

Intrapartal Hypertension

PIH may have been diagnosed during the prenatal period, necessitating induction of labor/cesarean birth, or onset of symptoms may occur during labor (or early postpartum). Early recognition and prompt intervention promote optimal outcomes for client and fetus.

This plan of care is to be used in conjunction with the first five care plans in this chapter, which concern the three stages of labor, or with CPs: Induced/Augmented Labor Cesarean Birth, as indicated.

CLIENT ASSESSMENT DATA BASE

(Refer to CP: Pregnancy-Induced Hypertension and to the intrapartal assessment tool at the beginning of this chapter.)

Circulation

May have been monitored/treated for prenatal hypertension either at home or in hospital setting, or may have been normotensive throughout the pregnancy.

Blood pressure may be elevated at the onset of labor.

Progressive fluid retention may be present.

Safety

May be receiving an oxytocin infusion for induction or to offset tocolytic effects of MgSO₄.

Sexuality

May be scheduled for induction (if cervix is favorable) or cesarean birth (preferably after 36 weeks' gestation) because of deteriorating maternal and placental status.

Pregnancy may or may not be full term (with uterus at xiphoid process).

DIAGNOSTIC STUDIES

Kidney, liver, and coagulation studies may show altered function.

(Refer to CP: Pregnancy-Induced Hypertension.)

NURSING PRIORITIES

1. Reduce/alleviate maternal hypertension.
2. Monitor client and fetal status.
3. Maintain/optimize placental circulation.
4. Prevent eclamptic state.

NURSING DIAGNOSIS:**May Be Related To:****Possibly Evidenced By:****DESIRED OUTCOMES/EVALUATION
CRITERIA—CLIENT WILL:****Fluid Volume excess/[circulating deficit]**

Compromised regulatory mechanism (pathological state with fluid shifts), excessive fluid intake, effects of drug therapy (oxytocin infusion)

Blood pressure changes, edema, weight gain, changes in mentation

Display usual mentation; BP, pulse, urine output, and specific gravity WNL; deep tendon reflexes (DTRs) 2+ (normal); free of headache and visual disturbances, absence of clonus.

ACTIONS/INTERVENTIONS

RATIONALE

Independent

Assess location and extent of edema. Note Hb and Hct levels.

Helps determine degree of fluid retention and possible shifts to extracellular tissues. If the pathological state is excessive, involving vasospasms and hypertension, fluid that has shifted from the intravascular space to extracellular tissue may begin to reenter the circulatory system, contributing to fluid overload and significant increase in BP.

Assess BP and pulse as indicated, especially if client is receiving oxytocin.

Preexisting elevated BP may rise even higher in the intrapartal period, or a normotensive client may become hypertensive during labor in response to increased basal metabolic rate, anxiety, and/or sodium and water retention from oxytocin infusion.

Assess ankle clonus, DTRs, lung sounds, visual acuity, presence of RUQ/epigastric pain.

Progressive edema may be manifested by hyperreflexia or by cerebral, liver, or lung involvement. (Refer to CP: Pregnancy-Induced Hypertension; ND: Fluid Volume deficit [isotonic].)

Monitor urine output. Measure specific gravity; check albumin by dipstick test.

Kidney function is directly correlated to circulatory fluid volume, so that if fluid is trapped in third spaces, output decreases and specific gravity increases.

Position client on left or right side during stage I and II labor, or place wedge underneath right buttock.

Prevents compression of aorta and inferior vena cava; increases venous return, placental circulation, and kidney perfusion.

Collaborative

Administer antihypertensives (e.g., hydralazine [Apresoline], sodium nitroprusside [Nipride]) IV by infusion pump, if diastolic readings are greater than 110 mm Hg.

Vasodilator drugs relax smooth muscle of blood vessels, thereby reducing BP immediately. In emergency situations, sodium nitroprusside acts within 30 sec, providing a rapid decline in blood pressure.

Insert indwelling urinary catheter.

Provides accurate hourly totals of urine output, and monitors client for developing renal problems or oliguria. (Refer to CP: Pregnancy-Induced Hypertension; ND: Tissue Perfusion, altered renal.)

Administer PO/IV fluids as ordered.

Controversy exists as to whether these individuals should receive approximately 125 ml/hr to correct circulatory deficits, or have fluids restricted at approximately 75 ml/hr to reduce risk of pulmonary edema. Note: Fluid restriction increases client's sensitivity to vasodilators with risk of fetal distress, and inability to use epidural anesthesia safely.

