cystic ovaries, including teratomas in early and advanced pregnancy, which were discovered during regular checkups.[20,21]

Lower abdominal pain is the most common symptom in cystic teratomas (44.1%).[22] Torsion is the most common complication, as in our case, and is reported in 3–16% of cases.[10] In 2015, there was reported case of multiple bilateral huge synchronous ovarian mature cystic teratomas.[20] The patient presented with dull, aching abdominal pain without torsion. However, in some rare cases, torsion presented a serious complication of autoamputation of ovary and fallopian tube. In a rare case reported by Lee et al,[23] a parasitic ovarian teratoma that underwent torsion, autoamputation, and reimplantation was found incidentally during

Figure 3: Left multicystic ovarian mass and the inoculated multiple masses of the right ovary.

laparoendoscopic single-site surgery. The amputated tumor was located in the omentum of the right upper abdomen of a patient with concomitant torsion of a left ovarian teratoma. The right ovary and tube were absent even though the patient had no surgical history. The authors interpreted this finding as an autoamputation of the adnexa due to torsion of a previous ovarian cyst arising from the right ovary.

Ultrasonography is an investigative procedure that can be used for women of any age as it is excellent and non-invasive.[24,25] This is in addition to tumor markers such as CA125, CA91-9, and alpha-fetoprotein, which are used for early detection and characterization of ovarian masses.

In our reported case, only ultrasound was used due to the acute presentation of the patient. Surgical excision provides a definitive diagnosis, afford symptom relief, and minimize complications by either laparotomy or laparoscopic surgery.[26] Prayogalaya, reported a case of multiple and bilateral benign cystic teratomas of ovary with broad ligament leiomyoma, which were managed by laparoscopic ovarian cystectomy and myomectomy.[23]

Future fertility is of major concern among these women. Therefore, surgical management must focus on preserving ovarian tissue and minimizing adhesion formation using laparoscopy.[10,27] In our case, laparotomy was done due to the general condition of the patient.

The recurrence risk is 3–4% on the same ovary.[26] According to Harada et al,[28] the predictive risk factors for recurrence are aged less than 30 years, large cyst size (diameter less than 8 cm) and bilateral occurrence, with a higher risk of recurrence in the presence of more than one factor. Laberge and Levesque,[26] reported a multiloculated cyst recurrence in a young woman who had a dermoid cyst three years earlier. Our patient should be followed-up for recurrence since she has a higher risk.

In the presence of multiple bilateral mature cystic teratomas recurrence — especially in high-risk patients — should be taken into consideration by close follow-up and regular ultrasound examination.

CONCLUSION

Concerns regarding recurrence and associated complications are present in the presence of multiple bilateral mature cystic teratomas. The number of multiple bilateral mature teratomas might reach 12 in patients with unremarkable medical history. Further assessment of patients at risk is essential to save their ovarian tissues in light of the absence of symptoms. We strongly recommend close follow-up and regular ultrasound.

Disclosure
The authors declared no conflicts of interest.

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