


Case Report**RUPTURED RIGHT OVARIAN DERMOID CYST IN A MULTIPAROUS WOMAN: A CASE REPORT****Saraswati Gurung, Jyoti Bhaju Lama, Sujata Khadka Neupane, Salina Shrestha**Department of Obstetrics and Gynecology, B & C Medical College Teaching Hospital and Research Center*Submitted: 20th-April-2024 Revised: 3rd-May-2024 Accepted: 20th-May-2024DOI: <https://doi.org/10.3126/mjen.v3i01.67455>**ABSTRACT**

Ovarian dermoid cysts, or mature teratomas, rarely present with complications such as rupture. We report a case of a ruptured right ovarian dermoid cyst in a multiparous woman, emphasizing the importance of timely diagnosis and management. A 31-year-old woman presented with acute lower abdominal pain and vomiting. Ultrasonography indicated bilateral dermoid cysts, with rupture on the right side, leading to emergency right-sided salpingo-oophorectomy and left-sided ovarian cystectomy. The postoperative course was uneventful, and histopathology confirmed benign cystic teratomas in both ovaries. This case underscores the need for a multidisciplinary approach in managing such uncommon conditions.

Keywords: Bilateral, Mature teratoma, Ovarian dermoid cyst, Rupture, Torsion

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INTRODUCTION

An ovarian dermoid cyst, also known as a mature teratoma, is a type of germ cell tumor of the ovary, accounting for approximately 30-40% of ovarian tumors¹. Bilateral presentation occurs in approximately 10-15% of cases, with dermoid cysts comprising about 97% of all teratomas^{2,3}. Rupture of an ovarian dermoid cyst is a rare complication, occurring in only 1% of cases due to its thick capsule, while torsion is the most common complication, occurring in 15-20% of cases. The risk of malignancy is approximately 1-2%^{4,5,8}. The dermoid cyst may contain ectodermal tissue components such as skin, hair, teeth, nerve tissue, and sebaceous material, as well as mesodermal elements including bone, cartilage, and muscle. Additionally, endodermal components such as thyroid, salivary gland, bronchus, and intestine may also be present. Most dermoid cysts are asymptomatic. However, a few cases may present with symptoms such as abdominal pain, nausea, or indigestion, along with a gradually increasing mass in the lower abdomen. Herein, we present a case of a ruptured right ovarian dermoid cyst in a multiparous woman, emphasizing her presenting signs and symptoms, diagnostic workup, treatment approach, and outcome^{6,7}.

CASE REPORT

A 31-year-old female, who is P2L2 (para 2, living 2) with all vaginal deliveries, presented to the Emergency Department of B & C Medical College Teaching Hospital and Research Center, Birtamode, Jhapa, on December 25, 2023, with complaints of lower abdominal pain for 14 hours, preceded by two episodes of vomiting. She described the pain as sudden in onset, severe in intensity, localized to the lower abdomen, involving the hypogastric, umbilical, right, and left iliac regions, and non-radiating in nature. The pain was accompanied by two episodes of vomiting without any precipitating factors. She denied any history of similar episodes of pain in the past. Her medical and surgical history was unremarkable. She denied any history of abdominal bloating, changes in bowel/bladder habits, loss of appetite, weight loss, trauma or menstrual irregularities. Her family history was unremarkable.

On general examination, the patient, of average build, appeared in distress due to abdominal pain. No pallor, icterus, lymphadenopathy, cyanosis, clubbing, pedal edema, or dehydration was noted. Abdominal examination revealed tenderness with guarding over the umbilical and hypogastric regions with no other abnormalities. There was no rebound tenderness. Bowel sounds were normal. Vaginal examination revealed a mass separate from the uterus. No active vaginal bleeding was noted. Speculum examination was normal.

Upon presentation, her vital signs were within normal limits. Routine investigations were unremarkable. The urine pregnancy test was negative. Ultrasonography (abdomen + pelvis) revealed a solid, heterogeneous mass with tiny calcifications within it measuring 7.3×6.7 cm, predominantly echogenic in nature, noted in the right parauterine space with non-significant vascularity, causing anterior displacement of the uterus. Multiple striate artifacts with heterogeneously thickened omentum in the right iliac fossa were observed. Possibilities included a dermoid with torsion and detorsion or mesenteric teratoma. Additionally, a dominant follicle measuring 2.4×3.5 cm was observed in the left ovary. Moderate septate ascites and minimal intra-endometrial fluid collection were also observed.

After the imaging report, emergency right-sided salpingo-oophorectomy with left-sided ovarian cystectomy was performed in view of a ruptured right adnexal dermoid cyst. An infraumbilical midline incision was made. Intraoperatively, a moderate amount of spillage of sebaceous material from the dermoid, a 12×10 cm ruptured right adnexal dermoid cyst containing sebaceous materials, tooth, and hair with its base at POD, right ovary completely adhered to the cyst and right hydrosalpinx, a 3×3 cm ovarian cyst in the left ovary with normal left fallopian tube, and filmy adhesions were noted all over the cyst, uterus, and tubes. Right-sided salpingo-oophorectomy with left-sided ovarian cystectomy was performed, and a pelvic drain (FR 28) was placed. Additionally, stapler sutures were applied to close the infraumbilical midline incision. The surgery was uneventful.

