## **CHAPTER - 10**

## OBSTETRICS EMERGENCIES: RAPID RESPONSE AND NURSING INTERVENTIONS

### Ms. Neelam Singh<sup>1</sup>, Ms. Shahida Bano<sup>2</sup>, Ms. Nagammal<sup>3</sup>

<sup>1</sup>Lecturer, Department of Obstetrics and gynecology,
Smt. Nagarthnamma College of Nursing, Bangalore, Karnataka, India.
<sup>2</sup>Lecturer, Department of Obstetrics and gynecology.
Smt. Nagarthnamma College of Nursing, Bangalore, Karnataka, India.
<sup>3</sup>Assistant Professor, Department of Obstetrics and gynecology.
Smt. Nagarthnamma College of Nursing, Bangalore, Karnataka, India.
<sup>3</sup>Assistant Professor, Department of Obstetrics and gynecology.
Smt. Nagarthnamma College of Nursing, Bangalore, Karnataka, India.
Email ID: neelamsinghthakuri07@gmail.com, shahzyahameed54@gmail.com

#### Abstract

This chapter on "Obstetric Emergencies: Rapid Response and Nursing Interventions" focuses on the critical role of obstetric and gynecological nursing in managing emergency situations during pregnancy, labor, and postpartum. It explores common obstetric emergencies such as preeclampsia, hemorrhage, eclampsia, obstructed labor, and fetal distress, highlighting evidence-based rapid response strategies and nursing interventions aimed at optimizing maternal and fetal outcomes. Emphasizing the importance of timelv assessment. effective communication, and interdisciplinary collaboration, the chapter outlines best practices in the early recognition, stabilization, and management of obstetric emergencies. Through an exploration of innovative techniques, clinical protocols, and case studies, the chapter aims to empower nurses with the knowledge and skills necessary for delivering high-quality, responsive care in high-pressure, life-threatening scenarios.

**Key words:** Obstetric crises, quick reaction, nursing interventions, obstructed labor, fetal distress, preeclampsia, hemorrhage, eclampsia,

clinical protocols, evidence-based practice, nursing skills, interdisciplinary cooperation, emergency management, and pregnancy complications.

## **10.1 Introduction**

Obstetrics emergencies are among the most critical and timesensitive situations that nurses and healthcare providers face in maternity care. The ability to respond quickly, efficiently, and with a clear understanding of both the physiological changes of pregnancy and the specific challenges posed by these emergencies can make the difference between life and death for both mother and baby. In this chapter, we explore the essential concepts, skills, and interventions necessary for managing obstetric emergencies, from the early recognition of warning signs to executing rapid, evidence-based actions that stabilize the patient.

Through a focus on clinical decision-making, prioritization, and the multidisciplinary approach to care, this chapter aims to equip nurses with the knowledge and confidence to handle a variety of obstetric emergencies, including eclampsia, miscarriage, prolonged labor, post partum hemorrhage, cord prolapse and presentation, rupture of uterus, amniotic fluid embolism, shoulder dystocia and vasa previa. By understanding the complex interplay of maternal and fetal well-being and by mastering key interventions, nurses will be prepared to navigate these high-stress situations with expertise and compassion. The goal of this chapter is to enhance the preparedness of healthcare professionals and ensure that, in times of crisis, nursing interventions remain both swift and appropriate, minimizing complications and optimizing outcomes for both mothers and infants. A lack of skilled obstetric care in the developing nations is responsible for the high maternal mortality rate. Reducing maternal mortality rate (MMR) is one of the priorities spelled out in the sustainable development goals. Therefore, emergency obstetric care is fundamental to reducing maternal morbidity and mortality.

## **10.2 Research objectives**



**Figure:1 Research objectives** 

## **10.3 Research methodology**

This research methodology is using a mixed methods design to gather both qualitative insights and quantitative data from multiple sources. By utilizing this comprehensive methodology, the research aims to provide a well-rounded analysis of obstetric emergencies and nursing interventions, offering actionable insights to improve maternal and fetal outcomes and enhance nursing practices in emergency care.

#### **10.4 MANAGEMENT OF MISCARRIAGE OR POST MISCARRIAGE CARE**

The causes of bleeding in early pregnancy may be miscarriage, ectopic pregnancy, hydatidiform mole low lying placenta and injuries. Among all, miscarriage, spontaneous or induced is the commonest cause of bleeding.

