REMOVAL OF BILATERAL MULTIPLE DERMOID CYSTS DURING CAESAREAN SECTION – A RARE CASE

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Received 24 June 2024/ Received in revised form 19 December 2024/ Accepted 12 March 2025

Abstract

Ovarian dermoid cysts commonly occur during the reproductive age group. The prevalence is low of this condition, which is challenging to manage. We report a case of 27-years-old female diagnosed with bilateral multiple dermoid cysts, which was managed surgically during caesarean section. The diagnosis was made by ultrasound imaging. A bilateral cystectomy was performed, removing a single dermoid cyst on the right side and three huge dermoid cysts were excised from the left ovary. The postoperative period was uneventful and both mother as well as baby were discharged on the fourth postoperative day.

Keywords: Dermoid cyst; Pregnancy; Ovary; Ovarian tumours; Teratomas.

Introduction

Ovarian tumours are uncommon in pregnant women. The most common ovarian tumours during pregnancy are mature cystic teratomas. They occur in 0.3% of pregnancies and typically appear between 16 and 20 weeks of gestation.[1,2] The association between these cysts and pregnancy has been documented since 1918.[3]

Dermoid cysts develop when totipotent germ cells differentiate improperly, taking on the properties of adult dermal cells.[4] Ultrasound is the gold standard for diagnosing ovarian tumours during pregnancy.[4] However, pelvic magnetic resonance imaging (MRI) is often preferred in the diagnosis of ovarian tumours during pregnancy, as it provides comparatively more information than ultrasound which has a lower specificity in the diagnosis of pelvic malignancy. Ultrasound-guided aspiration of ovarian tumours is not recommended during pregnancy.[5] The main complication of benign ovarian tumour during pregnancy is torsion of the adnexa and it occurs in about eight percent of the cases usually at the end of the first or during the second trimester.[6]

It is a dilemma of weighing the risks of untreated mass versus surgery during pregnancy.[3] Persistent, large size, complex or solid component and bilateral location of adnexal masses can be managed surgically that can decrease the risk of complications such as torsion and rupture.[6] The effect of surgical intervention on gestational outcomes of females undergoing elective surgery of an adnexal mass in the second trimester of gestation in one study showed that out of eight females, none suffered difficulties following surgery and all delivered healthy infants at term. It was concluded that elective surgery of an adnexal mass in the second trimester of pregnancy is safe both for the mother and the foetus.[7]

There are several debates surrounding the treatment of dermoid cysts during pregnancy, such as observation vs surgery. It depends upon the size, symptoms and the duration of pregnancy. Large size may impair foetal growth, malpresentation, obstructed labour, rupture of the cyst, as well as inaccurate calculation of gestational age and therefore increased maternal morbidity owing to excessive distension of the abdomen.[8] As bilateral, multiple, large size and uncomplicated dermoid cysts are rare during pregnancy, very few cases have been reported till date, where pregnancy was continued till term with dermoid cysts or any other tumour. Qublan et al. reported mucinous cystadenoma of 6300 gm at 38 weeks of pregnancy with intrauterine growth restriction (IUGR) and malpresentation.[9] Hence, we reported a case of bilateral dermoid cyst in pregnancy, which is a rare event.

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Case report

A 27-year-old nulliparous patient presented with abdominal pain and underwent ultrasonography (USG) which showed bilateral dermoid cysts. The dimension of right cyst was 5.9×5.5×4.9 cm. There were three cysts in left ovary, which were of dimension 7.8×7.4×8.3 cm, 7.2×8.0×6.4 cm, and 5.7×5.3×4.5 cm. Patient was planned for laparoscopy guided bilateral ovarian cystectomy.

Due to some reasons, procedure was postponed. Later the patient came for follow-up after four months with amenorrhoea of one month and five days. Her urine pregnancy test (UPT) was positive. Patient wished to continue the pregnancy, hence was counselled regarding risks and complications of laparoscopy in mid trimester after 14 weeks of pregnancy. She was not ready for laparoscopy as there were no symptoms except pain in abdomen off and on. At 36 weeks of gestation, the patient developed persistent abdominal pain, and ultrasonography revealed oligohydramnios.

The patient received steroid coverage, followed by lower segment caesarean section (LSCS). A healthy female baby of 3 kg weight was delivered. Intraoperatively, it was found that there was one single twist in left ovary (*Figure 1*).

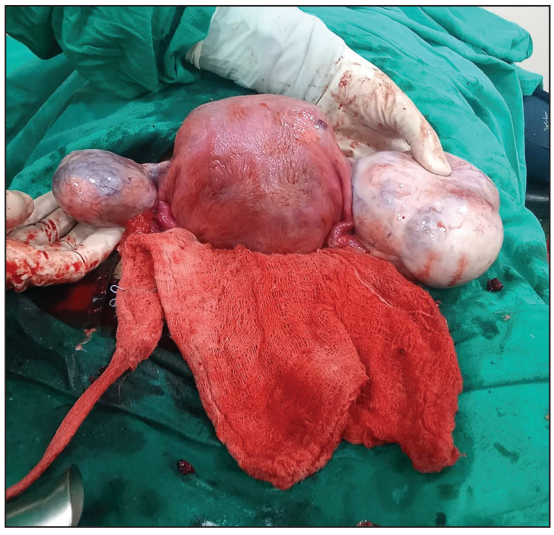
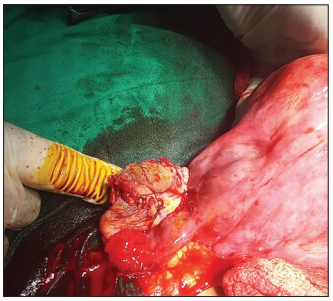


Figure 1. Bilateral multiple dermoid cysts.

