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Short Communication

Obstetric Emergencies: A Daunting Challenge

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Abstract: Obstetrical emergencies are life-threatening medical conditions that occur in pregnancy or during and after labor and delivery. If obstetric emergencies are not treated in time, it can result in into maternal and perinatal morbidity and mortality. Obstetrical emergencies may also occur during active labor, and after delivery (postpartum). This article focuses on Obstetrical Emergencies of Pregnancy, During Labor and Delivery, Postpartum, Signs and symptoms, Diagnosis, Prognosis, Treatment and Prevention.
Keywords: Obstetrical Emergencies, Pregnancy, Delivery, Postpartum, Treatment and Prevention

INTRODUCTION

Although women in the reproductive years are young and healthy, obstetrical emergencies can occur suddenly and unexpectedly, threatening usual state of good health. Clinicians faced with a frightened, distraught patient, must act rapidly in order to assess the significance of patients symptoms and objective findings. Problems must be assessed expediently in order to formulate immediate action plans. Obstetric emergencies if not diagnosed and treated in time can result into maternal and perinatal morbidity and mortality[1]. Due to adverse socio-economic and cultural and geographic reasons, the outcome of obstetric emergencies in rural area greatly differs from that of urban area. Lack of transport and health care facilities, financial constraints, illiteracy, ignorance about health issues greatly influence the outcome. Delay in instituting treatment, results in adverse maternal and perinatal outcome[2].

Obstetrical emergencies are life-threatening medical conditions that occur in pregnancy or during and after labor and delivery.

There are a number of illnesses and disorders of pregnancy that can threaten the well-being of both mother and child. Obstetrical emergencies may also occur during active labor, and after delivery (postpartum).

OBSTETRICAL EMERGENCIES OF PREGNANCY [2]

Ectopic pregnancy- An ectopic, or tubal, pregnancy occurs when the fertilized egg implants itself in the fallopian tube rather than the uterine wall. If the pregnancy is not terminated at an early stage, the fallopian tube will rupture, causing internal haemorrhaging and potentially resulting in permanent infertility.

Placental abruption- Also called *abruptio placenta*, placental abruption occurs when the placenta separates from the uterus prematurely, causing bleeding and contractions. If over 50% of the placenta separates, both the fetus and mother are at risk.

Placenta previa- When the placenta attaches to the mouth of the uterus and partially or completely blocks the cervix, the position is termed *placenta previa* (or low-lying placenta). Placenta previa can result in premature bleeding and possible postpartum hemorrhage.

Preeclampsia/eclampsia- Preeclampsia (toxemia), or pregnancy-induced high blood pressure, causes severe edema (swelling due to water retention) and can impair kidney and liver function. The condition occurs in approximately 5% to 10% of all pregnancies. If it progresses to eclampsia, toxemia is potentially fatal for mother and child.

Premature rupture of membranes (PROM)- Premature rupture of membranes is the breaking of the bag of waters (amniotic fluid) before contractions or labor begins. The situation is only considered an emergency if the break occurs before thirty-seven weeks and results in significant leakage of amniotic fluid and/or infection of the amniotic sac.

OBSTETRICAL EMERGENCIES DURING LABOR AND DELIVERY [3]

Amniotic fluid embolism- A rare but frequently fatal complication of labor, this condition occurs when amniotic fluid embolizes from the amniotic sac and through the veins of the uterus and into the circulatory system of the mother. The fetal cells present in the fluid then block or clog the pulmonary artery, resulting in heart attack. This complication can also happen during pregnancy, but usually occurs in the presence of strong contractions.

Inversion or rupture of uterus- During labor, a weak spot in the uterus (such as a scar or a uterine wall that is thinned by a multiple pregnancy) may tear, resulting in a uterine rupture. In certain circumstances, a portion of the placenta may stay

attached to the wall and will pull the uterus out with it during delivery. This is called uterine inversion.

Placenta accreta- *Placenta accreta* occurs when the placenta is implanted too deeply into the uterine wall, and will not detach during the late stages of childbirth, resulting in uncontrolled bleeding.

Prolapsed umbilical cord- A prolapse of the umbilical cord occurs when the cord is pushed down into the cervix or vagina. If the cord becomes compressed, the oxygen supply to the fetus could be diminished, resulting in brain damage or possible death.

