

Laparoscopic Management of Large Ovarian Cyst with Pregnancy: A Case Report

Dr. Ritu Saxena

Prof. Hind Institute of Medical Sciences, Attariya, Sitapur, Uttar Pradesh - 261303, India

Abstract

Background: Before a pregnant woman's baby birth, the incidence of cyst is the most common. Due to availability of quality antenatal ultrasound, ovarian cysts in the pregnant woman are diagnosed more frequently. The large (>5 cm) and complex cysts are symptomatic and it required to be managed by surgical intervention. Cyst might rupture, twist, or even cause problems during childbirth.

Aims and objective: To bring relief to a primigravida with 16 weeks pregnancy after spontaneous conception, presented with complain of hugely distended abdomen with marked discomfort and to preserve her pregnancy.

Case Report:

Materials and Methods: A 26 year old pregnant woman with ovarian cyst was enrolled and treated through laparoscopic management.

Results: After the laparoscopic removal of cyst the post-operative period of the pregnant woman was found uneventful. The pregnancy of the woman was progressed smoothly and there was no any complications during the pregnancy. Full term normal delivery (FTNVD) was occurred and the baby was healthy with weight of approximately 2.55 Kgs.

Conclusion: Large ovarian cyst can be managed without disturbing the pregnancy and a complicated case can be transformed into a normal ante natal check-ups (ANC).

Keywords: Laparoscopic, Ovarian Cyst, Surgery, Pregnancy

Introduction

Ovarian cysts in the pregnant female are found the most common situation. The cause for the growth of cyst is that unwarranted stimulation of the fetal ovary by either of or the both placental and maternal hormones, which may lead to cyst formation [1]. Before the delivery of baby, the chances of cyst in a pregnant woman's is 1 in 2500 [2-4].

Before the implementation for the performing the ultrasound into the clinical practice, adnexal masses during pregnancy were mainly diagnosed by physical examination when women during pregnancy found with symptoms which might include abdominal/pelvic pains or a palpable mass. These masses were more likely to be surgically removed to resolve symptoms, avoid complications. Since the finding of an adnexal mass during pregnancy now is mainly incidental, as per availability of accurate diagnosis which is very important to identify those patients who are in need of surgery for the removal of the cyst.

Now a days, with the introduction and routine availability of quality antenatal ultrasound, ovarian cysts in the pregnant woman are diagnosed often these days. Ovarian cysts are the most common intra-abdominal cysts in the pregnant women.

Sometimes, ovarian cysts may lead to several complications such as hemorrhage, rupture, torsion, bowel obstruction, necrosis, and compression of the urinary tract, compression of the vena cava, hydramnios, and even cyst incarceration in the canal of Nuck [5]. The cysts which are larger in the size, torsion is the most common complication observed in the pregnant women [5-8].

Typically, the large (>5 cm) and complex cysts are symptomatic. It required to be managed by surgical intervention. Whereas, the asymptomatic, simple or uncomplicated cysts which are <5 cm in size can be observed and regularly monitored for the cyst size using ultrasound until it get resolve completely. It usually

takes 6-10 months [1-18]. Depending on the clinical examination or the postnatal ultrasound method, the surgery can be done in the newborn period or later when cysts becomes symptomatic [10-13].

During pregnancy, there are few possible problems if the cysts continues to grow. Cyst might rupture, twist, or even cause problems during the childbirth. Due to which it's important to stay under the care of an obstetrician/gynecologist during the pregnancy, and throughout the life.

In the cyst which is inclusion type refers to serous fluid inclusion in the enclosed peritoneal cavity. There are many reasons report which may include laparotomy, endometriosis, and abdominal infection to cause this type of cyst. The cysts occur most frequently in patients younger than 50 years of age (92%; 23/25). In addition, a gonadotropin-releasing hormone agonist and oral contraceptives were reported to decrease their size, suggesting that sex-hormones may promote fluid secretion, thereby enlarging the inclusion cyst. [19]

Aim and Objective

To bring relief to a 26 years old primigravida with 16 weeks pregnancy after spontaneous conception, presented with complain of hugely distended abdomen with marked discomfort and to preserve her pregnancy.

Case Report

Materials and Methods

Study was conducted in the Obstetrics and gynaecology department, Shekhar Hospital, Lucknow, India.

After obtaining consent from 26 years old primigravida with a very large cystic lesion was enrolled in the study.

