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Practical Guideline for Labor

Abstract

This guideline was prepared by the Laboring Program Science Board of the General Directorate of Family Planning and Maternal and Infant Department of Health of Turkish Health Ministry in close cooperation with Turkish Gynaecology and Obstetrics Society, Turkish Perinatology Society, Turkish Maternal Fetal Medicine and Perinatology Society to provide the unity in application and to be a guide in clinical practices of physicians. Practical Guideline for Labor is not a series of unchangeable rules and does not constitute the judicial standards of the services offered to patient. It admits that it is a basic principle to evaluate every single patient within his/her own special conditions.

Keywords: Labor, practical guideline.

Doğum eylemi yönetim rehberi

Bu rehber, uygulamada birlikteliği sağlamak ve hekimlerin klinik pratiklerinde yol gösterici olması amacı ile, Türk Jinekoloji ve Obstetrik Derneği, Türk Perinatoloji Derneği, Türkiye Maternal Fetal Tıp ve Perinatoloji Derneği işbirliğinde Sağlık Bakanlığı Ana Çocuk Sağlığı ve Aile Planlaması Genel Müdürlüğü Doğum Programı Bilim Kurulu ile tarafından hazırlanmıştır. Doğum Eylemi Yönetim Rehberi değişmez kurallar dizisi değildir ve hastaya sunulan hizmetlerin hukuki standartlarını oluşturmaz. Tıbbın ana prensibi olarak hastalık değil hasta vardır kuralına uygun olarak her hastanın durumunun kendi özel koşulları içerisinde değerlendirilmesini temel prensip olarak kabul eder.

Anahtar Sözcükler: Doğum eylemi, yönetim rehberi.

Introduction

Cesarean is generally applied in cases where it is not possible to complete vaginal delivery safely or when there is a certain increase in maternal and/or fetal morbidity and mortality together with vaginal delivery.

According to the Turkish Population and Health Research (TNSA) in 2003, it is seen that cesarean rate which was 21.2% have reached 40% in recent delivery rates. It is known that the current rate is over the goal (5-15%) set by World Health Organization and the rates of developed countries.

While large-scale retrospective and prospective studies have been planned by the General Directorate of Family Planning and Maternal and Infant Department of Health of Turkish Health Ministry of in order to reveal the reasons, it is considered that the factors such as the increase of discretionary and repeated cesareans and extending the indications are among the reasons increasing this rate. Today, risks such as infection, bleeding, transfusion need, thromboembolic risks, long hospital stayings, late recovery, having more pains continue while anesthesia, drugs and materials used, and developments in surgical and postoperative care have decreased mortality and morbidity due to cesareans.

American Congress of Obstetricians and Gynecologists (ACOG) declared in their statement on May 9th, 2006 that cesareans should be performed not discretionally but due to medical reasons. The studies to follow deliveries and their outcomes in public and private health associations have been initiated by the ministry throughout the country to protect mother health. In this context, it is important to follow

cesarean indications and outcomes. Obeying the medical reasons and indications suggested by modern obstetrics, keeping patient records in a certain form and within an application unity in detail and correctly, keeping statistics accurately and following ethic rules are the most important precautions to reach this goal.

Application-Oriented Basic Priorities

- Delivery by cesarean is a surgical intervention and it is essential to perform it for medical reasons, and it is an alternative to vaginal delivery. Advantages and risks peculiar to pregnant and pregnancy should be taken into consideration when planning cesarean delivery.
- While the request of mother is not a sufficient reason by itself for cesarean, psychological conditions of individual such as fear, anxiety, panic should be taken into consideration. Adequate and accurate consultancy should be given.
- Cesarean decision should be given by individualizing the diagnoses of each patient.
- As in all medical interventions, informed consent from should be taken from patient in also cesarean cases.

Reducing the Cesarean Possibility

- In all pregnancies where delivery is followed up, partograph should be used to follow up spontaneous delivery progress.
- Beginning from the 36th gestational week, external cephalic version (ECV) can be suggested to pregnants who have single rectal baby without complication, excluding exceptional cases (pregnants whose deliveries have already begun and who have uterine scar and abnormality, fetal distress, membrane rupture and vaginal bleeding).

The risks of intervention should be explained to mother-to-be by informed consent before the application.

- It is suggested to determine delivery type by individualizing treatment and deciding as to case for pregnants who exceed their 42nd gestational week and have single pregnancy without complication.

It should be kept in mind that there may be increase in cesarean rate and other complications by the induction of delivery. Mother should be informed about this matter.

- In appropriate cases, post-cesarean vaginal delivery can be suggested. The risks of intervention should be explained to mother-to-be by informed consent before the application.

Cesarean Indications

While delivery by cesarean is generally preferred in cases given below, these indications are not certain and they should be determined according to current conditions by individualizing delivery type as to case characteristics.

1. **Fetal Indications**
   - 1.1. Fetal distress
   - 1.2. Fetal presentation anomalies
     - 1.2.a. Rectal presentation
     - 1.2.b. Other presentation anomalies (transverse, forehead, face presentation etc.)
   - 1.3. Multiple pregnancies
   - 1.4. Fetal anomalies (hydrocephalia, sacrococcygeal teratoma etc.)
2. **Maternal Indicationsr**
   - 2.1. Performed uterus surgery (cesarean, other operations)
   - 2.2. Systemic diseases (DM, HT, pregnancy induced hypertension etc.)
   - 2.3. Vertical transitive maternal infections (HIV, HSV-2, HCV vb.)
3. **Labor or Natal Indications**
   - 3.1. Cephalopelvic disproportion
   - 3.2. Prolonged labor
   - 3.3. Fetal Macrosomia
4. **Indications of Umbilical Cord and Placenta**
   - 4.1. Cord prolapse
   - 4.2. Placenta previa
   - 4.3. Ablatio placentae
   - 4.4. Vasa praevia

Fetal Anomalies

Related Messages

- Delivery by cesarean can be suggested in cases such as fetal myelomeningocele, sacrococcygeal teratoma, fetal abdominal anterior wall defects and non-immune hydrops.
- Generally, delivery type in fetal anomalies should be individualized according to case characteristics. This decreases perinatal morbidity and mortality expected in cesarean.

