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Anaesthetic Management of Primigravida with Ovarian Cyst for Emergency Laparotomy

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Abstract: ***To avoid fetal exposure to polypharmacy and protection of maternal airway regional anaesthesia is usually preferred in pregnancy. Here we report a case of 27year old primigravida wih 11 weeks of gestation diagnosed as a case of two cysts in right ovary 5.9x5.6 cm and 4.6x3.7 cm posted for emergency laparotomy done under combined spinal epidural anaesthesia.***

Keywords: ovarian cyst, pregnancy, emergency laparotomy, primigravida, caesarian section

1. Introduction

Normally nonobstetric surgeries during pregnancy are carried out when there is a definitive indication considering well being of the mother, fetus or both. The incidence of non obstetric surgery during pregnancy ranges between 0.75% - 2%.Torsion of ovary is one of the commonest non obstetric surgery among them. Ovarian torsion is the total or partial rotation of adnexa around its vascular axis or pedicle. Total torsion causes venous and lymphatic blockade leading to stasis and venous congestion, haemorrhage and necrosis. The risk of adnexal torsion rises by 5 fold during pregnancy. This condition is less frequent with early gestational age. In the first trimester risk of fetal loss is smallest with modern anaesthesia technique. Continuous fetal monitoring is essential during surgical procedure which should be ideally done with Doppler ultrasound. Considering the risk of teratogenicity and complication associated with general anaesthesia especially difficult airway and high risk of aspiration regional anaesthesia should be first choice whenever possible. Case should be managed in multidiciplinary approach to avoid hypotension, hypxemia, hypovolemia and hypothermia for better outcome.

2. Case Report

A 27 year old female prinigravida with11 weeks of gestation came to opd with complain of pain in right abdominen severe in nature radiating to back since 3-4 days and not relieved by pain killers. she reported no vaginal bleeding or discharge, nausea, diarrhea or constipation. On physical examination her Bp was 110/70mmhg and pulse 110bpm.on abdominal examinationtenderness is present in right iliac fossa.Her transabdominal sonography revealed a single intrauterine pregnancy with 11weeksgestation.In the right adnexa two cysts 5.9x5.6 cm and 4.6x3.7 was seen arising from right ovary.Doppler scan was done due to pain which showed decreased vascularity. Patient was shifted in operation theatre with all routine investigation which were within normal limit. Hb 12.6 Tlc 10700 Platelet4.15Nil by mouth status and written consent were noted.Blood kept reserved as she was posted for major surgery. All monitors were attached. Her baseline HR 110bpm Bp 100/60mmhg Spo2 100% RR 16/min. We planned combined spinal epidural anaesthesia to avoid sudden hypotension and to increase duration of anaesthesia if required. She was preloaded with Ringer lactate solution @15ml/kg so her blood pressure and heart rate improved to 120/70mmhg and 90bpm respectively. She was premedicated with inj Ranitidine 50mg iv and inj metoclopramide 10mg intravenously. Under all aseptic precaution in sitting position epidural catheterization was done in L1-L2 intervertebral disc with 16G toughy needle with loss of resistance technique. Test dose was given epidurally with 2%injection lignocaine with adrenalin 3ml.Under all aseptic precaution inj bupivacaine 0.5% heavy 2.8 ml injected in L3-L4 intervertebral space with 25 G spinal needle after ensuring free and clear flow of csf and T8 level achieved with heart rate 80bpm and blood pressure 104/60mmhg respectively. Throughout the surgery oxygen supplementation was given through Hudson mask with flow rate 6lit/min. During surgery twisted right ovarian cyst with 200 ml of hemoperitonium was noted but bowel loops were normal. Hence rt salphingo-oophorectomy was done and specimen was sent for histopathological examination. Throughout the surgery HR,BP and Spo2 were maintained as 70-90bpm,104/60-120/70mmhg and 99-100% respectively with one episode of hyotension 98/56mmhg which was treated with fast infusion of normal saline along with 6mg dose of injection ephedrine intravenously.Input output was monitored and fluid was given accordingly.Surgery was finished after one and half hour and patient was shifted to surgical intensive care unit.For postoperative analgesia 6ml of 0.125% inj bupivacaine 0.5% given through epidural catheter if bp>100/70mmhg and epidural catheter removed after 48hrs.There was no hemodynamic instability in post operative period.Post operative USG revealed single live fetus with average gestation of 11 weeksas previously.She was discharged after 7days without any complication to fetus or herself with regular follow up in the antenatal opd.

3. Discussion

Adnexal torsion during pregnancy is a rare condition more common in the second and early third trimester and exceptional during first trimester. Sometimes ovarian torsion may be difficult to diagnose and may present as severe colicky, unilateral abdominal pain which is not remaining as in our patient who complained of pain

Since 5 days on rt side which was variable in intensity. It may be associated with fall in blood pressure with increase heart rate because of visceral and deep somatic nociception as happened in our case. During first trimester of pregnancy ovarian torsion can be managed laproscopically. In second and third trimester laparotomy is preferred as there is gravid uterus with large ovary.In our case there was two cyst so surgeon planned laparotomy.While delivering anaesthesia to pregnant patient for non obstetric surgery folloeing recaution to be taken.

- Maintain stable hemodynamics
- Avoid drugs having teratogenicity
- Maintain good uteroplacental flow
- Prevent intra-operative fetal hypoxia and acidosis
- Achieve good perioperative analgesia

Always consider pregnant patient as full stomach and follow the guideline for aspiration prophylaxis. In our case patient received inj metoclopramide and inj ranitidine intravenous prior to surgery as an aspiration pophylaxis.

Anaesthetic drugs affect cell signaling, mitosis and DNA synthesis which are involved in cellular differentiation and organogenesis.During pregnancy any drug could adversely affect the development of the fetus.A retrospective study of exposure to surgery anaesthesia in pregnancy was done which showed in increased incidence of low birth weight as a result of prematyrity and intrauterine growth retardation and increased rate of neural tube defect with exposure in the first trimester. Regional anaesthesia is preferable whenever possible because of complications associated with general anaesthesia in pregnancy like difficult airway, high risk of aspiration and teratogenicity to the fetus. Regional anaesthesia also decreased post operative pain and release of catecholamine which stimulate uterine contractility. Combined epidural and spinal (CSE)has the advantages of rapid onset with prolonged duration of the action with adequate relaxation and stable hemodynamics. It also helps to provide post operative pain relief through epidural catheter which allows early recovery and mobilization. Another advantage of CSE is we can give low dose of local anaesthetics intrathecally and epidural catheter may be used to extend the block height with reduction in side effect. Low dose of bupivacaine heavy intrathecally avoids hypotension and at the same time 0.5% bupivacaine injection acheive adequate T5 level and we used 6 ml of inj bupivacaine0.125% every 8 hourly for post operative analgesia. According to latest guideline of The American College of Obstetricians and Gynacologist pew and post surgical procedure conformation of fetal heart rate by Doppler is generally sufficient if fetus is previable.in this case we assessed the condition of fetus before and after the procedure by ultrasonography.

4. Conclusion

Any emergency surgery can be performed in any trimester depending upon the case. Whenever possible surgery should be consider in second trimester as spontaneous abortion is less likely. General anaesthesia is not an absolute contindication but the regional anaesthesia technique is the choice of anaesthesia whenever possible to avoid fetal exposure to drug and protection of maternal airway.

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