Review Article

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Handling Obstetrical Emergencies During Antenatal Period

Abirami P.[1], Jayabharathi B.[2]

Author Affiliation: [1,2]Professor, SRM college of Nursing, Kattankulathur, Tamil Nadu 603203, India.

Abstract

Obstetrical emergencies are lifethreatening medical conditions that occur in *pregnancy* or during or after labor anddelivery. An ectopic, or tubal, pregnancy occurs when the fertilized egg implants itself in the fallopiantube rather than the uterine wall. Placental abruption occurs when the placenta separates fromthe uterus prematurely, causing bleeding and contractions. Placentaprevia. When the placenta attaches to the mouth of the uterus and partially or completely blocks the cervix, the position is termed placenta previa (or lowlying placenta). Preeclampsia (toxemia), or pregnancyinduced high blood pressure, causes severeedema (swelling due to water retention) and can impair kidney and liver function. It progresses to eclampsia, toxemia is potentially fatal for mother and child.Premature rupture of membranes is the breaking of the bag ofwaters (amniotic fluid) before contractions or labor begins. Proper prenatal care is the best prevention for obstetrical emergencies.

Keywords: Obstetrical Emergency; Ectopic; or Tubal; Pregnancy; Placentaprevia; Placental Abruption; Preeclampsia; Eclampsia; Premature Rupture of Membranes.

Introduction

In obstetrics there are two patients to care for instead of one, a mother and a baby or fetus. The management of one patient heavily affects the management of the other. Sometimes the decision has to be made to care for one patient at the expense of the other; i.e., care for the mother first. The second patient (the fetus) may be viable or not.

Definition

Obstetrical emergencies are lifethreatening medical conditions that occur in pregnancy or during or after labor and *delivery*.

Obstetrical Emergencies of Pregnancy

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

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

Reprint Request: Abirami P., Professor, SRM college of Nursing, Kattankulathur, Tamil Nadu 603203, India.
E-mail: abiramikarnamurthy@gmail.com

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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 lowlying placenta). Placentaprevia can result in premature bleeding andpossible postpartum hemorrhage.

Preeclampsia/Eclampsia. Preeclampsia (toxemia), or pregnancy-induced high blood pressure, causes severeedema (swelling due to water retention) and can impair kidney and liver function. The condition occurs in approximately5% of all United States 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 ofwaters (amniotic fluid) before contractions or labor begins. The situation is only considered an emergency if the breakoccurs before thirtyseven weeks and results in significant leakage of amniotic fluid and/or infection of the amniotic sac.

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 anticipatethe possibility of complications.

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

- *Diminished fetal activity.* In the late third trimester, fewer than ten movements in a two hour period may indicate thatthe fetus is in distress.
- *Abnormal bleeding.* During pregnancy, brown or white to pink vaginal discharge is normal, bright red blood or bloodcontaining 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 bedifferentiated by its slightly sweet odor.
- *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 toobstetrical 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 postpartuminfection.
- *Fever*. Fever may indicate an active infection.
- *Loss of consciousness. Shock* due to blood loss (hemorrhage) or amniotic *embolism* can precipitate a loss ofconsciousness in the mother.
- *Blurred vision and headaches.* 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 takethe 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 assessedwith a doppler stethoscope, and diagnostic blood and urine tests of the mother may also be performed, includinglaboratory analysis for protein and/ or bacterial infection. An *abdominalultrasound* may aid in the diagnosis of anycondition 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'sabdomen. If the fetal heart rate is erratic or weak, or if it does not respond to movement, the fetus may be in distress. Abiophysical profile (BPP) may also be performed to evaluate the health of the fetus. The BPP uses data from anultrasound 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 beinserted through the vagina to assess heart rate. A fetal oximetry monitor that measures the oxygen saturation levels ofthe fetus may also be attached to the scalp.

Treatment

- *Ectopic Pregnancy.* Treatment of an *ectopic*

pregnancy is laparoscopic surgical removal of the fertilized ovum. Ifthe 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 theplacenta and stem bleeding. If a significant abruption (over 50%) occurs, the fetus may have to be delivered immediatelyand a blood *transfusion* may be required.
- *Placenta previa.* Hospitalization or highly restricted at-home bed rest is usually recommended if placenta previa isdiagnosed after the twentieth week of pregnancy. If the fetus is at least 36 weeks old and the lungs are mature, *acesarean section* is performed to deliver the baby.
- *Preeclampsia/Eclampsia.* Treatment of preeclampsia depends upon the age of the fetus and the acuteness of thecondition. A woman near full term who has only mild toxemia may have labor induced to deliver the child as soon aspossible. Severe preeclampsia in a woman near term also calls for immediate delivery of the child, as this is the onlyknown cure for the condition. However, if the fetus is under 28 weeks, the mother may be hospitalized and steroids maybe 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 significantleakage of amniotic fluid, a course of intravenous *antibiotics* is started. A culture of the cervix may be taken to analyzefor the presence of bacterial infection. If the fetus is close to term, labor is typically induced if contractions do not startwithin 24 hours of rupture.

Prognosis

If a fetus is close to fullterm (37 weeks) and the complication is detected early enough, the prognosis is usually good formother 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 ofserious medical problems, and developmental disabilities occur in 25-50%. They also have a higher incidence of learningdisorders, and are four to six times more likely to be diagnosed with attention-deficit hyperactivity disorder (ADHD).

Prevention

Proper prenatal care is the best prevention for obstetrical emergencies. When complications of pregnancy do arise,pregnant women who see their OB/GYN on a regular basis are more likely to get an early diagnosis, and with it, the bestchance for fast and effective treatment. In addition, eating right and taking prenatal *vitamins* and supplements asrecommended by a physician will also contribute to the health of both mother and child.

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