#### **10.4.1 Definition of miscarriage:**

Miscarriage is the expulsion or extraction from its mothers of an embryo or fetus weighing 500g or less when it is not capable of independent survival (WHO). This 500 g of fetal development is attained approximately at 22 weeks (154days) of gestation. The expelled embryo or fetus is called abortus. The word miscarriage is the recommended terminology for spontaneous abortion. Death and expulsion of fetus from uterus before 22-24 weeks be it spontaneous or induced. Complications of miscarriage, whether spontaneous or induced, can cause maternal deaths unless timely and properly managed. Where miscarriage is illegal or safe abortions are not available, women resort to unsafe methods.



## 10.4.2 Incidence:

**Figure:2 Distribution of Pregnancies Outcomes** 

Types of	Characteristics	Pelvic exam	Ultrasound
miscarriage			exam
Incomplete	Heavy bleeding		
	which includes	Cervix dilated	Retained tissues
	passage of some		
	products of		
	conception		
Complete	Bleeding and	Cervix open	
	complete passage	or closed	Empty uterus
	of products of	depending on	
	conception	stage of	
		abortion.	

## Table1 Types of miscarriage

Missed	Often	Cervix closed	Nonviable
	asymptomatic		pregnancy,
			retained
			products with
			no fetal cardiac
			activity or
			empty
			gestational sac.
Threatened	Slight vaginal		fetus alive
	bleeding	Cervix closed	retroplacental
	Abdominal pain		hemorrhage is
	may be present		present
	Intact membranes		
Recurrent	History of >3		
	spontaneous	Depends on	Empty uterus
	abortions {may be	type	uterine
	missed, invitable,		anomalies may
	incomplete		be evident
	complete.		
Inevitable	Vaginal bleeding		
	and abdominal pain	Cervix dilated	Pregnancy may
	present		be viable
	Membranes may or		
	may not be		
	ruptured		

#### **10.4.3 Diagnosis of Miscarriage:**

Amenorrhea followed by bleeding, with or without a history of interference with pregnancy, is a common presentation in certain conditions. On speculum examination, findings may include bleeding, trauma, foreign bodies, or products of conception (POC) protruding through the os, which can be removed with sponge forceps to stop or reduce bleeding. Bimanual examination often reveals a bulky, soft uterus, with the os either open or closed, and may be accompanied by bleeding or discharge. Ultrasound imaging plays a crucial role in differentiating between various stages of miscarriage and may also detect signs of peritonitis, such as a tubo-ovarian mass or free fluid in the abdomen. Additionally, it is essential to perform a complete blood count (CBC), blood grouping, and cross-matching with donors to ensure appropriate management.

#### 10.4.4 Management

Threatened: Conservative Inevitable: Evacuate if active bleeding A single dose of 600 micrograms orally or 400 micrograms sublingual can be used as an alternative to surgical evacuation.

Incomplete: Give antibiotics and do evacuation. When os is open, you can evacuate under sedation like inj. Pethidine. Ideally, manual vaccum aspiration (MVA) must be done where available. Admit and give IV antibiotics if febrile. Rule out peritonitis/septicemia etc.

Induced abortion: Manage according to complications (bleeding, injury, incomplete or septic) and refer and transfer. Habitual: Refer to OBGYN. Missed miscarriage: Refer to OBGYN. Septic miscarriage: Resuscitate and refer to higher level.

## **10.4.5 MANAGEMENT OF SPECIFIC COMPLICATIONS** *Incomplete miscarriage*

Manage shock, evacuate by MVA or instruments and examine POC and repair genital tract injuries and manage uterine perforations or refer.

#### Septic miscarriage

Signs and symptoms: Distension of abdomen with decreased/absent bowel sounds. Abdomen may be tense or hard with rebound tenderness. There may be nausea and vomiting, fever, shoulder pain. Patient complains of abdomen pain/ cramping.

#### Management

Connect the Iv fluid and administer  $O_2$  inhalation, IV antibiotics, Inj. TT, Evacuation if incomplete Refer and transfer.

## 10.5 ECLAMPSIA Definition

Convulsion in a pregnant women after 20 weeks or in a women in labor postpartum within 48 hours, must be treated as eclampsia until proved otherwise.

## 10.5.1 Signs and symptom:

Convulsions, DBP>90mmHg (sometimes DBP may be just normal), Proteinuria 2+ or more, coma.

Effect on mother: Asphyxia, aspiration, pulmonary edema, heart failure, hemorrhage or thrombosis and edema in brain, acute renal failure. HELLP (hemolysis, elevated liver enzymes and low platelets) syndrome, injuries, temporary blindness.

