

# Multiple and Bilobed Ovarian Dermoid Cysts: Complications and their Successful Laparoscopic Management

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## ABSTRACT

**Background:** Ovarian dermoid is one of the commonly occurring ovarian neoplasms in young women but the occurrence of multiple dermoid cysts is comparatively rare.

**Case description:** This is a case of 24-year-old woman who ignored her first diagnosis and management plan for a 3 × 3 cm dermoid cyst in one of the ovaries and later returned with severe symptoms of abdominal pain and vomiting and with a CT scan diagnosis of bilateral, large (7 × 7 cm) dermoid cysts. She was prepared for laparoscopic bilateral dermoid cyst excision, until the intraoperative scenario, revealing right-sided twisted bilobed dermoid cyst and left-sided twin dermoid cysts changed the original plan. Finally, the patient underwent right-sided ovariectomy with right-sided salpingectomy and left-sided twin dermoid cysts excision.

**Conclusion:** Laparoscopy is the surgical mode of choice in dermoid presentations. Evaluation of contralateral ovary must be carried out while dealing with dermoid cyst of one ovary.

**Clinical significance:** Torsion of a large dermoid cyst is not an indication for ovariectomy. However, ischemic dermoid cysts require an on-table judgement for cystectomy or ovariectomy. Laparoscopic management in skilled hands favors cystectomy. Examining contralateral ovary must be a routine while operating on a patient with dermoid cysts in ovary.

**Keywords:** Diagnostic laparoscopy, Gynecology, Gynec-oncology.

*World Journal of Laparoscopic Surgery* (2020): 10.5005/jp-journals-10033-1390

## INTRODUCTION

Adnexal masses are commonly encountered and managed by gynecologists. Benign ovarian teratomas or dermoid cysts of the ovary are considered the most common benign ovarian neoplasms in young and middle-aged women and account for 20–25% of all ovarian tumors in this age group. Usually dermoid cysts are unilateral, but in 10–15% cases, bilateral and/or multiple dermoid cysts may be encountered.<sup>1</sup>

The majority of dermoid cysts are asymptomatic and are often discovered incidentally. The symptomatic ones are usually with the complications of preexisting dermoid cysts like torsion, rupture, or rarely malignancy.

With the advances in endoscopic surgery, laparoscopic excision of dermoid cysts has become a gold standard approach.

This case report highlights the occurrence of multiple and bilobed dermoid cysts, associated complications, the surgical dilemma of oophorectomy or cystectomy, and successful laparoscopic management.

## CASE DESCRIPTION

### Case History

A 24-year-old, Para 1, admitted with complaints of severe abdominal pain mainly in right iliac fossa radiating to thighs, associated with complaints of 10–14 episodes of vomiting for one day. No history of fever, bowel/bladder disturbances, weight loss, or menstrual irregularities. No positive family history. Previously, she was diagnosed with a 3 × 3 cm right-sided ovarian dermoid cyst 4 months ago and was advised surgery, which she refused and was lost to follow-up.

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**How to cite this article:** Gaur N, Shah N, Jha M. Multiple and Bilobed Ovarian Dermoid Cysts: Complications and their Successful Laparoscopic Management. *World J Lap Surg* 2020;13(1):43–45.

**Source of support:** Nil

**Conflict of interest:** None

## Examination

Her general condition was fair, and vitals were stable. Per abdomen, a well-defined mass reaching up to umbilicus was felt, and tenderness on transverse mobility was noted. No ascites was felt.

## Investigations

Routine and preoperative investigations were within normal limits. Ca-125: 36.3 U/mL, CEA: 2.30 ng/mL

## Ultrasonography

Right and left adnexal cysts of 7 × 7 cm and 6 × 9 cm with mixed echogenicity, with fat and fluid contents and focal hyperechoic lesions were noted. Doppler suggested reduced blood flow in the

