

Ovarian Teratoma Torsion with CA 19-9 Elevation: Case Report

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ABSTRACT

Ovarian torsion is a rare gynecologic emergency and causes serious medical problems. The diagnosis of ovarian torsion is not always easy. Ovarian torsion is the most common complication with a confusing ultrasonographic diagnosis. Although the demonstration of blood flow by Doppler ultrasonography does not rule out the diagnosis of ovarian torsion, a serum marker with high reliability and sensitivity in the preoperative diagnosis of ovarian torsion has not yet been defined. A 19-year-old GPO patient was admitted to our clinic with pelvic pain lasting 1 week. Abdominopelvic ultrasound revealed a 9 cm diameter lobulated cystic lesion in the right adnexa. Abdominopelvic magnetic resonance imaging (MRI) showed a 90 × 88 mm cystic lesion consisting of heterogeneous solid structures. The left ovary and other intra-abdominal structures were normal. Tumor markers were as follows: CEA: 24.90 U/mL, AFP: 40 U/mL, CA 15-3: 23.4 U/mL, CA 19-9: 383 U/mL. The patient's MRI report was suspicious for malignancy, and the diagnosis of torsion could not be clarified. As the patient's condition progressed, laparotomy was decided upon, and a frozen examination was requested. Cystectomy was performed after the findings were compatible with a dermoid cyst. CA 19-9 is a tumor marker that is increased, especially after ovarian teratoma torsion, and may be useful in diagnosing clinical teratoma torsion. However, larger studies are needed to confirm this hypothesis.

Keywords: Elevated CA 19-9 value, ovarian torsion, teratoma

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INTRODUCTION

Benign or mature cystic teratoma is commonly called a dermoid cyst and contains mature elements from three germ cell layers. Although it can be observed in almost every age group in women, it is one of the most common tumors in the reproductive period in general.^[1] These cysts are usually asymptomatic and unilaterally localized, but the possibility of bilaterality is 10–17%.^[2] The diagnosis of dermoid cysts is made by ultrasonography with a specificity of 95–100% because of their characteristic appearance.^[3,4] Ultrasonography (USG) is used effectively in the diagnosis of adnexal masses. Sonographic features of dermoid cysts include unilocular solid cystic structure, echogenic mural nodules, calcifications, and oily fluid levels.^[5] Computed tomography (CT) and magnetic resonance imaging (MRI)

can also be used in preoperative evaluation. Fat and calcification are common in the cyst content, and it has been suggested that the floating ball finding is pathognomonic.^[6]

CASE REPORT

A 19-year-old patient presented to the emergency department with abdominal pain. On examination, abdominal tenderness was present, and a firm, smooth-surfaced mass filling the pelvis was palpated. Laboratory tests revealed WBC: 14,900/mm³, Hb: 10.8 g/dL, Hct: 43.2%, Plt: 188,000/mm³, CA 125: 19.1 U/mL, and CA 19-9: 319.8 U/mL. Ultrasonography (USG) revealed an 85×90 mm encapsulated semi-solid mass, approximately 45 mm in diameter, in the left ovary. Doppler USG showed hemorrhage. CT and MRI imaging did not show any findings in favor of detorsion. The CT scan was evaluated as indicative of teratoma with fatty density and calcification



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in the pelvic region, measuring approximately 80×78 mm. On MRI, a 75×67 mm mass with fatty areas in the pelvic region and a 40 mm solid component with intense contrast uptake and no malignant differentiation was observed (Fig. 1). Laparotomy was performed, revealing a 90×85 mm adnexal mass with blue-violet edema and 360-degree rotation around the infundibulopelvic ligament originating from the left ovary. Cystectomy (Fig. 2) and frozen examination were performed, and it was reported as a mature cystic teratoma. The patient was discharged on the second postoperative day. One month later, ultrasonography revealed multiple antral follicles, which were evaluated as normal.