Effect on fetus: There is decreased maternoplacental blood flow leading to hypoxia, IUGR (chronic hypoxia) and IUFD (prolonged hypoxia in utero).

## 10.5.2 Priorities:

Call for help, prevent injuries, put on left lateral position and give oxygen. Keep patient in a quiet place and start Inj. Magnesium sulphate (annexure1) and IV Hydralazine should be considered if DBP rises above 110mmHg. Open IV line. Monitor BP, pulse, respiratory rate. Check consciousness. Keep indwelling catheter and note input/output. See fetal heart hourly (CTG if available). Stabilize and refer/ transfer.

## 10.5.3 Investigations:

CBC, LFT, RFT, LDH, Coagulation profile and Urine R/E

## 10.5.4 Delivery

Patients with severe preeclampsia must deliver within 24hours and those with eclampsia must deliver within 12 hrs. Mode of delivery will depend on obstetric factors.

## 10.5.5 Postpartum:

Observe in same for 48 hrs. Continue anticonvulsant and antihypertensive. Note input/output chart.

Turn patient 2 hourly. Observe till BP settles or no more fits more than 24 hrs.

Antihypertensive: Hydralazine is the drug of choice. Give 5 mg IV every 5 minutes or 12.5 mg IM every 2 hrs. till BP is settled (or in drip inj. HYDRALYZINE: 40 mg in 500 ml N/Saline: start at 10drops/min and double every 15 min until satisfactory response (DBP 90 mmHg to 100 mm Hg) or side effects tachycardia (>120/min) or side effects (headache, flushing, dizziness). There may be fetal distress due to sudden fall in BP. Side-effects of Hydralazine are nausea, vomiting, headache, postural hypotension and tremors.

## 10.5.6 Six steps in eclampsia



## 10.5.7 Prevention of eclampsia:

By recognizing and giving appropriate and timely treatment to women with severe pre-eclampsia, you can prevent eclampsia, which carries a high risk of mortality for both mother and baby.

#### Hypertensive Crisis Management

- 1. **HYDRALYZINE:** 40 mg in 500ml N/Saline: start at 10drops/min and double every 15 min until satisfactory response (DBP 90mmHg to 100 mm Hg) or side effects tachycardia (>120/min) or side effects (headache, flushing, dizziness) in which case change to Labetalol.
- 2. **LABETALOL:** 200 mg in 40 ml N/Saline: start at 40 mg/h and double every 30 min until satisfactory response or each 160 mg/h.

## **10.5.8 General management**

Supportive care: to prevent serious maternal injury from fall, prevent aspiration, to maintain airway and ensure oxygenation. Patient is kept in a railed cot and a tongue blade is inserted between the teeth. She is kept in the lateral decubitus position to avoid aspiration. Vomitus and oral secretions are removed by frequent suctioning, oxygenation is maintained through face mask to prevent respiratory acidosis. Detailed history is to be taken from the relatives, relevant to the diagnosis of eclampsia, duration of pregnancy, number of fits and nature of medication administered outside. Once the patient is stabilized a thorough but quick general, abdominal and vaginal examination are made. A self- retaining catheter is introduced and the urine is tested for protein. The continuous drainage facilitates measurement of the urinary output and periodic urine analysis. Half hourly pulse, respiration rate and blood pressure are recorded. Hourly urinary output is to be noted. If undelivered, the uterus should be palpated at regular intervals to detect the progress of labour and the fetal heart is to be monitored. Crystalloid solution is started as a first choice. Total fluids should not exceed the previous 24 hours urinary output plus 100mL. Normally it should not exceed 2 litres in 24 hours. Infusion of balanced salt solution should be at rate of 1mL/kg/h. In preeclampsia – eclampsia although there is a used as it will aggravate the tissue overload leading to pulmonary edema and adult respiratory distress syndrome. Colloids remain in the vascular tree and they withdraw fluids from the interstitional space. Unless used carefully, they can lead to circulatory overload. CPV monitoring is needed for a patient with severe hypertension and reduced urine output. In preeclampsia both the PCWP and CVP appear to be in the low to normal range. Invasive hemodynamic monitoring is rarely indicated.





#### **10.6. POSTPARTUM HEMORRHAGE**

It is the most common cause of maternal deaths in the developing world.