Patient detail:

- Age: 26 years
- Last Menstrual Period (LMP): 27-May-2018
- Estimated Date of Delivery (EDD): 04-Mar-2019

Examinations details:

- Clinical Examination: large distended mass with smooth margins, lower margins not felt. Fundal height of uterus not made out.
- P/V: Uterus 16 – 18 weeks size felt on bimanual palpitation, posteriorly.
- USG date: 16-Sep-2018
- CA 125: 13.7 U/mL
- HE-4: 32.3 p mol/L
- ROMA: 2.7505 %
- Foetal Scan – Single live intrauterine foetus 16 weeks.
- Maternal Scan – Large Anechoic cystic lesion occupying entire peritoneal cavity abutting retroperitoneal vessels. Measuring 25 x24 x13cm.

MRI date: 22-Sep-2018

A very large cystic lesion 30 x13 x26 cm occupying the entire abdomen was observed. Anteriorly, indenting the anterior abdominal wall. Posteriorly, abutting the anterior surface of pancreas, kidneys and retroperitoneal major vessels. Laterally, extending into right iliac fossa displacing uterus inferiorly & left.

After diagnosis of the cyst and complain of hugely distended abdomen with marked discomfort and to preserve patient's pregnancy, Laparoscopic removal of large ovarian cyst was done on 05-Oct-2018.



Figure 1: Primigravida with a very large cystic lesion



Figure 2: Draining of fluid



Figure 3: Laparoscopic Surgery for Cyst





Figure 4: Cyst after surgery

Before the surgery approximately 2 liter of fluid was drained through veress needle. During the surgery high placement of ports was done.

Results and Discussion

After the laparoscopic removal of cyst from a 26 years old pregnant woman, the post-operative period was found uneventful.

The pregnancy of the woman was progressed smoothly and there was no any complications during the pregnancy.

Full term normal delivery (FTNVD) was occurred on 16-feb-2019 at 15:45 Hrs. The baby was healthy with weight of approximately 2.55 Kgs.

As per the Dobremez E. et al., Brandt ML et al. and Chiaramonte C. et al., Neonatal ovarian cysts result from the abnormal stimulation of mature ovarian follicles by maternal gonadotrophins in the fetal stage. These are more common in neonates whose mothers had abnormally high levels of HCG such as diabetes, maternal isoimmunization or in premature babies, where the ovaries are highly sensitive to HCG stimulation.

With the increased use of prenatal USG, the detection rate for these cysts has increased considerably. Upto 34% of the fetuses may have sonographically detectable cysts antenatally. Management is not required for all of these cysts. It has been suggested that after delivery, as the anterior pituitary starts the negative-biofeedback mechanism, the abnormal gonadotrophin secretion is discontinued; many of these cysts regress spontaneously, although regression may take up to 10 months.

According to Nussbaum's classification, the neonatal ovarian cysts can be classified into simple or uncomplicated (completely anechoic) and complex or complicated (fluid debris level, clot, septae, and echogenic wall) cysts, suggesting torsion.

Untreated ovarian cysts can lead to complications such as hemorrhage, rupture and torsion. Torsion is the most common complication of an untreated ovarian cyst, and it generally occurs in large cysts, although it has also been reported in smaller cysts.

Torsion has been reported to occur antenatally in most of the cases in literature and was also seen in the present case.

Simple cysts are a result of benign stimulation and can be observed for regression if less than 4 cm in size. Given the propensity for torsion in larger cysts, surgical therapy is recommended. Surgery is also recommended in complex cysts as these are mostly the ones with torsion. Second, neoplasm can not be conclusively ruled out. Neoplasms have been reported even in 30-week-old fetuses.

In the present era, most of these cysts can be managed laparoscopically. It has been shown to be safe even in neonates and has all the advantages of a minimally invasive approach. As the neonatal ovary has a long pedicle, the cyst after decompression can be easily delivered via the umbilicus and ovariectomy can be performed. Laparoscopy offers the added advantages in case the diagnosis is not sure. In addition, the opposite ovary can be observed clearly.

In conclusion, ovarian cysts that require surgical procedure can be easily managed via laparoscopic approach and pregnancy could be preserved without any complications.

Conclusion

Operative laparoscopy is the gold standard for surgical management. The conclusion of the case was that large ovarian cyst can be managed without disturbing the pregnancy and a complicated case can be transformed into a normal ante natal check-ups (ANC) which lead to give a message i.e. PREGNANCY AT RISK, MAKING PREGNANCY SAFE.