Shoulder dystocia- Shoulder dystocia occurs when the baby's shoulder(s) becomes wedged in the birth canal after the head has been delivered.

OBSTETRICAL EMERGENCIES POSTPARTUM

Postpartum hemorrhage or infection- Severe bleeding or uterine infection occurring after delivery is a serious, potentially fatal situation.

CAUSES AND SYMPTOMS

Obstetrical emergencies can be caused by a number of factors, including stress, trauma, genetics, and other variables. In some cases, past medical history, including previous pregnancies and deliveries, may help an obstetrician anticipate the possibility of complications.

Signs and symptoms of an obstetrical emergency include, but are not limited to:

- **Diminished foetal activity**- In the late third trimester, fewer than ten movements in a two hour period may indicate that the foetus is in distress.
- **Abnormal bleeding**- During pregnancy, brown or white to pink vaginal discharge is normal, bright red blood or blood containing large clots is not. After delivery, continual blood loss of over 500 ml indicates hemorrhage.
- **Leaking amniotic fluid**- Amniotic fluid is straw-colored and may easily be confused with urine leakage, but can be differentiated by its slightly sweet odour.
- **Severe abdominal pain**- Stomach or lower back pain can indicate preeclampsia or an undiagnosed ectopic pregnancy. Postpartum stomach pain can be a sign of infection or hemorrhage.
- **Contractions**- Regular contractions before 37 weeks of gestation can signal the onset of preterm labor due to obstetrical complications.
- **Abrupt and rapid increase in blood pressure**- Hypertension is one of the first signs of toxemia.
- **Edema**- Sudden and significant swelling of hands and feet caused by fluid retention from toxemia.
- **Unpleasant smelling vaginal discharge**- A thick, malodorous discharge from the vagina can indicate a postpartum infection.
- **Fever**- Fever may indicate an active infection.
- **Loss of consciousness**- Shock due to blood loss (hemorrhage) or amniotic embolism can precipitate a loss of consciousness in the mother.
- **Blurred vision and headache**- Vision problems and headache are possible symptoms of preeclampsia.

DIAGNOSIS

Diagnosis of an obstetrical emergency typically takes place in a hospital or other urgent care facility. A specialist will take the patient's medical history and perform a pelvic and general physical examination. The mother's vital signs are taken, and if preeclampsia is suspected, blood pressure may be monitored over a period of time. The fetal heartbeat is assessed with a doppler stethoscope, and diagnostic blood and urine tests of the mother may also be performed, including laboratory analysis for protein and/or bacterial infection. An abdominal ultrasound may aid in the diagnosis of any condition that involves a malpositioned placenta, such as placenta previa or placenta abruption.

In cases where an obstetrical complication is suspected, a fetal heart monitor is positioned externally on the mother's abdomen. If the fetal heart rate is erratic or weak, or if it does not respond to movement, the fetus may be in distress. A biophysical profile (BPP) may also be performed to evaluate the health of the fetus. The BPP uses data from an ultrasound examination to analyze the fetus size, movement, heart rate, and surrounding amniotic fluid. If the mother's membranes have ruptured and her cervix is partially dilated, an internal fetal scalp electrode can be inserted through the vagina to assess heart rate. A fetal oximetry monitor that measures the oxygen saturation levels of the fetus may also be attached to the scalp.

TREATMENT

The management of emergencies is usually the responsibility of hospital obstetricians. As more maternity care is now given in the community, however, midwives, general practitioners, and paramedics may be involved and must know the outlines of management of emergencies and the possible side effects. If such a situation occurs outside the hospital then arrangements must be made to transport the woman to the obstetric unit safely and promptly.

The first principles of dealing with obstetric emergencies are the same as for any emergency (see to the airway, breathing, and circulation), but remember that in obstetrics there are two patients; the fetus is very vulnerable to maternal hypoxia

OBSTETRICAL EMERGENCIES OF PREGNANCY

Ectopic pregnancy- Treatment of an ectopic pregnancy is laparoscopic surgical removal of the fertilized ovum. If the fallopian tube has burst or been damaged, further surgery will be necessary.

Placental abruption- In mild cases of placental abruption, bed rest may prevent further separation of the placenta and stem bleeding. If a significant abruption (over 50%) occurs, the fetus may have to be delivered immediately and a blood transfusion may be required.