Fetal Distress

Related Messages

- Gestational week during delivery, existence of congenital anomaly and development disorders affect perinatal outcome seriously.
- The technology used by newborn experts and advancements in prenatal care (such as determining high-risk patients, increasing use of antenatal steroids by those with ultrasonography and early labor risk etc.) affect perinatal outcome positively.
- Fetal distress is diagnosed by applying one or more methods given below according to risk situation.
  1) Monitoring partogram and fetal heat beat rate by fetoscope
  2) Discontinuous or continuous electronic fetal monitorization
  3) Fetal scalp blood sampling or palse oximeter
- If there is a situation where fetal heart beat does not get normal, cesarean is suggested to prevent perinatal morbidity and mortality.
- It is needed to do cesarean within 30 minutes at the latest when a patient is diagnosed as having fetal distress.

Protocol

Reminder: 1 - Fetal Distress Diagnosis

- Abnormal heart rate curve.
- Amnion fluid with dark-dense meconium.
- Determining fetal hypoxia by using fetal pulse oximeter and scalp blood sampling.

Today, these methods can be applied by limited number of hospitals and they are not practical.

Reminder: 2 - If Fetal Distress Diagnosis Exists

- Pregnant should be laid down on its left side or be kept in sitting position.
- Oxytocin infusion (if given) or another induction should be stopped.

Reminder: 3 - Heart Rate

- Normal heart rate can slow down during contraction but it returns to normal as soon as uterus loosens up.
- Very slow heart rate when there is no contraction or slow heart rate after contraction may indicate fetal distress.
- Fast heart rate may develop as a response to high fever, drugs accelerating heart rate of mother (i.e. tocolytic drugs), chorioamnionitis, hyperthyroidism or high tension. In the light of this information, to research the maternal-oriented reasons is the first thing to do when fast heart rate is found.
- The existence of fast heart rate of fetus despite the normal heart rate of mother should be considered as a diagnosis of fetal distress.

Reminder: 4 - Meconium

- As fetus maturates, amnion fluid stained with meconium is seen frequently and it may not be an indication of fetal distress on its own. It must be paid attention in the existence of amnion fluid stained with meconium without any abnormality in heart rate.
- Dense-dark meconium presence shows the meconium transiton into decreased amnion fluid and it is required to hasten the delivery.

If this diagnosis occurs on the early phase of delivery and if it is predicted that the delivery will take long (primigravida), then cesarean may be considered. Mouth-nose aspiration required during delivery should be performed rapidly in order to prevent meconium aspiration.

- Meconium transition occurs due to pressure on fetus abdomen during delivery through rectal presentation. It is not a diagnosis of fetal distress providing that the situation is not on the early phase of delivery.

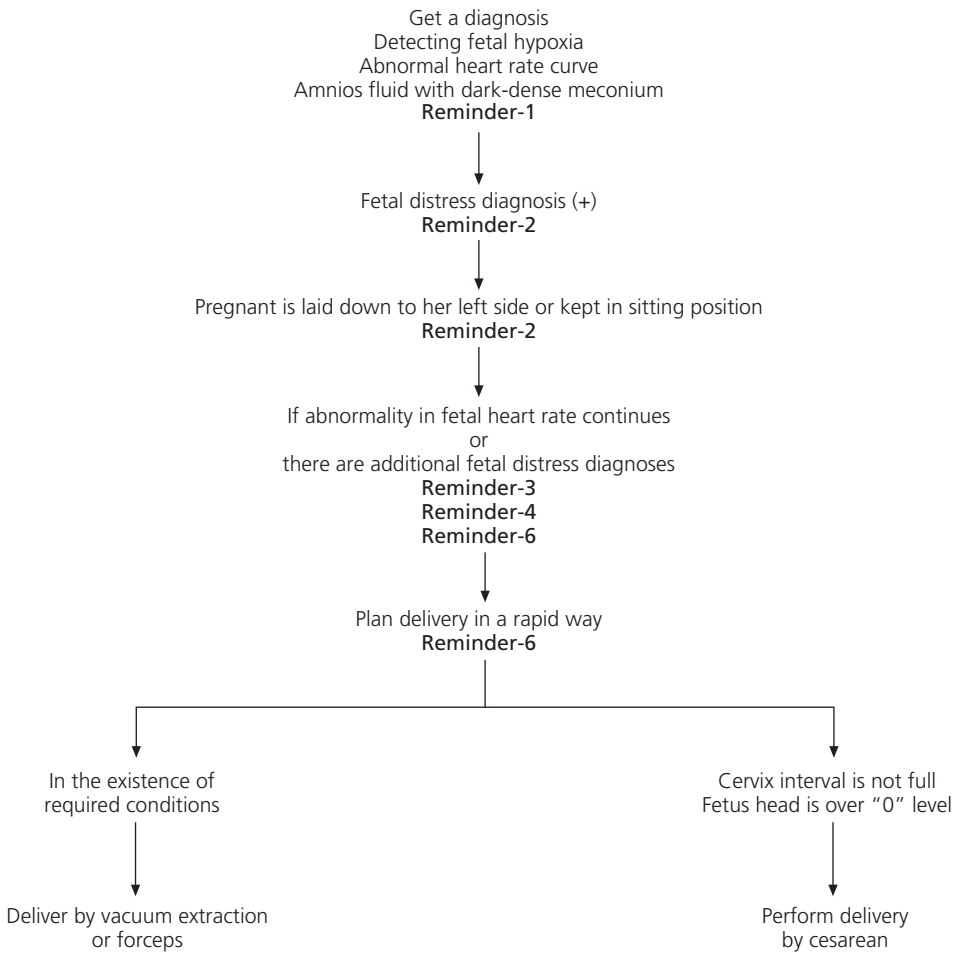
Reminder: 5 - Additional Clinical Diagnosis (Chart-1)