#### 10.6.1 Physiology of stage III labor

- Schultz method 9like umbrella). This happens in fundal placentas.
- Duncan Mathews method (like button). Lower segment placentas (>blood loss)

#### 10.6.2 Mechanism of stopping the bleeding

Contraction of muscles that crisscross and shut down blood vessels along with clot formation helps to stop bleeding from placental site insertion. Anything that interferes with contraction will cause PHH. Examples are full bladder, retention of placental pieces or membranes. Always ensure empty bladder and check for completeness of placenta when there is PPH.

## 10.6.3 Prevention of PPH is by active management of III stage labor.

Give Syntocinon 10 IU IM on delivery of baby and do controlled cord traction (CCT).

(Action of Syntocinon: 2 and  $\frac{1}{2}$  minutes if given by IM route. Methergine takes 6-7 minutes by IM and 45 seconds by IV route).

Primary PPH

Blood loss > 500 ml of bleeding within 24 hrs. of delivery.

## 10.6.4 Causes may be:

Retention of placenta (not delivered within 30 minutes)

1. Atonic uterus: Due to over-distension (high parity, twins, polyhydramnios, large baby, fibroids), Prolonged labor, Retention of placenta/placental pieces or membrances, Full bladder, Traumatic bleeding, Inversion of uterus (rare) and Coagulopathy (rare).

## **10.6.5 Management of Primary PPH**

(a)Estimated Blood Loss >500ml in vaginal Delivery and >1000ml in Cesarean Delivery with normal vital sign and lab values. (b) Call for help. (c) Record vital signs with time q 15 min x 1 hr. thereafter as patient's condition dictates (Pulse, Blood pressure, breathing, Temperature and SPO2 (IF SPO<sub>2</sub> <95 % give Oxygen). (d) Open IV line (16 or 18 G Cannula). (d) Send blood for CBC, Grouping and cross matching 2 units PRC (e) Start infusion of 1000ml Crystalloid IV fluid (RL or NS) or increase the infusion rate, if already on IV therapy. (f) Fundal massage. (g) start or increase additional uterotonics: Record time 1) 10-40 IU of Oxytocin infusion in 500-1000ml RL b) Ergometrine 0.2mg IM q 2-4 hours maximum 1 mg= 5 doses (contraindicated in HTN and Heart Disease) 2. Carboprost (15methyl PGF2  $\alpha$ ) 250 microgram q 15 min x maximum 8 doses (contraindicated in Bronchial asthma) 3. Misoprostol 1800-1000 micrograms PR, 600 micrograms PO or 800 micrograms SL.

(h)Consider tranexamic acid if no contraindication (1g slow IV over 10 min within 3 hours of onset of PPH, second dose may be repeated after 30 min). (i) Insert indwelling urinary catheter (Foleys): Monitor urine output and fluid balance. (j) Adjust Bed: Must lie flat: head bed down. (k)Attach automated monitor and saturation (if available). (l) Look and identify the cause and treat: TONE/TRAUMA/TISSUE/THROMBUS (m) If uterine atony: Uterine massage. (n) If bleeding continues: Open 2<sup>nd</sup> intravenous line 16 Or 18 G Needle. Run total fluid (RL or NS) may give upto3 L, avoid over load in Heart disease. (o) Check if placenta expelled completely. (p) If PPH with retained placenta. (g)Assess condition of patient, give Oxytocin 10 IU IM, start IV RL, empty bladder and do CCT. If not delivered, give Oxytocin 20IU in NS at 40 dpm. If not delivered, do MPR or refer. (r)Repair and tear and other trauma to genital tract (e.g. Perineal tear cervical tear or Episiotomy), if any (s) If still the bleeding continuous: you may perform one of the following mechanical methods you prepare for referral. (i) Perform Bi manual compression (ii)Perform Aortic compression (iii) Perform Condom Temponade

#### 10.6.6 Secondary PPH:

May be due to retention of placental tissues or infections. Management of secondary PPH

Same as above plus IV antibiotics (Ampicillin, Gentamycin and MTZ)

#### **10.7 MANAGEMENT PROLONGED LABOR**

Definition: When there is no descent of fetus and dilatation of cervix despite having strong contractions. Cause may be due to CPD (small/abnormal pelvis or large baby or abnormal presentation). When a prolonged labor is not recognized (partograph not used), obstructed labor is the result. Obstructed labor can cause maternal deaths by sepsis, PPH and ruptured uterus. Those that survive may have to live with obstetric fistula.