Administer furosemide (Lasix) if indicated.

On occasion, circulatory overload/failure may cause pulmonary edema requiring aggressive therapy. Otherwise, it is contraindicated as it may cause dehydration.

NURSING DIAGNOSIS:**Risk Factors May Include:****Possibly Evidenced By:****DESIRED OUTCOMES/EVALUATION****CRITERIA—FETUS WILL:****Gas Exchange, risk for impaired fetal**

Altered blood flow, vasospasms, and/or prolonged uterine contractions

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

Be free of late deceleration.

Manifest good variability.

Demonstrate a baseline heart rate of 120–150 bpm.

ACTIONS/INTERVENTIONS**RATIONALE**

Independent

Assess FHR; note periodic changes (accelerations and decelerations) and patterns of short- or long-term variability. Report reduced variability and late decelerations, if present.

Position client on side; use wedge under right buttock if client is supine.

Recurrent or late decelerations combined with reduced variability or tachycardia and then bradycardia may indicate uteroplacental insufficiency or potential fetal compromise/demise.

Prevents supine hypotensive syndrome; increases placental perfusion, which is especially critical in the hypertensive client who has low fetal reserve manifested as late decelerations.

Collaborative

Note findings of prenatal testing, especially amniocentesis, nonstress test, contraction stress test, gestational age of fetus, and fetal lung maturity.

Apply internal electrode to presenting part.

Note administration of MgSO₄ or diazepam (Valium) to client.

In the event of late decelerations:

Increase plain IV fluid and discontinue oxytocin infusion. Notify physician immediately, especially if sinusoidal pattern is present.

Helps in predicting fetal response to labor and in evaluating newborn's ability to establish respiratory function in the early neonatal period.

Accurately monitors fetal response and variability.

May reduce beat-to-beat variability and depress newborn. Note: Valium use is generally restricted to treatment of severe eclampsia/seizure control.

Continuation of pattern for more than 30 min markedly increases risk of negative effects of fetal hypoxia, acidosis, and asphyxia.

Stopping oxytocin and increasing plain IV fluid may increase placental circulating volume/oxygenation. (Oxytocin infusion may reduce periods of maternal uterine relaxation between contractions, thereby reducing oxygen levels.) Note: A sinusoidal pattern with minimal to absent short- and long-term variability may occur just prior to death in a severely hypoxic fetus.

Elevate client's legs; administer oxygen via mask at 8–10 L/min.

Increases venous return, circulating blood volume, and oxygen available for fetal uptake.

Assist as necessary with obtaining fetal scalp sample.

Fetal scalp pH should range between 7.30 and 7.35. A preacidotic value of 7.20–7.24 should be repeated in 15 min, with expeditious delivery carried out if values are less than 7.20. Note: Normal values may vary, e.g., effects of altitude.

Arrange for presence of pediatrician or neonatal/pediatric intensive care unit nurse at delivery.

May be needed to provide resuscitation or immediate care of the newborn.

Prepare for vaginal delivery or cesarean birth, depending on fetal status and cervical dilation.

Intervention may be necessary to prevent fetal/neonatal compromise caused by asphyxia.

NURSING DIAGNOSIS:**Urinary Elimination, altered****May Be Related To:**

Fluid shifts, hormonal changes, effects of medication

Possibly Evidenced By:

Changes in amount/frequency of voiding; bladder distension, changes in urine specific gravity, presence of albumin

DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:

Display individually adequate urine output with specific gravity WNL and urinary albumin not greater than 1+.

ACTIONS/INTERVENTIONS**RATIONALE****Independent**

Monitor intake and output.

Increased diuresis may occur, resulting in loss of 4 lb or more of retained fluid in a 24-hr period owing to bedrest, which reduces adrenal functioning.

Note color, amount, specific gravity, and albumin levels in each voiding.

Increasing urine output is reflected in less concentrated urine with decreasing specific gravity. Albumin greater than 2+ indicates glomerular spasms.

Assess bladder fullness; assist as necessary in emptying. (Refer to CP: Labor: Stage I—Active Phase; ND: Urinary Elimination, altered.)

A full bladder may impede fetal descent and increases risk of maternal injury.

Collaborative

Insert indwelling urinary catheter for continuous drainage.

In severe PIH, there may be extensive kidney involvement requiring close and accurate monitoring of renal function. In many cases, the client with severe PIH requires a cesarean delivery because of deteriorating maternal, fetal, and placental status and usually has an indwelling catheter inserted prior to surgery to prevent bladder trauma.