- If there are infection diagnoses (fever, fetid vaginal discharge), antibiotics should be given as in chorioamnionitis.
- If the cord is below the incoming part or in vagina, it should be managed as cord prolapse.

Reminder: 6 - Delivery

- If abnormality in fetus heart rate continues or there are additional diagnoses for distress

Fetal Distress Flow Chart



Reminder-5 Evaluate if there are infection diagnoses and initiate antibiotic treatment if necessary. Manage it as if it is cord prolapse if there is any cord prolapse.

(amnion fluid with thick-dense meconium), delivery should be planned:

- In the presence of required conditions, vacuum extraction or forceps can be tried. Otherwise, delivery is performed by cesarean.
- If cervix is not fully open or fetus head is over 0 level, delivery should be performed by cesarean.

Rectal Presentation

Related Messages

- Approximately 4% of single pregnancies are rectal presentation. Prevalance decreases as gestational weeks increase (3% in term pregnancies).
- Delivery of all rectal presentations should be done in hospitals which are capable of performing operation.
- Plannned vaginal delivery can be suggested to multipara pregnants who have pure and full rectal presentation between 2500 gr and 3500 gr estimated fetal weight.
- It is important to specialize on vaginal rectal deliveries and it is not suggested to try delivery without having the experience of this practice.
- ECV performed on 36th gestational week and over can turn the position in pregnants with noncomplicated (full and pure rectal presentation) rectal presentation from rectal presentation to cephalic presentation. However, ECV is not a method used frequently by obstetrics in Turkey. It can be offered as an alternative if physician is experienced on the subject matter.
- If ECV succeeds, normal action follow-up is performed. If ECV fails, vaginal rectal delivery is followed or delivery is performed by cesarean.
- Pregnant should be examined regularly and delivery progress should be marked on delivery monitorization graph.
- Elongated action in rectal presentation is a cesarean indication.
- Membranes should not be opened; when they are opened, pregnant should be examined immediately in terms of cord prolapse.
- If the cord prolapsed and the delivery is not soon, then the delivery should be performed by cesarean.
- If gestational week of fetus is less than 34th gestational week in early rectal delivery, then the cesarean appropriate.
- In rectal presentation, delivery by cesarean is frequently suggested in cases given below;
  1. Big fetus,
  2. Inappropriate pelvis,
  3. Cord entanglement on neck,
  4. Hyperextension of head,
  5. Being unable to initiate spontaneous labor in presence of membrane rupture developed 12 hours or long ago,
  6. Uterus dysfunction,
  7. Foot presentation,
  8. In pregnancies at 34th gestational week or below, being on active delivery action of mother when preterm fetus is apparently healthy,
  9. Serious fetal growth retardation,
  10. Perinatal death undergone or childhood background with birth trauma,
  11. Sterilization request

Protocol

Reminder: 1 - Evaluation in Antenatal Period

Consultation of pregnant with an obstetrician before 36th week:

The definition of noncomplicated single rectal presentation:

- Pregnancy of 37th-42nd week,
- Full (with flexion) or pure (with extension) rectum,
- No feto-pelvic disproportion,

- Fetal head is at full flexion or does not have hyperextension (Leopold 3, 4),
- No fetal anomaly,
- No mechanical obstacle,
- Clinically calculating fetus under 3500 gr,