#### **10.7.1 Prolonged latent phase**

Latent phase is the preparatory phase of the uterus and the cervix before the actual onset of labor. Mean duration of latent phase is about 8 hours in a primi and 4 hours in a multi. Whether prolonged latent phase latent phase has got any adverse effect on the mother or on the fetus, it is not clearly known. A latent phase that exceeds 20 hours in primigravidae or 14 hours in multiparae is abnormal. The causes include: unripe cervix, malposition and malpresentation, cephalopelvic disproportion, premature rupture of the membranes, induction of labor and early onset of regional anesthetic.

Prolonged latent phase may be worrisome to the patient but does not endanger the mother or fetus. Management: Expected management is usually done unless there is any indication (for the fetus or the mother) for expanding the delivery. Rest and analgesic are usually given. When augmentation is decided, medical methods (oxytocin or prostaglandins) are preferred. Amniotomy is usually avoided. Prolonged latent phase is not an indication for cesarean delivery.

#### **10.7.2 Causes of prolonged labor:**

Any one or combination of the factors in labor could be responsible.

- First stage: Failure to dilate the cervix is due to:
- Fault in power: Abnormal uterine contraction such as uterine inertia (common) or incoordinate uterine contraction
- Fault in the passage: Contracted pelvis, cervical dystocia, pelvic tumor or even full bladder
- Fault in the passenger: Malposition (OP) and malpresentation (face, brow)congenital anomalies of the fetus (hydrocephalus)
- Too often deflexed head, minor degrees of pelvic contraction and disordered uterine action have got sinister effects in causing nondilatation of the cervix.
- Others: injudicious (early) administration of sedatives and analgesics before the active labor begins.
- Second stage: Sluggish or non-descent of the presenting part in the second stage is due to:
- Fault in the power: Uterine inertia, inability to bear down, regional analgesia, construction ring.
- Fault in the passage: Cephalopelvic disproportion, android pelvis, contracted pelvis, undue resistance of the pelvic floor or perineum due to spasm or old scarring, soft tissue pelvic tumor.
- Fault in the passenger: Malposition, malpresentation, Big baby, congenital malformation of the baby.

#### 10.7.3 Diagnosis

Prolonged labor is not a diagnosis but it is manifestation of an abnormality, the causes of which Should be detected by a through abdominal and vaginal examination. During vaginal examination, if finger accommodated in between the cervix and the head during uterine contraction pelvic adequacy can be reasonably established. Internatal imaging i.e; CT or MRI is of help in depending the fetal station and position as well as pelvic shape and size.

First stage: First stage of labor is considered prolonged when the duration is more than 12 hours.

The rate of cervical dilation is <1cm/h in a primi and <2cm/h in a multi. In a partograph, the labor process is divided into (i) Latent phase that ends when the cervix is 4 cm dilated. (ii) Active phase starts with cervical dilation of 4cm or more. Cervix should dilate at least 1 cm/h in this active phase . cervical dilation rate is plotted in relation to alert line and action line. Alert line starts at the end of latent phase (4cm cervical dilatation) and ends with full dilatation of the cervix (10cm) in 6 hours. The action line is drawn 4 hours to the right of the alert line. An interval of 4 hours is allowed to diagnose delay in active phase and then appropriate intervention is done. Labor is considered abnormal when cervicograph crosses the alert line and falls on zone3. Partograph can diagnose any dysfunctional labor early and help to initiate correct management.



Figure: Partograph analysis of labor to detect types of prolonged labor- prolonged latent phase, protracted active phase and secondary arrest.

#### 10.7.4 Management

Use of partograph helps early detection. Do abdominal examination (head may not be engaged, uterus may be in tonic contraction or there may be no contractions, there may be Bandel's ring or signs of rupture, abnormal/ no fetal heart. Vaginal examination revels foul smelling liquor/meconium, edematous vulva and cervix. Cervix not dilated/fully dilated. There may be caput/excessive molding or abnormal presentation like face, brow or shoulder. Resuscitate patient with IV fluids, start IV antibiotics and give Oxygen. If cervix fully dilated and head not felt abdominally, give episiotomy and deliver with vacuum. If fetus is dead, refer. All others will need urgent referral for cesarean section to the nearest EmNOC Center

## 10.7.5 Actual treatment

careful evaluation is to be done to find out 1) Causes of prolonged labor 2) effect on fetus. In nulliparas patient, inadequate uterine activity is the most common cause of primary dysfunctional labor. Whereas the multiparous client, cephalopelvic disproportion is the most common 3) Effect on mother.