(Refer to CP: Pregnancy-Induced Hypertension; ND: Tissue Perfusion, altered renal.)

NURSING DIAGNOSIS:**Injury, risk for maternal****Risk Factors May Include:**

Tonic-clonic convulsions, altered clotting factors (release of thromboplastin from the placenta)

Possibly Evidenced By:

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

**DESIRED OUTCOMES/EVALUATION
CRITERIA—CLIENT WILL:**

Restrict activities as indicated.

Be free of seizure activity and related complications.

ACTIONS/INTERVENTIONS**RATIONALE**

Independent

Assess for CNS involvement (i.e., headache, irritability, visual disturbances) and presence of RUQ/epigastric pain.

Suggestive of cerebral edema and vasoconstriction, indicating progression of condition. Multiorgan involvement (e.g., liver distension, creating epigastric pain) reflects the HELLP syndrome, increasing mortality and morbidity.

Provide quiet environment, limit visitors, reduce room lighting, and maintain bedrest.

Helps reduce stimuli that might precipitate a seizure.

Measure urine output prior to and during administration of MgSO₄.

Output of at least 30 ml/hr is required for administration of MgSO₄.

Elicit DTRs (brachial, wrist, knee); note ankle clonus. Note signs of hyperactivity, convulsion, or coma. Discontinue MgSO₄ in absence of patellar reflex.

Labor may precipitate eclamptic state, with hyperreflexia and progressive edema occurring just prior to the convulsion. Reduced DTRs suggest toxic levels of MgSO₄, which is administered to depress CNS.

Monitor respiratory rate/depth during MgSO₄ administration. Stop administration if respirations are fewer than 12/min.

Therapeutic range of drug is narrow, and elevated serum concentrations may depress respirations

Evaluate uterine activity and response to MgSO₄.

MgSO₄ has tocolytic properties that may reduce myometrial contractility, possibly necessitating oxytocin augmentation. (Refer to CP: Labor: Induced/Augmented.)

Give client nothing by mouth if seizure activity is suspected.

Reduces risk of aspiration.

Obtain emergency equipment (suction, oxygen, medications, emergency delivery pack).

May be needed in the event of a seizure or precipitous delivery.

Implement seizure precautions per protocol.

Reduces risk of injury if seizure activity occurs. An eclamptic episode may initiate the onset of labor, or labor may need to be artificially induced following an eclamptic seizure.

Palpate for uterine tenderness/rigidity; check for vaginal bleeding. Note history of concurrent medical conditions.

Client is at increased risk for abruptio placentae, especially if there is a preexisting medical problem such as diabetes mellitus, or renal or cardiac conditions causing vascular involvement.

Monitor for signs of disseminated intravascular coagulation (DIC): easy/spontaneous bruising, prolonged bleeding.

Abruptio placentae with release of thromboplastin predisposes client to DIC.

Collaborative

Administer MgSO₄ by infusion pump or intramuscularly. Have calcium gluconate (10%) available. (Refer to CP: Pregnancy-Induced Hypertension; ND: Injury, risk for maternal.)

Acts on myoneural junction to depress CNS activity; helps prevent seizure intrapartally. Calcium gluconate is an antidote to MgSO₄.

Initiate oxytocin infusion using piggyback setup with isotonic solution, as indicated.

May be necessary for labor induction or augmentation to overcome tocolytic effects of MgSO₄. Note: May cause additional elevation of BP owing to sodium/water retention, thereby increasing risk of seizure activity.

Review laboratory studies, e.g.:

Liver enzymes (AST, ALT);

Determines progression of condition, development of HELLP syndrome.

Platelet count, clotting factors.

Release of thromboplastin from abruptio placentae may initiate DIC.

(Refer to CP: Prenatal Hemorrhage.)

Administer pentobarbital (Nembutal), diazepam (Valium) IV, as indicated.

Although rarely used, these drugs depress the thalamus and hypothalamus and effectively manages eclamptic convulsions uncontrolled by MgSO₄ therapy.

NURSING DIAGNOSIS:

Knowledge deficit [Learning Need], regarding condition, prognosis, treatment needs

May Be Related To:

Lack of exposure/unfamiliarity with information resources, misinterpretation

Possibly Evidenced By:

Request for information, statement of misconception, inappropriate behaviors, development of preventable complications

DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:

Verbalize understanding of situation and treatment plan.

