



## LAPAROSCOPIC MANAGEMENT OF A RARE CASE OF BILATERAL GIANT OVARIAN CYST IN A YOUNG UNMARRIED GIRL: AN INDEX CASE

### Obstetrics & Gynaecology

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### ABSTRACT

**Introduction:** Nowadays it is rare to find giant ovarian cysts as they are diagnosed and managed early due to easy access to the good imaging modalities. Traditionally the treatment modality is conventional midline laparotomy. Here we present a case of laparoscopic ovarian cystectomy with keeping the healthy ovarian stroma intact in a case of bilateral giant dermoid ovarian cyst. **Case Report:** A 27-year-old unmarried woman presented with the symptoms of progressive abdominal distension over 6 months and vague abdominal pain of 1 week duration. There was no history of bowel/bladder disturbances, loss of weight/appetite, no history of menstrual irregularities. No relevant medical and surgical history but on Preoperative work up she was diagnosed with hypothyroidism. On per abdominal examination a 22 to 24-week size firm non-tender mass with smooth surface was palpable. Upper and lateral borders well defined. Lower border not felt. There was restricted transverse mobility and no bruit over mass with no ascites. On Ultrasonography revealed suspicion of Dermoid cyst with suspected torsion. Uterus—anteverted, normal size. No free fluid seen. CECT of the abdomen and pelvis confirmed Multiple bilateral ovarian dermoids (Left> Right). She was then taken up for laparoscopic ovarian cystectomy. Left Ovarian mass around 24-week size and the right ovarian mass was 10X12 cm. in size. Her histopathology report revealed the presence of bilateral dermoid ovarian cyst. **Conclusion:** After exclusion of possibility of malignancy with normal tumor marker profile and appearance on imaging modalities, it is possible to manage giant ovarian cyst laparoscopically.

### KEYWORDS

Giant ovarian cyst, Teratoma, Laparoscopy, Dermoid cyst, Adolescent

#### INTRODUCTION:

Giant ovarian cysts, which are the cysts measuring more than 10 centimeters in size in their largest diameter. Bilateral Giant ovarian cyst in a young, nulliparous woman is a challenging situation as considerable amount of ovarian stroma has to be preserved for menstrual function and future fertility. In the recent times its very rare to find giant ovarian cysts as they are diagnosed and managed early due to easy access to the good imaging modalities<sup>1,3</sup>. Traditionally the treatment modality is conventional midline laparotomy. There are only a few cases in the literature of bilateral dermoid ovarian cyst in young individuals in their twenties managed laparoscopically. Here we present a case of laparoscopic bilateral ovarian dermoid cystectomy with keeping the healthy ovarian stroma intact in a case of bilateral giant dermoid ovarian cyst.

#### Case presentation:

**Case history:** A 27-year-old unmarried Indian female presented with the symptoms of progressive abdominal distension over 6 months and vague abdominal pain of 1 week duration. There was no history of bowel/bladder disturbances, loss of weight/appetite, no history of menstrual irregularities. No relevant medical and surgical history but on Preoperative work up she was diagnosed with hypothyroidism.

**Family history:** Mother had Breast Ca 15 years back and was an old case of Pulmonary tuberculosis treated and cured

#### Systemic examination:

**Per abdomen:** A 22-24-week size firm non-tender mass with smooth surface palpable. Upper and lateral borders were well defined and lower border not felt. Transverse mobility was restricted and no bruit and no ascites noted.

**Per rectal:** Rectal mucosa was free.

**Investigations:** Routine investigations revealed elevated serum TSH was found to be 9.44mU/L and CA125 = 52 IU/ml. A lab workup including beta HCG, CEA, AFP and CA19-9 was found to be normal. Renal function test and liver function test were within normal limits.

Chest X-ray was also normal.

On ultrasonography Right adnexa showed three echogenic cystic lesions, largest of size 87x71 mm, right ovary not seen separately, another similar cystic lesion 68x55 mm with curled appearance intracystic vessels with no vascularity seen in pelvis extending to infraumbilical location with suspicion of Dermoid cyst with query torsion. Uterus was anteverted, normal size. No free fluid seen.

CECT of the abdomen and pelvis confirmed Multiple bilateral ovarian dermoids (Lt>Rt). No obvious signs of torsion seen. A heterogeneously non-enhancing lesion also seen in the left adnexa, Likely a left ovarian cyst.

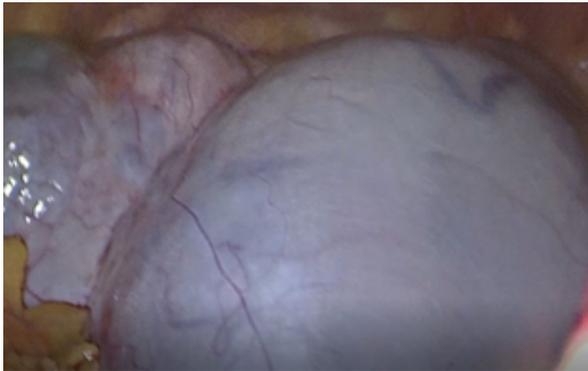
MRI revealed the presence of giant bilateral ovarian masses where left ovary including the cysts measures about 13x11cm and a large cystic lesion measuring about 11x9cm on the right side where right ovary could not be identified separately from the cyst.