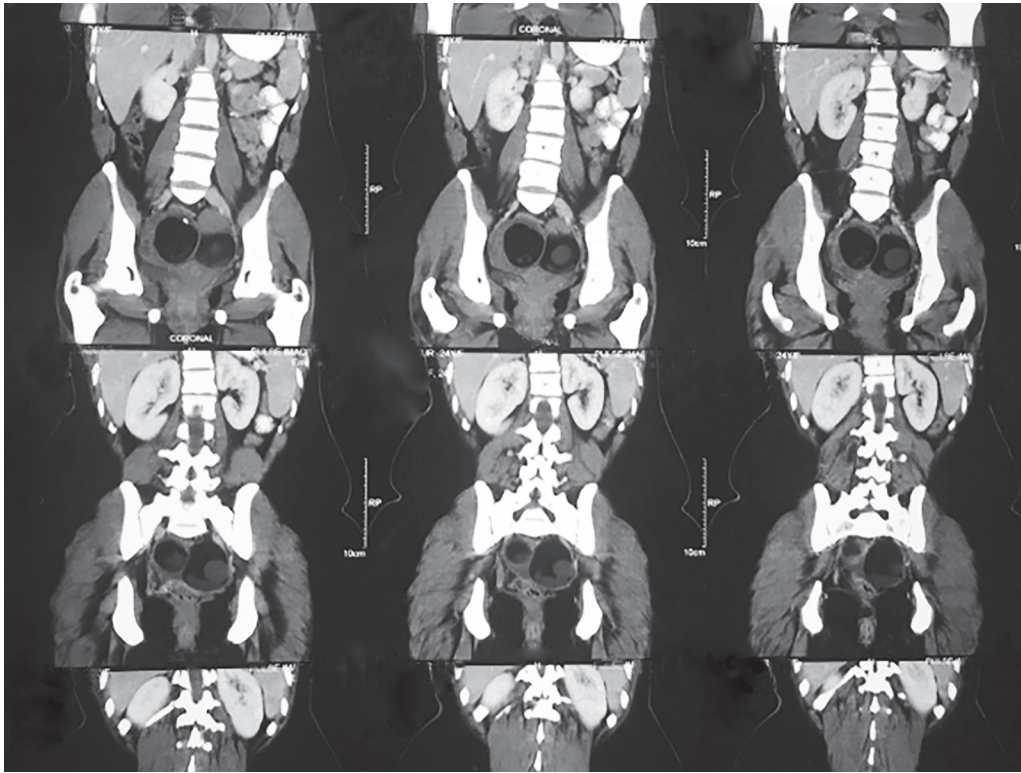


Fig. 1: CT scan showing bilateral adnexal cysts with mixed echogenicity

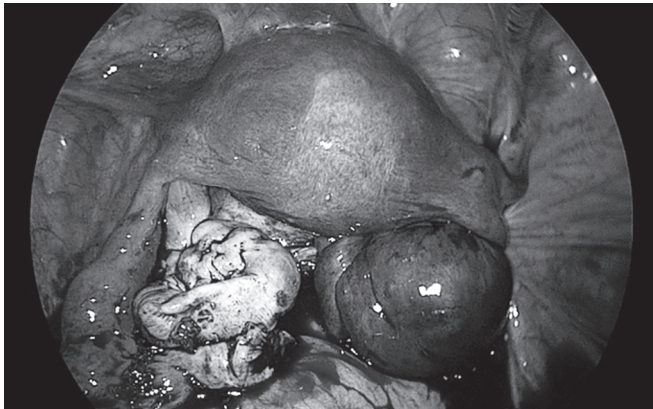


Fig. 2: Left ovary appearing collapsed after first dermoid cyst removal, posteriorly, second dermoid cyst visible

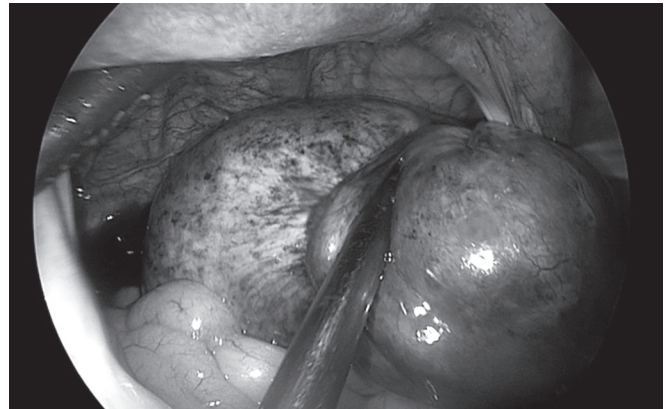


Fig. 3: Right ovary twisted, bilobed dermoid cyst

right adnexa suggestive of torsion. Uterus was normal size. No free fluid in the pelvis was noted.

Multidimensional CT of pelvis with contrast confirmed the ultrasound findings (Fig. 1).

### Management Plan

Bilateral laparoscopic cystectomy SOS ovariectomy was planned for this patient under general anesthesia.

### Laparoscopic Findings (Figs 2 and 3)

- Bilateral smooth ovarian cysts
- Right cyst bilobed and ischemic, each measuring  $4 \times 4$  cm.
- Right Fallopian tube engorged and twisted along with the bilobed ovarian cyst by 2 turns.