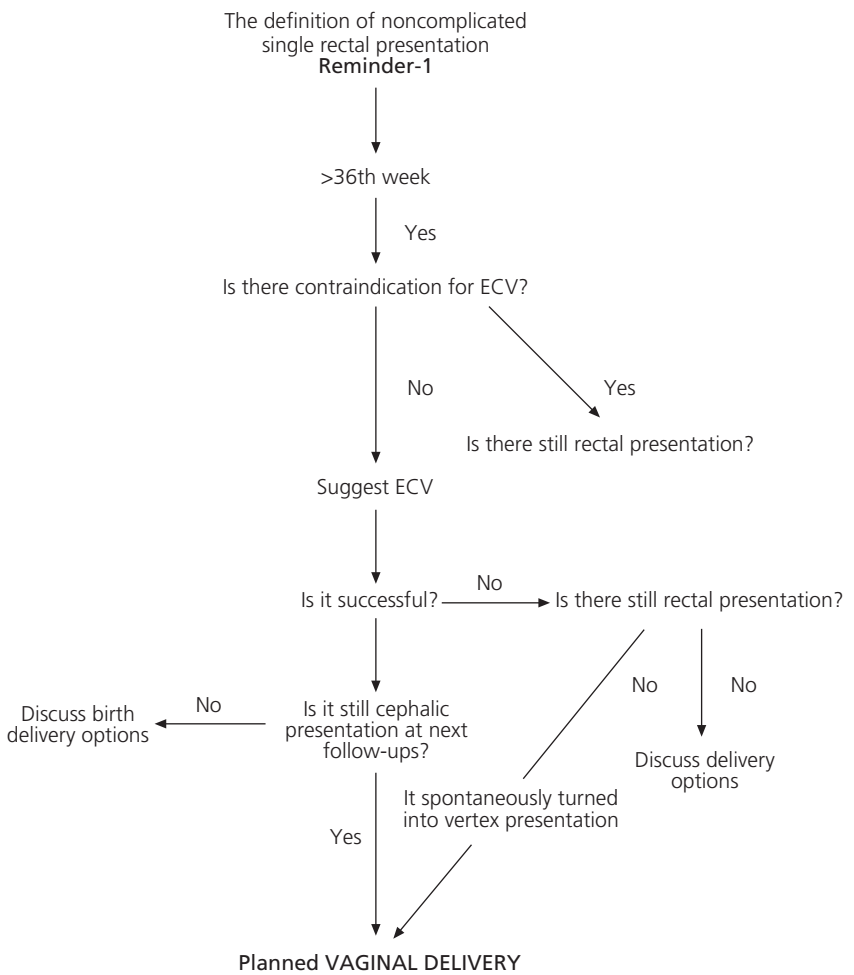
Reminder: 2 - Progress of Delivery

- **Cervical dilatation**:
  - Proceeding by opening at least 0.5 cm per hour after 3 cm for multiparas.
  - Proceeding by opening at least 0.5 cm within 1.5 hour after 3 cm for nulliparas.
  - Rectum going down to perineum within 2 hours after full dilatation.

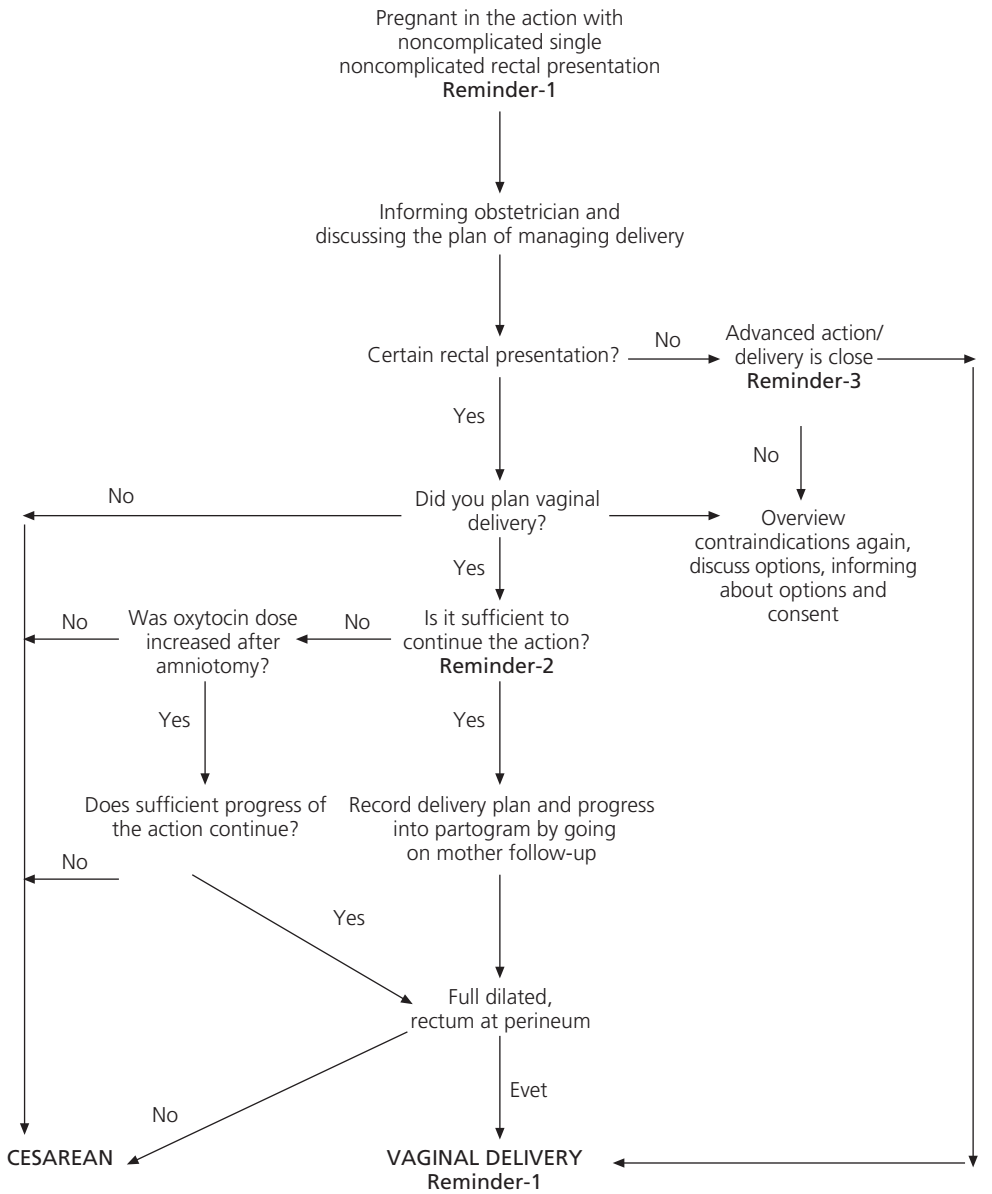
Reminder: 3 - Suggestions for the Action (Chart-2 and Chart-3)

- Pregnant should not be made to do active pushing move until rectum goes down to perineum.
- Delivery is close after one hour of active pushing.
- Pregnant is given active delivery position.
- If delivery of thorax gets slow, "Lovsett" maneuver should be done. Then, head

Prenatal Care Flow Chart of a Pregnant with Rectal Presentation



Action and Delivery Flow Chart in Rectal Presentation



should be delivered in a controlled and gentle way.

