



Successful First-Ever Single-port Laparoscopy for managing suspicious ovarian mass in the second trimester of gestation

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Introduction

Ovarian cysts are a prevalent pathology in the female reproductive years.

They are equally reported during pregnancy, often discovered as an incidental finding during routine antenatal ultrasound examinations.

The nature of these masses is predominantly benign, with the estimated incidence of malignant tumours being less than 1% among the ovarian cysts diagnosed during gestation.

Nevertheless, due to the potential life-threatening consequences for the patient's health, prompt diagnosis and management are crucial even in cases of suspicion.

The National Institute for Health and Care Excellence (NICE) and the Royal College of Obstetricians and Gynaecologists (RCOG) have established a clear management pathway for this specific pathology during pregnancy. It is the responsibility of the obstetrician to stay informed about the latest updates of these guidelines and refer the patient to a multidisciplinary team meeting when necessary.

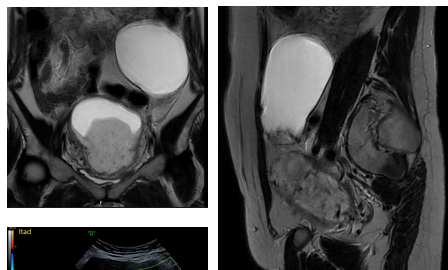
Clinical scenario

A 32 yo lady, fit and well, had a previous normal birth 4 ys ago and was referred to the Gynaecology services following the report of a suspicious mass at 12 wks of gestation with her second child.

Her fist antenatal US had shown a complex cyst within the left ovary. It consisted in a enlarged mass of a 10cm in size, with a 3cm solid component and blood flow present. Tumor markers including Ca 125 and LDH were within normal limits. However MRI was unable to conclude nature of the mass. The MDT concluded this was a potential borderline tumor and the recommendation was to proceed with unilateral left salpingo-oophorectomy, omental biopsy and peritoneal washings.

Patient was put in the centre of care with alternative options also explained. She was finally listed and consented for the surgery at 17wks and 6 days of gestation.

Radiological findings



MRI - Coronal plane (upper left) Sagittal plane (right).
Abdominal US (lower left)

Surgical Method

A minimal invasive surgery was chosen for the case and Single Port Laparoscopy was performed at this time.

An infraumbilical incision of 15 mm and a single trocar permitting passage of three instruments was deployed. This is possible due to three inlet valves which contain a thermoplastic elastomer allowing the introduction of one 12-mm and two 5-mm instruments, with a separate dedicated insufflation channel.

Intracavity pressure reached 12 mmHg and was maintained between 10-12mmHg throughout procedure which lasted 55 minutes.

First step consisted in a detailed inspection of the pelvic area by a 5mm scope. The only abnormal finding being the known large left ovary and a left oophorectomy was performed. The left fallopian tube was also thoroughly assessed. It was visually normal but due to the gravid uterus and the excess of vascularity the decision was not resected pondering risks and benefits.

Peritoneal washings and omental biopsy were carried as planned.

The fluid content on the cyst (which was also sent for cytology) required suction within the Endo bag prior the specimen externalization from the single umbilical port.

The uterus remained untouched through the surgery and patient was maintained at a slight left tilt on the table.

An abdominal ultrasound of the fetus took place in theatres before and after procedure.

Patient had a detailed post-operative plan based on the principles of enhance recovery and was discharged home 48h after the surgery. She was adequately followed up by the MDT, onco-gynecologists and lead obstetrician in a joint teamwork.

Discussion

At the time of the intervention, visual inspection of the mass remained clearly suspicious, with enlarged solid components and in absence of characteristic dermoid features, assessment under microscope was expedited.

We were confident that our technique was safe in two fundamental matters: avoid spread of a tumor (outstaging the cancer with the surgical intervention) and preserve the current pregnancy.

Histology findings diagnosed the mass as an immature teratoma. Had this been a malignant cyst, it would have been classified as a 1A1. At this stage the surgery would have been curative and patient would have had what she needed without losing her baby or risking a worsening prognosis after delivery.

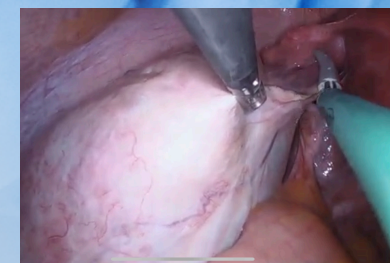
Conclusions

Conservative management during maternal gestation of 40-41 wk can play a relative negative role in the prognosis of certain diseases.

We propose that the way to move forward in our field is to come with innovative , efficient methods to give reassurance to patients and treating them when required.

There is currently a 0,7% risk of miscarriage and 2-3% risk of Preterm Labour with surgical - laparoscopic interventions in first and second trimester of pregnancy.

We believe that the modern technique of Single Port Laparoscopy represents a good line to follow, as it can have the potential to reduce those risks. It also reduces the risk of currently laparoscopic techniques including the incidence of hernias. Hence, further practice and learning on this minimal invasive surgery should be encouraged.



Procedure
Step by step:



SCAN ME