References

- [1.] Van der Zee DC, van Seumeren IG, Bax KM, Rovekamp MH, ter Gunne AJ. Laparoscopic approach to surgical management of ovarian cysts in the newborn. *J Pediatr Surg.* 1995; 30: 42–43.
- [2.] Singal AK, Vignesh KG, Paul S, Matthai J. Antenatally diagnosed ovarian cyst with torsion managed laparoscopically. *J Indian Assoc Pediatr Surg.* 2008; 13: 28-29.
- [3.] Brandt ML, Helmtrath MA. Ovarian cysts in infants and children. *Semin Pediatr Surg.* 2005; 14: 78-85.
- [4.] Katara AN, Shah RS, Bhandarkar DS, Shaikh S. Laparoscopic management of antenatally-diagnosed abdominal cysts in newborns. *Surg Laparosc Endosc Percutan Tech.* 2004; 14: 42-44.
- [5.] Dobremez E, Moro A, Bondenny JM, Vergnes P. Laparoscopic treatment of ovarian cysts in the newborn. *Surg Endosc.* 2003; 17: 328-332.
- [6.] Nussbaum AR, Sanders RC, Hartman JS, Dudgeon DL, Parmley TH. Neonatal ovarian cyst sonographic pathologic correlation. *Radiology.* 1988; 168: 817-821.
- [7.] Brandt ML, Luks F, Filiatrault D, Garel L, Desjardens JG, Youssef S. Surgical indications in antenatally diagnosed ovarian cysts. *J Pediatr Surg.* 1991; 26: 276-282.
- [8.] Chiamonte C, Piscopo A, Cataliotti F. Ovarian cysts in newborns. *Pediatr Surg Int.* 2001; 17: 171-174.
- [9.] Currarino G, Rutledge JC. Ovarian torsion and amputation resulting in partially calcified, pedunculated cystic mass. *Pediatr Radiol.* 1989; 19: 395-399.
- [10.] van der Zee DC, van Seumeren IG, Bax KM, Rövekamp MH, ter Gunne AJ. Laparoscopic approach to surgical management of ovarian cyst in the newborn. *J Pediatr Surg.* 1995; 30: 42-43.
- [11.] Cass DL, Hawkins E, Brandt ML, Chintagumpala M, Bloss RS, Milewicz AL, Minifee PK, Wesson DE, Nuchtern JG. Surgery for ovarian masses in infants, children and adolescents: 102 consecutive patients treated in a 15 year period. *J Pediatr Surg.* 2001; 36: 639-699.
- [12.] Oak SN, Parelkar SV, Akhtar T, Pathak R, Vishwanath N, Satish KV, Kiran R. Laparoscopic management of neonatal ovarian cysts. *J Indian Assoc Pediatr Surg.* 2005; 10: 100-102.
- [13.] Papic JC, Billmire DF, Rescorla FJ, Finnell SM, Leys CM. Management of neonatal ovarian cysts and its effect on ovarian preservation. *J Pediatr Surg.* 2014; 49: 990-993.
- [14.] Enríquez G, Durán C, Torán N, Piqueras J, Gratacós E, Aso C, Lloret J, Castellote A, Lucaya J. Conservative versus surgical treatment for complex neonatal ovarian cysts: outcome study. *AJR Am J Roentgenol.* 2005; 185: 501-508.
- [15.] Mukhopadhyay M, Shukla RM, Mukhopadhyay B, Mandal KC, Ray A, Sisodiya N, Patra MP. Ovarian cysts and tumors in infancy and childhood. *J Indian Assoc Pediatr Surg.* 2013; 18: 16-19.
- [16.] Shawis RN, El Gohary A, Cook RC. Ovarian cysts and tumors in infancy and childhood. *Ann R Coll Surg Engl.* 1985; 67: 17-19.
- [17.] Bagolan P, Rivosecchi M, Giorlandino C, Bilancioni E, Nahom A, Zaccara A, Trucchi A, Ferro F. Prenatal diagnosis and clinical outcome of ovarian cysts. *J Pediatr Surg.* 1992; 27: 879-881.
- [18.] Dueck A, Poenaru D, Jamieson MA, Kamal IK. Unilateral ovarian agenesis and fallopian tube maldescent. *Pediatr Surg Int.* 2001; 17: 228-229.

[19.] Yoko Fujimoto et al., Rapid Growth of Pelvic Cyst during Pregnancy: A Case Report, Hindawi. 2019; 2019: 1-5.