Placenta previa- Hospitalization or highly restricted at-home bed rest is usually recommended if placenta previa is diagnosed after the twentieth week of pregnancy. If the fetus is at least 36 weeks old and the lungs are mature, a cesarean section is performed to deliver the baby.

Preeclampsia/eclampsia- Treatment of preeclampsia depends upon the age of the fetus and the acuteness of the condition. A woman near full term who has only mild toxemia may have labor induced to deliver the child as soon as possible. Severe preeclampsia in a woman near term also calls for immediate delivery of the child, as this is the only known cure for the condition. However, if the fetus is under 28 weeks, the mother

may be hospitalized and steroids may be administered to try to hasten lung development in the fetus. If the life of the mother or fetus appears to be in danger, the baby is delivered immediately, usually by cesarean section.

Premature rupture of membranes (PROM)- If PROM occurs before 37 weeks and/or results in significant leakage of amniotic fluid, a course of intravenous antibiotics is started. A culture of the cervix may be taken to analyze for the presence of bacterial infection. If the fetus is close to term, labor is typically induced if contractions do not start within 24 hours of rupture.

OBSTETRICAL EMERGENCIES DURING LABOR AND DELIVERY

Amniotic fluid embolism- The stress of contractions can cause this complication, which has a high mortality rate. Administering steroids to the mother and delivering the fetus as soon as possible is the standard treatment.

Inversion or rupture of uterus- An inverted uterus is either manually or surgical replaced to the proper position. A ruptured uterus is repaired if possible, although if the damage is extreme, a hysterectomy (removal of the uterus) may be performed. A blood transfusion may be required in either case if hemorrhaging occurs.

Placenta accreta- Women who experience placenta accreta will typically need to have their placenta surgically removed after delivery. Hysterectomy is necessary in some cases.

Prolapsed umbilical cord- Saline may be infused into the vagina to relieve the compression. If the cord has prolapsed out the vaginal opening, it may be replaced, but immediate delivery by cesarean section is usually indicated.

OBSTETRICAL EMERGENCIES POSTPARTUM [4]

Postpartum hemorrhage or infection- The source of the hemorrhage is determined, and blood transfusion and IV fluids are given as necessary. Oxytocic drugs may be administered to encourage contraction of the uterus. Retained placenta is a frequent cause of persistent bleeding, and surgical removal of the remaining fragments (curettage) may be required. Surgical repair of lacerations to the birth canal or uterus may be required. Drugs that encourage coagulation (clotting) of the blood may be administered to stem the bleeding. Infrequently, hysterectomy is required. In cases of infection, a course of intravenous antibiotics is prescribed. Most postpartum infections occur in the endometrium, or lining of the uterus, and may be also caused by a piece of retained placenta. If this is the case, it will also require surgical removal.

Shoulder dystocia- The mother is usually positioned with her knees to her chest, known as the McRoberts maneuver, in an effort to free the child's shoulder. An episiotomy is also performed to widen the vaginal opening. If the shoulder cannot be dislodged from the pelvis, the baby's clavicle (collarbone) may have to be broken to complete the delivery before a lack of oxygen causes brain damage to the infant.

PROGNOSIS

If a fetus is close to full-term (37 weeks) and the complication is detected early enough, the prognosis is usually good for mother and child. With advances in neonatal care, approximately 85% of infants weighing less than 3 lbs 5 oz survive, and these infants are being delivered at 28 weeks and younger. However, preterm infants have a greater chance of serious medical problems, and developmental disabilities occur in 25-50%. They also have a higher incidence of learning disorders, and are four to six times more likely to be diagnosed with attention-deficit hyperactivity disorder (ADHD)[5].

PREVENTION

Optimum prenatal care is the key factor in prevention of obstetrical emergencies. Health workers at periphery can be trained in identification of high risk pregnancies through a simple check list. The outcome of obstetric emergencies can be improved by of timely referral, quick, efficient and well equipped transport facilities, liberal availability of adequate blood and blood components through networking of blood banks and by promoting overall safe motherhood .In addition, eating right and taking prenatal vitamins and supplements as recommended by a physician will promote the general health of pregnant woman and the growing fetus. Analysis of every maternal death through maternal death audit, either at community level (verbal autopsy) or at the institutional level should be carried out. It will help in identifying the reasons and deficiencies in health care delivery system that might contribute in causing pregnancy related deaths [1-5].

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