ACTIONS/INTERVENTIONS

RATIONALE

Independent

Assess client's level of knowledge and degree of anxiety.

Explain the impact of procedures, nursing activities, and medications on client and fetus. Clarify misconceptions and elicit questions.

Provide simple explanations about actual and potential physiological changes associated with prenatal and intrapartum hypertension.

Discuss impact of labor progress on condition.

Determines specific information needs and readiness to learn.

Reduces fear associated with the unknown; even those who have had problems previously may benefit from review of information throughout the labor and delivery process.

Increases client awareness of the seriousness of her condition, and allows her to make informed decisions about her care.

Allows client to recognize that her hypertensive state may escalate during labor, requiring more intense interventions and possibly a rapid delivery (either vaginal or cesarean).

(Refer to CPs: Labor: Stage I—Latent Phase; Labor: Stage II (Expulsion); Labor: Stage III (Placental Expulsion); ND: Knowledge deficit [Learning Need].)

NURSING DIAGNOSIS:**May Be Related To:****Possibly Evidenced By:****DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:****Anxiety [specify level]**

Situational crisis, interpersonal transmission/contagion, threat of death

Increased tension, apprehension, uncertainty, restlessness, sympathetic stimulation

Verbalize awareness of feelings of anxiety.

Report reduction in level of anxiety.

Appear relaxed between contractions.

ACTIONS/INTERVENTIONS**RATIONALE**

Independent

Assess client's/couple's source and level of anxiety.

All clients approach labor and delivery with a certain degree of anxiety, which becomes even greater in a high-risk situation. Such anxiety is directly related to fear of the unknown and lack of predictable outcomes for the client and her fetus.

Encourage verbalization of feelings; provide appropriate emotional support.

Aids client/couple in identifying specific concerns and helps relieve tension.

Inform client that pediatrician will be present at delivery; if possible, introduce client to pediatrician prior to delivery.

Assures client/couple that at delivery, the infant will be in competent hands and receive appropriate care.

(Refer to CPs: Labor: Stage I—Latent Phase; Labor: Stage I—Active Phase; ND: Anxiety, risk for.)

NURSING DIAGNOSIS:**May Be Related To:****Possibly Evidenced By:****DESIRED OUTCOMES/EVALUATION****CRITERIA—CLIENT WILL:****Pain [acute]**

Intensification of uterine activity, discomfort associated with hypertension or oxytocin infusion; myometrial hypoxia (abruptio placentae) and anxiety

Verbalizations, altered muscle tone, distraction behaviors (restlessness, moaning, crying), facial mask of pain, autonomic responses

Use appropriate breathing and relaxation techniques.

Report reduction of pain/discomfort.

ACTIONS/INTERVENTIONS

RATIONALE**Independent**

Assess source and nature of pain/discomfort.

Helps in determining appropriate nursing responses. Discomfort levels associated with uterine activity may be intensified in the client with hypertension, owing to high anxiety level; myometrial hypoxia, which may be associated with placental separation (abruptio placentae), and/or intense onset of labor associated with oxytocin infusion, which has a negative impact on client's ability to cope with contractions.

Review/encourage use of relaxation techniques and controlled breathing.

Client may not have completed/participated in childbirth preparation classes, or stress of situation may interfere with her ability to recall/perform these activities.

Provide comfort measures; e.g., cool cloth, dry linens, back/sacral rub.

Promotes relaxation and may enhance ability to cope with contractions.

Discuss available anesthesia and analgesia.

Knowledge enables client to make informed choices and maintain a sense of control.

Investigate report of acute abdominal pain. Note increased vaginal bleeding. (Refer to CP: Prenatal Hemorrhage.)

Client with hypertension is more prone to abruptio placentae because of vasospasm and fibrin deposits.

Collaborative

Assess uterine response to labor using intrauterine catheter, if available, in place of tocotransducer.

Accurately measures intensity and resting tone of contractions and detects hyperstimulation caused by oxytocin induction.

Reduce/discontinue oxytocin infusion in presence of hyperactive uterine response or reduced relaxation between contractions.

Helps to terminate hypersensitive response. Tetanic contraction may cause uterine rupture.

Provide/assist with administration of meperidine hydrochloride (Demerol), fentanyl (Sublimaze), or local anesthetic.

Demerol administered in stage I labor and or local anesthetic (or possibly a pudendal block) administered in stage II labor are recommended; epidural anesthesia may be contraindicated because of its known hypotensive effect, which further reduces placental perfusion.