Bilateral cystectomy was done. Right side single dermoid and three large dermoid cysts from left side were removed. Reconstruction of both ovaries was done with vicryl 2-0 (*Figure 2 & 3*). Postoperative period was uneventful. Mother and baby were discharged postoperatively on fourth day



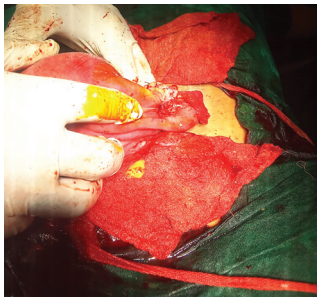


Figure 2 & 3. Reconstruction of both ovaries was done with vicryl 2-0.

Literature review showed, 1 out of 10,000 pregnancies with bilateral dermoid cysts required intervention in second trimester.

Discussion

Dermoid cysts develop from germ cells that have been arrested after the first meiotic division. It constitutes about 20–40% of all ovarian tumours in pregnancy.[10] It has low malignant potential and rarely grows larger than a melon, is unilocular or has very few locules.[11] Its capsule is thick, smooth and greyish yellow in colour.[12] The lining epithelium is typically stratified squamous and contains the usual cutaneous elements like sebaceous glands, hair follicles and sometimes teeth.[13] Dermoid cyst may remain asymptomatic during pregnancy, and if symptomatic usually has symptoms in the second trimester.[14] The gold standard to detect an ovarian tumour during pregnancy is ultrasound.[15] A mature cystic teratoma can be diagnosed by ultrasonography which is a diffuse or partial echogenic mass with the echogenic area owing to sebaceous material and hair within the cavity. It can also be diagnosed with CT scan or MRI.[16]. During pregnancy, tumour markers are not reliable to assess the risk of malignancy of ovarian masses.[4] Any adnexal mass smaller in size than 5 cm, during pregnancy rarely leads to symptoms.[17] Symptomatic, solid, bilateral, and complex lesions should be treated with surgery whenever discovered.[19] Unilateral simple ovarian cysts, 5-8 cm in size, should be evaluated by ultrasound up to 16-18 weeks, and if they fail to regress or grow, surgical intervention should be undertaken by 18 weeks.

Most studies state that it is necessary to surgically treat bilateral dermoid cysts of the ovaries during pregnancy if they are more than 60 mm in diameter.[3] Laparoscopy/laparotomy is possible during the first and second trimester to manage symptomatic presumed benign ovarian tumours.[18] The preferred time of surgery is the second trimester of gestation.[3]

Minilaparotomy is another alternative between laparoscopy and laparotomy. Shorter operation time, removal of the mass with lower risk of rupture and preserving more ovarian tissue are some advantages of this approach in comparison to laparoscopy.[7] In the selected cases of adnexal mass during pregnancy, close observation is an accepted alternative to surgery.[8]

Several cases of huge ovarian mass with features of foetal growth restriction have been reported in the literature.[19,20] Other complications of adnexal cyst are torsion, haemorrhage, rupture, degeneration, infection or malignant transformations.[21] Ultrasonography is recommended for all ovarian cysts during pregnancy due to the risk of pregnancy complications. The risk of miscarriage, following surgery for ovarian tumour during pregnancy is estimated 2.8% and the risk of torsion is increased during the postpartum period.[4] Complete removal of the cysts, reduction of the risk of recurrence, prevention of the risk of tumour dissemination and preservation of healthy ovarian tissue should be considered during the surgery of benign ovarian tumours.[9] In our case bilateral dermoid cysts were diagnosed preconceptionally and were removed during caesarean section. Intact removal of cysts was done to avoid spillage, and healthy ovarian tissue was preserved.

In our case, the patient was not ready for surgical intervention during pregnancy. Removal of bilateral dermoid cysts during caesarean section was planned. All cysts were completely excised intact, ensuring the preservation of healthy ovarian tissue. There were no major complications except for torsion of left ovary, which was found during caesarean section. This accounted for continuous pain abdomen during pregnancy. Postoperative period was uneventful. This case demonstrates that multiple benign ovarian dermoid cysts can be safely removed intact via laparotomy during caesarean section, provided the patient is closely monitored for complications to prevent adverse pregnancy outcomes.

Editors' comments

Dermoid cysts are common ovarian tumours in pregnancy, requiring intervention if symptomatic or large (>60 mm). Ultrasound is the gold standard for diagnosis. Surgery is recommended in the second trimester or during caesarean. This case involved a 27-year-old patient with bilateral dermoid cysts, where removal was done during caesarean section. Intraoperatively, left ovarian torsion was noted. All cysts were excised intact, preserving ovarian tissue. The postoperative period was uneventful, demonstrating that safe removal of multiple dermoid cysts via laparotomy during caesarean is achievable with. careful monitoring, ensuring the well-being of both the mother and foetus.

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