- Left ovary enlarged up to  $9 \times 9$  cm appearing as one big ovarian cyst.
- Left fallopian tube normal.
- No adhesions.
- Intact capsule.

The presence of two dermoid cysts co-inhabiting in left ovary could not be differentiated until the proximal one was removed. Complete cystectomy of both dermoid cysts ( $4 \times 4$  cm and  $5 \times 5$  cm respectively) from the left ovary was carried out, and hemostasis was checked in the remaining normal ovarian tissue on the left side.

The dilemma was whether or not to remove the ovary on the right side along with the dermoid cyst. After a considerable discussion, the decision of right-sided ovariectomy with right-sided salpingectomy was taken and proceeded.

Spillage of dermoid contents from the left-sided cystectomy was unavoidable. Rest of the specimens were placed intact in an endo-bag made from urine bag and suctioned out from the 5 mm lower side port now converted into a 10 mm port.

Thorough peritoneal lavage with warm saline was given, and hemostasis was reconfirmed before closure.

Postoperative recovery was uneventful. The patient was discharged on the 3rd postoperative day. She was followed up on postoperative day 7 for suture removal with the histopathological confirmation of bilateral dermoid ovarian cyst.

## DISCUSSION

Dermoid cyst is a frequently encountered tumor of ovary, usually unilateral, sometimes bilateral, and rarely more than two in the same patient. There are very few reports on multiple dermoid cysts in a patient. Bournas et al.<sup>2</sup> documented four dermoid cysts within the right ovary and one in the contralateral ovary. Sinha et al.<sup>3</sup> described seven and three dermoid cysts in left and right ovaries, respectively. Our case describes two dermoid cysts in the left ovary and one bilobed dermoid cyst, with torsion in the right ovary.

Before the advent of modern minimally invasive surgical techniques, dermoid cysts produced some morbidity and mortality because of their propensity to undergo torsion leading to ovarian infarction or rupture leading to chemical peritonitis.

The use of laparoscopic technique reduces hospitalization, infection rate, and recovery time along with a cosmetically acceptable scar. One of the theoretical pitfalls of laparoscopy is the assumed high risk of intraoperative cyst rupture leading to spillage and chemical peritonitis.

Kocak et al. described dermoid cyst extraction with spillage in 42.5% cases and none developing chemical peritonitis. Berg et al. reported spillage in 66% cases in their study and no intra- or postoperative complications and no evidence of chemical peritonitis. Considering the literature on spillage rates in excision of dermoid cysts and the incidence of chemical peritonitis, the rate of clinical chemical peritonitis following spillage in laparoscopic dermoid cystectomy is <0.2%.<sup>4</sup>

Spillage can be prevented by the use of an endobag or by giving a thorough peritoneal lavage with warm fluids. It is our routine practice to use the urobag as an endobag for such cases. In fact, it can be argued that cyst contents spillage is easier and more efficiently managed during laparoscopy rather than laparotomy because of better exposure of the pouch of Douglas and the feasibility of extensive peritoneal lavage.

## Oophorectomy vs Cystectomy

There are no data in the literature that prove the superiority of one over the other. The decision is primarily based on fertility status and

the viability of the remaining tissue. There is a 3–4% risk of torsion in ovarian mature cystic teratomas. An emergency laparoscopic untwisting of adnexa is recommended. Persistent black color of the adnexa after untwisting is not an indication of systematic oophorectomy since functional recovery is possible.<sup>5</sup> In our case, ovariectomy was kept as an alternative considering patient's parity, future need for fertility, and patient's decision over the pathology. During the surgery, we proceeded with cystectomy on the left side and salpingo-oophorectomy on the right side.

## CONCLUSION

Laparoscopy should be considered as a method of choice for mature cystic teratomas of ovary. It should be performed by experienced advanced laparoscopic surgeons.

We conclude that while dealing with dermoid cysts, the surgeon must evaluate the contralateral side also. The cyst wall must be removed to prevent the possibility of recurrence.

The risk of chemical peritonitis due to spillage in such cases is extremely less and can be easily managed with copious peritoneal lavage and with the use of endobag for specimen retrieval.

## CLINICAL SIGNIFICANCE

- Torsion of a dermoid cyst is not an absolute indication for ovariectomy.
- Contralateral ovary must be examined while dealing with cases of dermoid cyst as bilateral dermoid cysts are also a possibility.
- Endobag can be made using a simple urobag, which is a very economical method to prevent spillage of dermoid contents.

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