## 10.7.6 Preliminaries:

In an equipped labor ward, prolonged labor is unlikely to occur in modern obstetrics practice. But cases of neglected prolonged labor with evidence of dehydration and ketoacidosis are admitted not infrequently to the referral hospital in the developing countries. Correction of dehydration should be done immediately.

# 10.8 CORD PRESENTATION AND PROLAPSE Definition

**Cord Presentation:** When the umbilical cord lies in front of the presenting part with membranes intact the condition is known as cord presentation.

**Cord Prolapse:** The cord lies in front of the presenting part but the membranes are ruptured, occurs in 1:400 births. Prolapse of umbilical cord is associated with high fetal mortality and morbidity. Umbilical cord prolapse may be hidden (occult)/not visible at any time during labor.

**Occult prolapse:** The cord is placed by the side of the presenting part and is not felt by the fingers on internal examination. It could be seen on ultrasonography or during cesarean section.



**Figure: Cord Prolapse** 

#### 10.8.1 Causes:

Anything which interferes with perfect adaptation of the presenting part of the lower uterine segment, disturbing the ball valve action may favor cord prolapse. Too often, more than one factors operates. The following associated factors: (1) Malpresentation- the most common being transverse and breech especially with flexed legs or footling and compound presentation, (2) Contracted pelvis (3) Twins (4) Prematurity (5) Hydramnious (6) Placental factor- minor degree placenta previa with marginal insertion of the cord or long cord, (7) iatrogenic-low rupture of the membrances, manual rotation of the head, ECV, IPV (8) Stabilizing induction

#### **10.8.2 Diagnosis of Occult Prolapse:**

Is difficult to diagnose. The possibility should be suspected if there is persistence of veriable deceleration of fetal rate pattern detected on continuous electronic fetal monitoring. Cord presentation: The diagnosis is made by feeling the pulsation of the cord through the intact membrances. Cord prolapse: The cord is palpated directly by the fingers and its pulsation can be felt in the fetus is alive. Cord presentation may cease during uterine contraction which, however, returns after the contraction passes off. Temptation to pull down the loop for visualization or unnecessary handling is to be avoided to prevent vasospasm. Fetus may be alive even in the absence of cord pulsation. Hence, prompt USG for cardiac movements or auscultation for FHS to be done before fetal death is declared.

#### 10.8.3 Prognosis:

Fetal- The fetus is at risk of anoxia from the moment cord is prolapsed. The blood flow is occluded either due to mechanical compression by the presenting part or due to vasospasm of the umbilical vessels due to exposure to cold or irritation when exposed outside the vulva or as a result of handling. The hazards to the fetus is more in vertex presentation especially when the cord is prolapsed through the anterior segment of the pelvis or when the cervix is partially dilated. The prognosis is, however, related with the interval between its detection and delivery of the baby and if the delivery is completed, within 10-30 minutes the fetal mortality can be reduced to 5-10%. The overall perinatal mortality is about 15-50%.

Maternal- The maternal risks are incidental due to emergency operative delivery, especially through the vaginal route. Operative delivery involves the risk anesthesia, blood loss and infection.

## 10.8.4 Management

Cord presentation: The aim is to preserve the members and expedite the delivery. Once the diagnosis is made, no attempt should be made to replace the cord, as it is not only ineffective but the members inevitably rupture leading to prolapse of the cord. If immediate vaginal delivery is not possible or contraindicated, cesarean section is the best method of delivery. During the time of preparing the patient for operative delivery, she is kept in exaggerated Sim's position to minimize cord compression. A rare occasion is a multipara with longitudinal lie having good uterine contractions with the cervix three-fourths (7-8cm) dilated, without any evidence of fetal distress. Watchful expectancy can be adopted till full dilation of the cervix when the delivery can be complicated by forceps or breech extraction.

Cord Prolapse: Management protocol is to be guided by:(1)Baby living or dead, (2)Maturity of the baby and (3)Degree of dilatation of the cervix.

