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Giant Ovarian Cyst In Pregnancy For Cesarean Section

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Abstract

Ovarian cyst in pregnancy has a very low incidence rate and most of them are benign in nature. Not many cases of giant ovarian cyst with viable pregnancy has been reported. A 23 year old female, primigravida with 31 weeks of pregnancy presented with an antenatal Ultrasonography diagnosis of large mucinous cystadenoma of ovary with a live fetus in utero. The various challenges posed to the anesthesiologist were presence of large intra-abdominal tumor, a viable fetus with exaggerated physiological changes of pregnancy. We hereby report a case, which was successfully managed by preventive approach, careful pre-operative evaluation, vigilant monitoring and prompt intra – operative measures for successful outcome.

Keywords

Ovarian cyst, pregnancy, intra-abdominal tumor

Introduction

Incidence of ovarian cyst during pregnancy is less than 1% (1 in 1000) and most of them are benign in nature.[1] Functional cysts are common during first trimester. Giant ovarian cysts are found only in less than 1% cases of all ovarian cyst in pregnancy. Early diagnosis is challenging as symptoms and signs are usually related to those associated with pregnancy unless the size is very large or patient develops complications like torsion, rupture, secondary changes or infection within the cyst. 2 Large size may affect fetal growth ranging from IUGR to fetal demise. It can lead to wrong calculation of gestational age, obstructed labor, mal-

presentation, etc. Hormone producing tumor has diverse effects on both mother and fetus. With advances in healthcare, such co-morbidities are nowadays diagnosed at an early stage.

Case Report

A young female 23years old, primigravida with 31 weeks of pregnancy presented in labor with complaints of lower abdominal pain since past 4 hours and breathlessness on exertion for 1 week. There was no history of vaginal discharge, bleeding per vagina, fever, nausea or vomiting, headache, blurring of vision or convulsion. No Antenatal Care (ANC) visits were done. Seven days back, she was diagnosed as a case of large mucinous cystadenoma of the ovary with a single, live intrauterine fetus and received 4 doses of dexamethasone, Capsule Nicardipine 30mg stat followed by 10mg every 12 hourly, micronized progesterone at a rural health center and then referred to our center.

On examination, she was conscious, oriented, severely pale with pedal edema, pulse rate of 134 bpm and blood pressure measuring 120/70 mmHg. She was maintaining saturation(SpO_2) of 95% in left lateral position on room air. There was no icterus, cyanosis, clubbing, lymphadenopathy or petechial hemorrhage. On per vaginal examination, she was in active labor with cervical dilatation of 2 cm and cervical length of 2-5cm. Head was not engaged and the abdomen was distended with abdominal girth of 110cm, horizontally stretched umbilicus and visible dilated veins. Fluid thrill was present. FHR was 138 bpm and fetal movements were adequate. Routine blood investigations were within normal limits except Hb - 6.8gm/dl. α-fetoprotein and β-HCG were raised with no evidence of malignancy. Ultrasonography of abdomen and pelvis showed a large cystic lesion with multiple septations occupying whole of the abdomen, the extent could not be accurately assessed due to the size and concomitant presence of foetus. As patient was in labor with reassuring FHR, case was discussed with oncosurgeon and joint decision was taken for an emergency caesarean section followed by resection of tumor by the managing team.