Her histopathology report revealed the presence of mature cystic teratoma of bilateral ovaries.

**Management:** Diagnostic and operative laparoscopy proceeded to Bilateral ovarian cystectomy under general anesthesia.

#### Intraoperative findings:

- Left Ovarian mass around 24-week size partly cystic and partly firm areas, involving the whole of the left ovary and coming just beyond the umbilicus.
- Right ovarian mass around 10x 12 cm. size
- Frozen section done and was benign.
- No torsion was noted but hemorrhage in one of the lobes of left cyst was noted which might be the cause of pain abdomen in our case.
- Bilateral ovarian cystectomy with ovarian stroma preservation done and specimen sent for HPE
- Removed in bag piecemeal so that there was no spillage.



**Figure: Pre-operative laparoscopic appearance of ovarian cyst.**

The postoperative period was uneventful. The patient was discharged on the next day and suture removal done on the seventh day. Histopathology confirmed the diagnosis of bilateral dermoid ovarian cyst.

#### DISCUSSION:

Giant ovarian cysts are generally described when their largest diameter is more than 10 centimeters<sup>4</sup>, are rare in occurrence. Giant ovarian cysts more frequently occur between the third and sixth decades of life<sup>5,6</sup><https://www.cureus.com/articles/26924-clinician-beware-giant-ovarian-cysts-are-elusive-and-rare-references>. Mature cystic teratoma comprises 10–25% of all ovarian neoplasms. Peak age of occurrence is 25–45 years. Mature cystic teratoma is a benign germ cell tumor with rare chances of it being malignant (1.7%), especially in women after the 40 years age. Only 10% cases are bilateral, they are usually unilocular having smooth surface, contains various germ cell tissue derivatives such as hair and sebaceous material, lined with squamous epithelium. Cartilage, thyroid tissue, teeth, bone, and bronchial mucous membrane are also found in the wall.

The word dermoid cyst is a misnomer as it contains derivatives of all the three germ cell layers that is ectoderm, endoderm and mesoderm, but the ectodermal tissues are found in dominance. Histological sections should be made from the area called Rokitansky's protuberance which is one area of solid projection in the inner surface, which is covered by sebaceous glands, skin and at times teeth and bones.

Causes of pain abdomen in the ovarian cyst cases can be torsion, hemorrhage and rupture. In our case it was due to hemorrhage.

Dermoid cyst is hypothesized to have developed from genetic material which is contained within a single oocyte. Almost all the dermoid cysts have a 46, XX karyotype due to its arrest in meiosis I.

#### Complications of mature cystic teratoma-

**Torsion (our case):** Torsion is seen in 15% cases the reason being their long pedicle and heavy weight due to fat.

**Rupture**—It is rare to have a spontaneous rupture in the dermoid cysts. The cyst wall is thick which resists rupture compared with other ovarian neoplasms. But in case if it does rupture, it leads to chemical peritonitis which is considered very serious. Peritonitis is mainly due to sebum and hair contents of the cyst. Chronic leakage of teratoma contents may lead to granulomatous peritonitis which may be interpreted as malignancy.

#### Chances of Recurrence are 3–4%.

Malignancy is rare 1.7% usually squamous cell carcinoma, occasionally malignant thyroid tumors.

O'Neill and Cooper<sup>7,9</sup> reported a case who underwent exploratory laparotomy (ovarian cystectomy) with histopathology reports confirming the presence of bilateral ovarian dermoid cyst. It was a case of a motor vehicle accident in a 17-year-old woman who presented with a bilateral adnexal mass consistent in appearance with dermoid cyst on a CT. Three years later she had dermoid cyst recurrence which was expectantly managed with serial ultrasounds and after two years slow but visible growth of the dermoid cyst of ovary was confirmed.

For comparison between laparoscopic and open ovarian cystectomy for mature cystic teratoma, MEDLINE search concluded that laparoscopic procedure is safe and cost effective with less hospital stay, postoperative pain and analgesic usage. However, chances of spillage of its content is more with laparoscopic procedures especially larger than 8 centimeters.

Commerci et al,<sup>10</sup> in their study on 517 cases concluded that there has been an increased tendency for ovarian preservation in the management of mature cystic teratomas over the past few years.

#### CONCLUSION:

To the best of our knowledge it is probably the first reported case in literature of bilateral giant ovarian dermoid cysts managed laparoscopically. In young unmarried girls the main social concern is to preserve ovarian function and future fertility and the surgical scar size should be as small as possible hence a conservative surgical approach is of a great importance in such case. Laparoscopic management of dermoid ovarian cyst is now gaining acceptance with improved laparoscopic surgical skills and instrumentation. In hands of an experienced laparoscopic surgeon and improved instruments it is now possible to retain the maximum amount of normal ovarian tissue particularly in bilateral giant dermoid ovarian cyst in young patients leading to preservation of fertility and cosmesis due to minimal scars.

Ethical clearance: It was unnecessary due to nature of study.

Conflicts of interest: None

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