## 10.8.5 The specific Role of the Midwife

Where the diagnosis of cord prolapse is made, take immediate action. Explain the mother and the family members about the findings and the

emergency measures that may be the family. (Possible caesarean section) If an ocytocin drip is in progress it should be stopped and plain I/V fluids to be started. Administer oxygen by mask 10-12 litre per minute until she delivers. Do a per vaginal examination to assess the degree of cervical dilatation, identify the presenting part. The time should be noted. If the cord is felt pulsating it should be handled as little as possible to avoid spasm of the cord due to reduction in temperature. If the cord is lying outside the vagina gently replace it back. Record FHS. Cover the cord loosely with a sterile gauge piece soaked in warm normal saline with gloved hands. Attempt to relives the pressure on the cord, specially during a contraction. Keep finger in the vagina and hold the presenting part off the cord. Position the mother with her buttocks higher than her shoulders by elevating the foot end of the bed or placing her in a knee chest position or by placing two large pillows or rubber wedges under the buttocks. All these positions attempts to gravitate the foetus towards the mother's diaphragm relieving the compression on the cord. These measures need to be maintained until the baby is delivered either vaginally or by caesarean section. Other positions that can be used are knee-chest and Trendelenburg positions. While working in the community, if foetus is alive, transfer the women immediately by ambulance to a hospital. Carry out the same procedures to relieve the pressure on the cord with mother in an exaggerated Sim's position.

Accompany the mother to the hospital. Maintain proper record of the action taken.

# **10.9 RUPTURE OF UTERUS**

#### Definition

Break in the continuity of the uterine wall any time beyond 28 weeks of pregnancy is called rupture of the uterus. This is one most serious accident in obstetrics occurring in approximately 1 in 2500-3000 deliveries. Rupture can be complete or incomplete. Life of both mother and foetus may be endangered in either situation.

#### 10.9.1 Incidence:

The prevalence widely varies from 1 in 200 deliveries. During the past few decades, the prevalence has been found to the almost static. Whereas improved obstetric care reduces the rupture from obstructed labor but there has been increased prevalence of scar rupture following increased incidence of cesarean section over the years.

#### 10.9.2 Causes:

The causes of rupture of the uterus are broadly divided into: Spontaneous, Scar Rupture and Iatrogenic

Spontaneous: During pregnancy it is needed rare for an apparently uninjured uterus to give way during pregnancy. The cases are: (1)Previous damage to the uterine walls following dilatation and curettage operation or manual removal of placenta. (2)Rarely in grand multipara due to thin uterine walls. (3)In Couvelaire uterus (4)Congenital malformation of the uterus isa rare possibility.

Spontaneous rupture which occurs predominantly in an otherwise intact uterus during labor is due to: Obstructive rupture: This is the end result of an obstructed labor. The rupture involves the lower segment and usually extends through one lateral side of the uterus to the upper segment.

Nonobstructive rupture-Grand multiparae are usually affected and rupture usually occurs in early labor. Weakening of the walls due to repeated previous births as mentioned earlier may be the responsible factor. The rupture usually involves the fundal area and is complete.

Scar Rupture: During pregnancy classical cesarean or hysterotomy scar is likely to give way during later months of pregnancy. During labor: The classical or hysterotomy scar or cornual resection resection for ectopic pregnancy is more vulnerable to rupture during labor. Although rare, lower segment scar predominantly ruptures during labor.

Iatrogenic labor: During pregnancy (1)Injudicious administration of oxytocin (2)Use of prostaglandins for indication of abortion or labor (3)Forcible external version espically under general anesthesia (4)Fall or blow on the abdomen. During labor: (1)internal podalic version-

especially following obstructed labor. (2)Fall or blow on the abdomen. During labor: (1)Internal podalic version-especially following obstructed labor. (2)Destructive operation (3)Manual removal of placenta (4)Application of forceps or breech extraction through of oxytocin for augmentation of labor.

#### 10.9.3 Diagnosis:

It is indeed difficult to categorize a universal clinical feature application to all the varities of uterine rupture. However, the silent diagnostic features of different varities are described but it should be remembered that one should be conscious of the entity for an early diagnosis.

During pregnancy: Scar Rupture classical or hysterotomy- The patient complains of a dull abdominal pain over the scar area with slight vaginal bleeding. There is varying degrees of tenderness on uterine palpation. FHS may be irregular or absent. The features may not be always dramatic in nature (silent phase). Sooner or later, the rupture becomes complete. The diagnosis is self-evidence. However, an acute dramatic onset may occur from the beginning.

Spontaneous rupture in uninjured uterus: The rupture is usually confined to the high parous women. The onset is usually acute but sometimes insidious. In acute types, the patient has acute pain abdomen with fainting attacks and may collapse. The diagnosis is established by the presence of features of shock, acute tenderness on abdominal examination, palpation of superficial fetal parts, if the rupture is complete and absence of fetal heart rate. However, with insidious onset, the diagnosis is often confused with concealed accidental hemorrhage or rectus sheath hematoma.