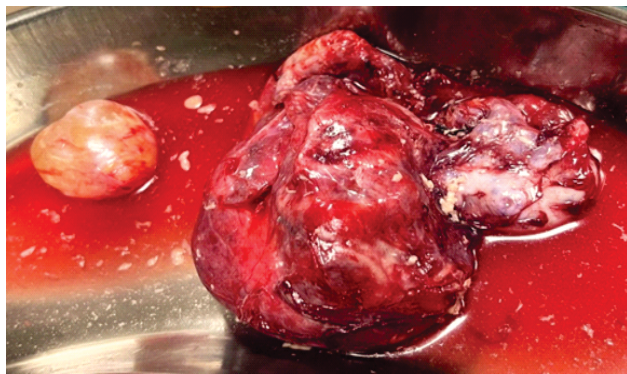


Figure 1: Surgically removed Right adnexal cyst with attached adnexa and left ovarian cyst.

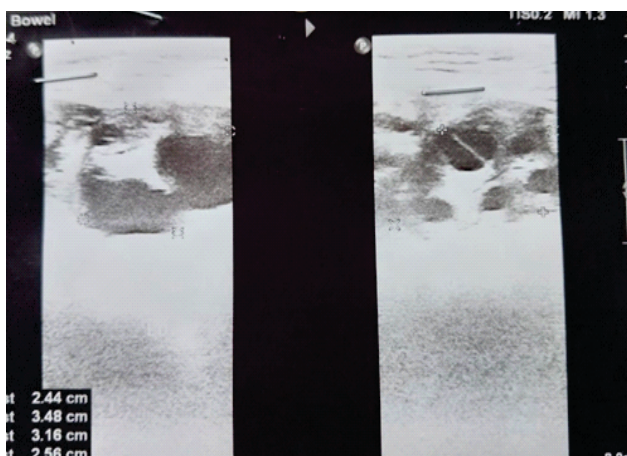


Figure 2: Heterogeneous complex mass lesion with calcification and internal septation is noted in the right para-uterine space. No internal vascularity within the mass lesion. Minimal volume complex collection noted in the hepatorenal space and in the pelvic cavity.

Her postoperative course was uncomplicated. Tumor markers were traced, revealing CA-125 (CLIA) 32 U/ml and CEA (carcinoembryonic antigen) (CLIA) 1.0 ng/ml, all within normal reference ranges suggesting the absence of malignant transformation. The pelvic drain was removed on the third postoperative day, and she was discharged on the fourth postoperative day in a hemodynamically stable condition. The stapler sutures were removed on the 14th postoperative day. Subsequently, she was followed up in the gynecology outpatient department. At the time of this report, five months after the surgery, she had no complications, no tumor recurrence, and the wound had healed properly.

The histopathology of the right adnexal cyst with

attached adnexa and left ovarian cyst confirmed benign cystic teratoma of bilateral ovaries. Sections examined from the left adnexal cyst showed a cyst wall lined by stratified squamous epithelium with mature skin appendages (hair follicles and sebaceous glands) and a lumen filled with keratin and hair shafts along with blood vessels, muscle, and fibroadipose tissue. Sections examined from the right adnexal cyst showed tissue lined by keratinized stratified squamous epithelium with mature skin appendages and a lumen filled with keratin flakes. Areas of cartilage and bone formation were also seen. Atypical cells were not observed, and features of dysplasia and malignancy were not seen.

DISCUSSION

The rupture of a mature teratoma or ovarian dermoid cyst is a rare event due to the protective nature of its thick capsule. It primarily affects women in their reproductive age (14-50 years) accounting for 77% of cases. Additionally, parity plays a role, with ruptured dermoid cysts more prevalent in nulliparous or women with only 1 or 2 children comprising 22% while 3% occurred in grand multiparous patients. Moreover, 10-15% mature teratoma can also present bilaterally. Interestingly, the majority of ruptured dermoid cysts fell within the size range of 6 cm to 10 cm, with a range of 3 cm to 30 cm and an average of 11 cm. The etiology of the rupture is multifactorial, with idiopathic causes accounting for 49% of cases. Other contributing factors include pregnancy (26%), torsion (7%), and miscellaneous triggers such as malignant transformation, motor vehicle accidents, infection, post-termination of pregnancy, falls, and vigorous exercise⁶. What sets our case apart is the patient's demographic profile— a woman within her reproductive age, multiparous (P2L2), presenting with bilateral ovarian dermoid cysts. Particularly notable is the rupture of the right cyst, measuring 12 × 10 cm, with torsion being the presumed cause given the absence of relevant historical factors. Although previously some cases used various imaging modalities for diagnosis, computed tomography (CT) is highly sensitive in detecting ruptured cysts^{9,10}. However, as seen in this case, only ultrasonography was done. Surgical intervention is the standard of care

for symptomatic or large dermoid cysts. The majority of cases can be managed without complications^{11,12}. In our case, right-sided salpingo-oophorectomy combined with left-sided ovarian cystectomy was performed primarily based on the clinical presentation and imaging findings, with tumor markers providing supplementary information. This approach aimed to preserve ovarian function and future fertility, with laparotomy chosen for rapid intervention and to address complications.

CONCLUSION

The dermoid cyst is the most common teratoma. Timely diagnosis and management are crucial, as

delays may lead to complications such as torsion which can further escalate to rupture as in our case. surgical intervention is the definitive treatment either way. Our case resulted in a successful outcome marked by the absence of complications and a favorable long-term prognosis. This was achieved through a comprehensive multidisciplinary approach including clinical assessment, timely diagnosis and proper surgical management.

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