After taking high-risk consent, general anesthesia with rapid sequence intubation was planned. In order to facilitate breast feeding and early mobilization in post-partum period, we decided to avoid opioids and provided analgesia by means of epidural catheter. A wedge was placed under the right buttock to prevent venous compression. Anesthesia work station with suction apparatus, difficult intubation cart and emergency drugs and fluids for resuscitation were kept ready. The patient was pre-medicated with Inj. Metoclopramide 10mg IV, Inj. Glycopyrrolate 0.2mgIV. Prophylactic colloid, 500ml was infused while arrangements were made for fresh whole blood and FFP. Fresh whole blood was infused because we wanted to provide coagulation factors with red blood cells. In the theatre, ECG, SpO2, NIBP and EtCO2 were continuously monitored. Right side internal jugular central venous catheter was secured and noradrenaline infusion started at the rate of 0.05µg/kg/min to manage any fall in blood pressure. After adequate preoxygenation, patient was induced with Ketamine 80mg IV. Succinylcholine 75mg IV was administered to facilitate endotracheal intubation. Airway was secured with a 7mm ID oral cuffed endotracheal tube (ETT) and anesthesia was maintained with oxygen and 0.5-1% isoflurane. Muscle relaxation was provided with Inj. Atracurium.

Immediately post induction, BP dropped to 70/44 mmHg and SpO_2 between80 - 90 %. Nor –

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adrenaline infusion rate was increased and maximal possible ventilation was ensured using recruitment maneuvers. Peritoneum was opened using a vertical incision, baby and placenta were delivered and hemostasis was achieved. Meanwhile, the oncosurgeons gently aspirated the fluid from the cyst. Approximately 2 liters of cystic fluid was aspirated. After delivery of the baby inj. Pentazocine 18 mg IV was given, O2:N2O 50:50 with Isoflurane 1% was started and Inj. Oxytocin 10U in 500 ml of NS was given by infusion. Suddenly patient developed supraventricular tachycardia with a pulse rate of around 250/min, which was managed with carotid massage after that Inj. Adenosine 6mg was given. The cyst was removed which weighed around 13 kg.Estimated intra - operative blood loss was 1 liter which was replaced with 2 units of whole blood intra - operatively and 2 units post - operatively over 24 hours. Epidural catheter was inserted and. Inj. Bupivacaine 0.125% and Inj. Fentanyl 10µg was given via epidural catheter. As the patient was normothermic, her urine output was adequate, lungs were clearand there was eye opening on command, she was reversed at the end of the procedure with Inj. Glycopyrrolate and Inj. Neostigmine IV and extubated. Post operatively, patient transferred to HDU for further monitoring. She was discharged on 7th Postoperative day.

Discussion

Huge intra - abdominal tumors posted for surgical resection as such pose various anesthetic challenges. In our case, management was further complicated due to associated anatomical and physiological changes of pregnancy. Such large abdominal tumors rarely present in this era, especially during pregnancy, due to health care awareness and ease of access to medical care. Most common ovarian neoplasms are serous and mucinous cystadenomas. Various concerns in our case were presence of intrauterine live fetus, exaggerated supine hypotension syndrome, chances of ventilatory failure, elevation and splinting of diaphragm and flaring of rib cage, major intra-operative fluid shift and chances of rapid decrease in thoracic pressure after removal of tumor leading to hemodynamic collapse and re - expansion pulmonary edema.[4]The huge ovarian cyst in 34 weeks pregnancy is associated with various issues, which were very well addressed in our case.

From the history and examination, the patient seemed to be in a state of compensated shock, hence we anticipated a fall of Systolic blood pressure post induction. General anesthesia was chosen considering the ventilatory difficulty and pre - existing circulatory compromise. To maintain hemodynamics and avoid hypervolemia, prophylactic colloid was infused, norepinephrine infusion was kept ready before induction and Ketamine was chosen as the induction agent.[6] Peri – operative drug therapy was planned taking into consideration its effects on mother and fetus. With the aim to prevent splanchnic shock and re - expansion pulmonary edema, the cystic fluid was slowly evacuated, however we could not prevent dysrhythmia and hypotension.[7] In order to facilitate breast feeding & early mobilization in immediate post - partum period, we decided to avoid opioids and provided analgesia by means of epidural catheter.[8]

Conclusion

Large intra-abdominal tumors further change the anatomy, physiology and psychology of the pregnant patient and considering the live fetus in utero, it is often regarded as challenge to anesthesiologist. The case was

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successfully managed with proper planning using available resources

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