- When needed, forceps can be applied to head coming from back by obstetrician who is sufficiently qualified and experienced for such cases. Obstetrician should be informed beginning from first moments of active delivery action. Hospital conditions required for a planned vaginal rectal delivery are: Experienced midwife, expert pediatrician, obstetrician who is qualified to follow delivery, operating room for emergency cesarean and existence of emergency conditions.

Transverse Presentation

Related Messages

It can be tried to rotate fetus from outside (external version) if it is early period of the action and membranes are not open. It should be discussed with mother scientifically that this procedure may cause early labor and ablatio placentae and cesarean should be arranged under elective conditions by the consent of mother to be if needed. After 36th gestational week, pregnant should reside in a place close to hospital where she will deliver at. If the attempt of rotating from outside becomes successful, normal action follow-up is performed. If this attempt is fails or it is not safe to do, cesarean should be applied. Obstetrician should be aware of cord prolapse and perform the follow-up carefully. If cord prolapse happens when delivery is not soon, cesarean should be applied. Transverse presentation is the most dangerous one among malpresentations and elective cesarean can be arranged without considering the exceptional examples (ECV etc.) since it has a risk of high morbidity. If case is neglected, uterus rupture may develop. Obstetrician should discuss with mother to be about the risk of maternal-fetal mortality and suggest cesarean.

Forehead Presentation

Related Messages

- If fetus is alive, then it is delivered by cesarean. If it is dead, vaginal delivery should be considered as the first option.

Facial Presentation

Related Messages

It is delivered by mento-posterior cesarean. If fetus is dead, vaginal delivery should be considered as the first option. For mentum anterior, vaginal delivery can be provided by close follow-up.

Multiple Pregnancies

Related Messages

- Multiple pregnancies are observed among pregnancies with a frequency of 15/1000, which are mostly twin pregnancies (twin pregnancies: 14.4/1000; triplet pregnancies: 4/1000). Since perinatal morbidity and mortality (cerebral palsy, stillbirth, neonatal death etc.) rates increase significantly in multiple pregnancies, it is an important process to determine the delivery type.

MULTİPLE PREGNANCIES SHOULD BE PLANNED FOR DELIVERING IN CENTERS WHICH HAVE SUFFICIENT EXPERIENCE AND EQUIPMENT.

- **If first baby is vertex, second baby is vertex presentation;**
  - Vaginal delivery is preferred.
  - Though second fetus has always high risk in terms of mortality and morbidity, most of this risk is caused by inappropriate growth in favor of first fetus.
- **If second baby is vertex, second baby is not vertex presentation;**
  - In cases where where second fetus is not vertex, vaginal delivery can be provided after deliver of first one if presentation is rectal. In transverse position, second fetus can be delivered through vaginal way by means of internal podalic version (IPV). In both cases, cesarean can be preferred if sufficient experience and favorable conditions do not exist.
- **First baby is not vertex presentation;**
  - Delivery by cesarean is a preferred method.
  - In non-complicated twin pregnancies, the most ideal week for planned cesarean seems as 38th gestational week. However, most of twin pregnancies are delivered between 35th and 38th gestational weeks. The risk of respiratory problems increase in babies delivered before 35th gestational week.

Twins with Low Birth Weight

- If the presentation is vertex-vertex and it is considered that birth weights of fetus are under 1500 gram, literature supports vaginal delivery. Besides, it should not be overlooked that low birth weight can be a result of chronic hypoxy such as intrauterine growth retardation (IUGR) and fetal distress may be seen. In multiple pregnancies, it should be remembered that there may be an unbalance among twins according to chorionicity determination and thus Dopper USG may be needed for evaluating placental reserve. If any or both of fetuses have chronic hypoxy diagnoses, it is suitable to end pregnancy by cesarean.
- The case of second twin which does not have vertex presentation without low birth weight (under 1500 gram) is very controversial and it is hard to evaluate the profit-loss rate between mother and baby. Physician should plan delivery by taking conditions and his/her training into consideration in this case.

Monoamniotic twins;

- These twin pregnancies are related with the characteristics increasing perinatal mortality such as twins being locked up during delivery, cord entanglement and transfusion between twins. Diagnosis is possible by USG use. In such case, delivery preference should be cesarean.

Triplet and above pregnancies;

- Cesarean is applied since it decreases possibility of low Apgar score at delivery and perinatal death incidence.

Protocol

Delivery at Multiple Pregnancies

Reminder: 1- Diagnosis

- Fetus count is determined by USG and abdominal examination.

Reminder: 2 - First Baby

- If it is vertex presentation, the action is allowed to proceed as vertex presentation and the progress of action is followed up by using partogram; vaginal delivery is applied if there is no extraordinary situation.

Reminder: 3 - First Baby

- If it is rectal presentation, cesarean is a performed method.
- If it is a transverse presentation, then delivery is done by cesarean.