#### 10.9. 4Management of rupture uterus

The following guidelines are helpful to prevent or to detect at the earliest the tragic occurrence of rupture uterus: The at-risk mothers, likely to rupture, should have mandatory hospital delivery. These are Contracted pelvis, previous history of cesarean section, hysterotomy or myomectomy, uncorrected transverse lie, grand multipara and known case of hydrocephalus. General anesthesia should not be used to give undue force in external version. Undue delay in the process of labor in a multipara with previous uneventful delivery should be viewed with concern and the cause should be slough for. Judicious selection of cases and careful watch are mandatory during oxytocin infusion either for induction or augmentation of labor. There is hardly any place of internal podalic version in singleton fetus in present day obstetrics. It should never be done in obstructed labor as an alternative to destructive operation or cesarean delivery. Attempted forceps delivery or breech extraction through incompletely dilated cervix should be avoided. Destructive vaginal operations should be performed by skilled personnel and exploration of the uterus should be done as a routine following delivery. Manual removal in morbid adherent placenta.

#### CONCLUSION

In conclusion, obstetric emergencies represent some of the most critical and time-sensitive situations in maternity care, where the ability to respond swiftly and effectively can be life-saving for both mother and baby. This chapter has highlighted the essential skills, knowledge, and interventions needed for managing various obstetric emergencies, evidence-based early recognition. emphasizing actions. and а collaborative, multidisciplinary approach. By equipping nurses with the necessary tools and confidence, we can ensure that they are prepared to handle these high-stress situations with expertise and compassion, ultimately improving maternal and fetal outcomes. Reducing maternal mortality, particularly in developing nations, is a global priority, and strengthening emergency obstetric care is key to achieving this goal, as outlined in the Sustainable Development Goals.

#### REFERENCES

1. Akre, S., Sharma, K., Chakole, S., & Wanjari, M. B. (2022). Eclampsia and Its Treatment Modalities: A Review Article. Cureus, 14(9), e29080. https://doi.org/10.7759/cureus.29080

- Shi, L., Lin, X., Sha, S., Yao, L., Zhu, X., & Shao, Y. (2017). Delayed presentation of uterine rupture in a didelphys uterus misdiagnosed as appendicitis: a case report and review of the literature. Archives of gynecology and obstetrics, 296(5), 1015–1016. https://doi.org/10.1007/s00404-017-4522-6
- 3. Hill, D. A., Lense, J., & Roepcke, F. (2020). Shoulder Dystocia: Managing an Obstetric Emergency. American family physician, 102(2), 84–90.
- Jain, V., & Gagnon, R. (2023). Guideline No. 439: Diagnosis and Management of Vasa Previa. Journal of obstetrics and gynaecology Canada : JOGC = Journal d'obstetrique et gynecologie du Canada : JOGC, 45(7), 506–518. <u>https://doi.org/10.1016/j.jogc.2023.05.009</u>
- Katz, D., & Beilin, Y. (2021). Management of post-partum hemorrhage and the role of the obstetric anesthesiologist. The journal of maternalfetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians, 34(9), 1487–1493. https://doi.org/10.1080/14767058.2019.1638360
- Oyelese, Y., Javinani, A., Gudanowski, B., Krispin, E., Rebarber, A., Akolekar, R., Catanzarite, V., D'Souza, R., Bronsteen, R., Odibo, A., Scheier, M. A., Hasegawa, J., Jauniaux, E., Lees, C., Srinivasan, D., Daly-Jones, E., Duncombe, G., Melcer, Y., Maymon, R., Silver, R., ... Shamshirsaz, A. A. (2024). Vasa previa in singleton pregnancies: diagnosis and clinical management based on an international expert consensus. American journal of obstetrics and gynecology, 231(6), 638.e1–638.e24. <u>https://doi.org/10.1016/j.ajog.2024.03.013</u>
- Society for Maternal-Fetal Medicine (SMFM). Electronic address: pubs@smfm.org, Pacheco, L. D., Saade, G., Hankins, G. D., & Clark, S. L. (2016). Amniotic fluid embolism: diagnosis and management. American journal of obstetrics and gynecology, 215(2), B16–B24. <u>https://doi.org/10.1016/j.ajog.2016.03.012</u>
- 8. DC Dutta's Textbook of Obstetrics and Gynecology, Jaypee Brothers medical publishers (P) Ltd. Obstetrics of Emergencies. <u>www.jaypeedigital.com</u>