DISCUSSION

Benign cystic tumors, especially dermoid and mucinous cysts, are the most frequently torsioned ovarian masses.^[7] The weight of the mass causes the uterine-ovarian ligaments to elongate, facilitating torsion. Infarction and necrosis usually develop and are treated with salpingo-oophorectomy. Eskander et al.^[8] reported that ovarian-sparing surgery was performed in 39.5% of patients operated on for ovarian torsion. Even if the absence of venous and arterial blood flow to the ovary by Doppler USG is diagnostic, the absence of blood flow to the ovary is not evidence of non-viable ovarian tissue. Ultrasonography is used to determine the structure of the mass causing ovarian torsion, to detect edema in the ovarian tissue, and Doppler USG is used to detect intra-ovarian blood flow and strengthen the diagnosis. However, most USG findings occur late, and their sensitivity is low. Although ovarian torsion is a rare gynecologic emergency, protection of the ovary is important because it is frequently seen in young children.^[9]

Excessive elevation of CA 19–9 may be a sign of malignancy or torsion in teratomas. In a meta-analysis performed by Prodromidou et al.,^[10] it was found that elevated CA 19–9 may be associated with torsion and malignant content. CA 19–9 elevation with sudden onset of pain may be a preliminary finding of torsion in teratoma. Our patient presented to the emergency department with increasing abdominal pain over the past week. CA 19–9 elevation and teratoma findings were observed in the examinations. Knaus et al.^[11] stated that torsion status may affect clinical evaluation. In our patient, imaging suggested malignancy. We planned the surgery accordingly, and the frozen pathology examination resulted in favor of mature cystic teratoma.

CONCLUSION

Dermoid cysts are common ovarian tumors during the reproductive period. Although the diagnosis can usually be

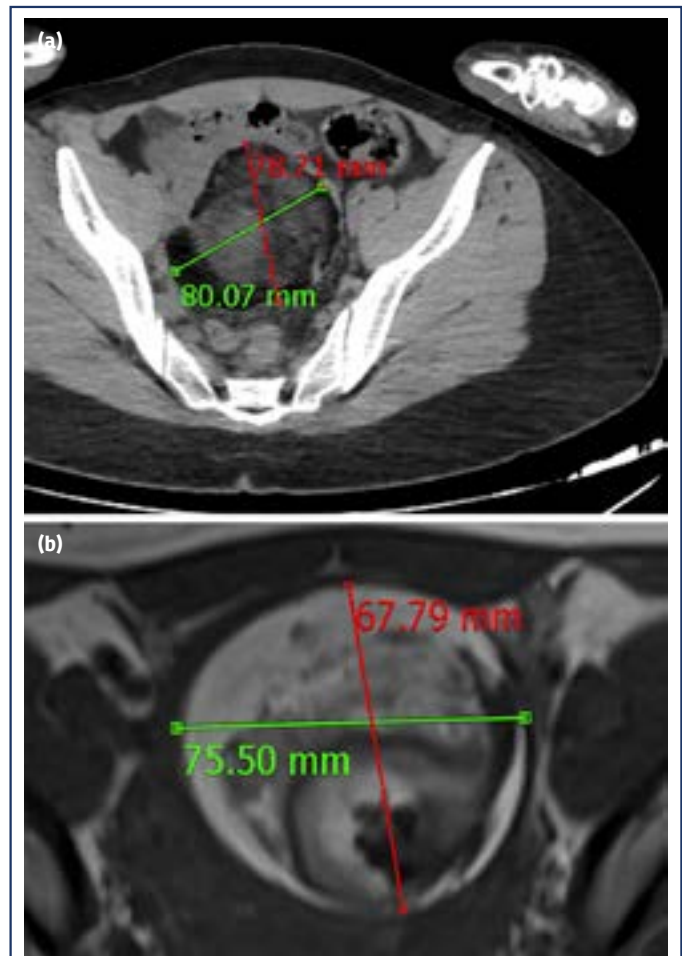


Figure 1. CT (a) and MR (b) images of adnexal mass
CT : Computer tomography; MR: Magnetic resonance



Figure 2. Intraoperative image of the adnexal mass

made by ultrasonography, pelvic MRI should be used when necessary. Although there is no specific tumor marker, CA 19–9 elevations should be investigated. Since they are mostly seen in the reproductive period, a minimal surgical approach should be preferred to preserve the ovarian reserve, and oophorectomy should be considered as an option in older patients who have completed their fertility due to the risk of malignant transformation. Additional investigations should be ordered for patients whose diagnosis is not confirmed by USG. In patients with dermoid cyst torsion, CT and MRI are not specific in the diagnosis, and CA 19–9 can be used to evaluate torsion in these patients.

Disclosures

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