Reminder: 4 - Monoamniotic Twins

- These twin pregnancies are related with the characteristics which increase perinatal mortality such as twins being locked up during delivery, cord entanglement and transfusion between twins. Diagnosis is possible by USG use. In such case, delivery preference should be cesarean.

Reminder: 5 - Second Baby
Vertex Presentation

- Vaginal delivery is performed.
- Fetal distress diagnoses are examined after delivery of first baby.

Reminder: 6 - Second Baby
Rectal Presentation

- Vaginal delivery is planned.
- Fetus heart rate is checked between contractions.
- If there is any extraordinary situation and vaginal delivery is not possible, then delivery is doen by cesarean.

Reminder: 7 - Second Baby
Transverse Presentation

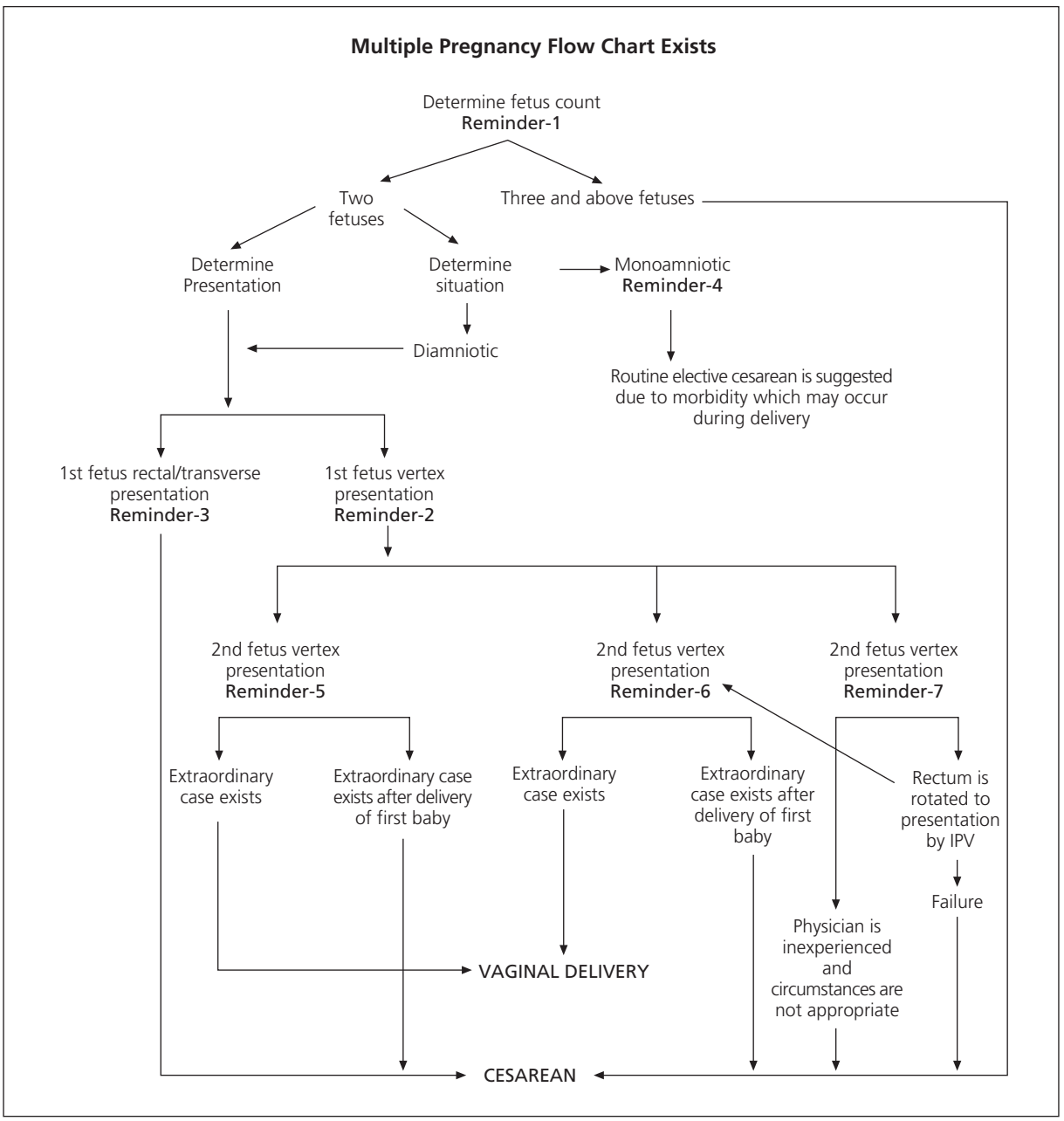
- Vaginal delivery is planned by internal podolic version (IPV) (if physician has sufficient experience and technical conditions exist). IPV processes may progress together with high morbidity and mortality. Therefore, cesarean may be planned if malpresentations or malpositions of fetuses can be predicted beforehand (Chart-4)

Note: If there is scar in uterus, membranes are opened, amnion has run out of fluid and operator has no training, IPV initiative is not performed. It is not insisted if baby is not rotated easily.

Extraordinary Situations

- Abnormal bleeding,
- Cord prolapse,
- Second baby much bigger than first baby,
- Contraction of cervix and getting thicker after delivery of first baby, not being dilated of itself,
- Fetal heart beats decreasing under 100/min, increasing above 180/min,

In such cases, cesarean should be planned as an emergency delivery.



Vaginal Delivery After Cesarean

Related Messages

- In order to make a proper preference between vaginal delivery after cesarean and cesarean after cesarean, required briefing for both cases should be performed fully.
- Vaginal delivery after cesarean (VDAC) should only be performed in appropriate centers. In such centers, blood bank providing service for 24 hours, teams performing fetal monitorization and surgery for 24 hours are required. Therefore, this practice should not be performed when emergency consultancy physician and anesthetists are not in hospital.
- Follow-up should be carried out in a place where cesarean and delivery will be performed immediately and immediate blood transfer is possible.
- If there is no proven contraindication, after a proper discussion about maternal and perinatal risks and benefits, VDAC in centers with appropriate conditions can be suggested to pregnants who had delivered by cesarean with transverse sub-segment incision. However, if there is any possibility that scar tissue in uterus may exist anywhere but sub-segment localization, then vaginal delivery should not be attempted.
  - If pregnant prefers VDAC, she should express it clearly. If she is not aware of the location of previous uterine incision, she should be informed certainly that perinatal mortality risk increases. This information should be within prenatal records clearly.
  - Pregnants who delivered by cesarean before should be examined by an obstetrician preferably before 36th week during antenatal care.
  - Preferences and priorities of mother, general risks and benefits (indefinite specific risks and benefits) and also uterine rupture and perinatal mortality and morbidity should be taken into consideration when deciding delivery type.
  - After risks and benefits (mentioned above) are expressed, planned vaginal delivery can be suggested to pregnants who had delivery before by cesarean twice and did not have any additional risk factor.
  - Limited number of data suggests pregnants who delivered by cesarean before that assisting delivery by oxytocin should be handled carefully.
  - Epidural anesthesia can be suggested to pregnants who delivered by cesarean before though there is no evidence that it increases the chance of performing a successful vaginal delivery.
  - Regular electronic fetal follow-up should be carried out on pregnants who had delivery by cesarean before.
  - No matter which follow-up method is chosen, fetal heart rate should be recorded. Disorders in fetal heart beat require urgent consultation of obstetricians.
- It should be suggested to pregnants who delivered by cesarean before that they should take regular midwife care during pregnancy and delivery.
  - It should be remembered that pregnants who had both cesarean and vaginal deliveries before are more prone to vaginal delivery.
  - Each hospital should have a written policy about how to get to its consultation physician responsible for a possible emergency cesarean.

Conditions of Vaginal Delivery After Cesarean (VDAC)

- Performing cesarean by sub-segment transverse incision,
- Non-existence of scar or abnormality in uterus except cesarean,

- Non-existence of pelvic stenosis,
- Fetus below 4000 gram,
- Follow-up of a patient by a physician during whole action and existence of conditions to do emergency cesarean when required,
- Existence of conditions for 24-hour fetal monitorization,
- Existence of conditions for anesthesia and operating room required for an emergency case,
- Existence of conditions allowing blood transfer required for an emergency case.

Vaginal Birth Contarindications

After Ceserean Operation

- Those with classical or reverse T incision before,
- Hysterotomy and myomectomy operations undergone before,
- Uterus rupture undergone before,
- Cases where the action is contraindicated like in some placenta previa and presentation disorders,
- If pregnant who had cesarean operation before in an unknown way (sub-segment, T, classical incision) requests vaginal delivery, it should be explained to pregnant that risks of uterus rupture and perinatal mortality are higher than cases where previous uterine incision is not sub-segment incision.

Protocol

Reminder: 1 - Evaluating Antenatal Process

Factors to be considered:

- Previous uterus incision type,
- Pregnancy age,
- Other medical conditions.

Reminder: 2 - Evaluating Risks and Benefits

Benefits:

- Decreased infection risk,
- Decreased blood loss and blood transfusion, decreased coagulation disorders,
- Early mobilization,
- Decreased medical intervention necessity,
- Success rates of vagial delivery of pregnants who had cesarean before and currently have suitable delivery conditions are 60-80%.

Risks:

- Uterus rupture [0.2-1.5% (if it is sub-transverse incision in previous cesarean)]
- Urgent cesarean requirements (30%),
- Fetal distress and requirement of newborn unit for baby.

Reminder: 3 - Specialist Evaluation

- Elective cesarean should be suggested to pregnants who have rectal presentation, multiple pregnancy or placenta previa and macrosomic fetus.

Reminder: 4 - At Delivery

- Conditions that hospital should have for a planned vaginal delivery:
  1. Sufficiently qualified midwife, obstetrician and newborn specialist,
  2. Existence of fetal monitorization facility,
  3. Operating room and anesthesia facilities for emergency cesarean cases,
  4. Decreasing pain at delivery (personal preference),
  5. Follow-up by electronic methods or monitoring,
  6. Opening of vascular access,
  7. Blood transfusion facility,
  8. Assisting the action by oxytocin (not contraindicated)

Reminder: 5 - Oxytocin

- There is no effective oxytocin dose to be suggested based on evidence,
- Oxytocin exposure time is limited to 6 hours,
- As mentioned in Reminder 4, follow up should be carried on for uterus rupture (Chart-5).

Maternal Infections that may Contaminate to Fetus from Mother

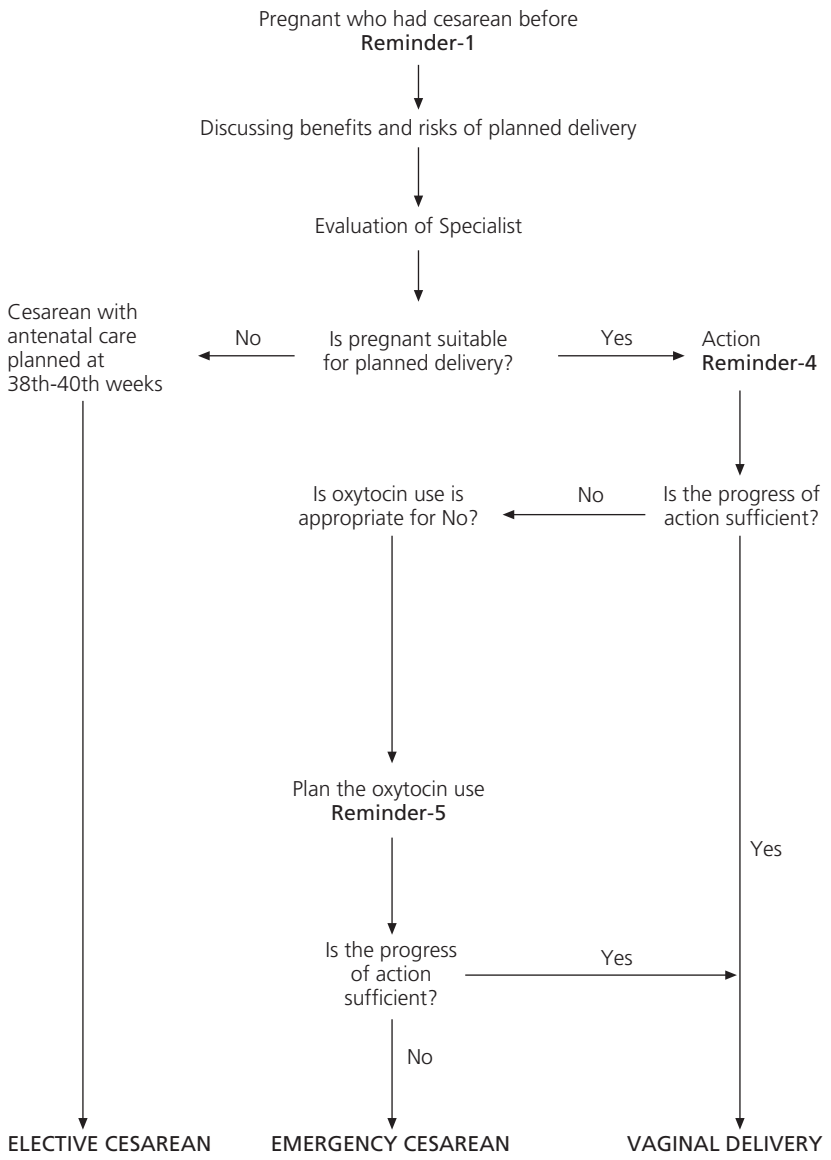
Related Messages

- HIV (Human Immunodeficiency Virus), hepatitis B virus, hepatitis C virus and genital herpex simplex virus (HSV-2) are discussed under this topic.

HIV

- Contamination from mother to baby is seen approximately 25.5% of deliveries which are not intervened.
- This rate decreases to 1% by antiretroviral treatment, delivery by cesarean and not nourishing by breastfeeding.

Multiple Pregnancy Flow Chart



- Delivery by cesarean significantly reduces contamination to baby (0.05 vs 0.55).
- Planned cesarean should be suggested to HIV positive pregnants.

Hepatitis B virus

- Contamination is observed during delivery and postnatal period.
- Contamination significantly decreases by applying hepatitis B immunoglobulin and hepatitis B vaccines at delivery and later (at 1st and 6th months).
- Although it is considered that contamination will decrease by cesarean, there is no sufficient study supporting the idea.
- Since there is no sufficient evidence, planned cesarean is not suggested to pregnants with hepatitis B positive.

Hepatitis C virus

- Contamination risk is low (3-5%).
- According to the data we have, contamination risk of virus does not change as to delivery type.
- Since contamination risk does not change, planned cesarean is not suggested to pregnants with hepatitis C positive.
- However, planned cesarean is suggested to pregnants who are hepatitis C positive and co-infected by HIV virus.

Genital Herpex Simplex Virus (HSV-2)

- It is a sexually infecting ulcerative infection.
- Neonatal HSV is a systemic disease with high mortality and it is considered that it contaminates through delivery canal of infected mother (1.65/100,000 alive delivery).
- Even though there is no sufficient evidence, delivery by cesarean is suggested in primary HSV-2 infectin since nonatal herpex progresses with high mortality.
- It is not certain that planned cesarean in pregnants with recurrent HSV-2 infection decreases neonatal HSV risk. Delivery by cesarean can be suggested.

Hypertensive Diseases of Pregnancy

Related Messages

Preeclampsia-Eclampsia

- If there is serious growth retardation or distress diagnosis of fetus in pregnant with hypertension, pregnant should be hospitalized for advanced evaluation and accelarting possible delivery. On the other hand, even only high tension may require hospitalization for follow-up.
- Pregnant and her family should be informed about the hazard diagnoses of preeclampsia and eclampsia.
- Mild preeclampsia cases should be evaluated according to gestational week and fetus maturation and their treatments should be arranged accordingly.
- Middle Preeclampsia under 32nd gestational week should be followed unly under hospital conditions and its possibility of suddenly turning into a heavy preeclampsia should not be overlooked.
- Regardless of gestational week in heavy preeclampsia and eclampsia, maternal clinical condition should be stabilized and delivery should be provided.
- In heavy preeclampsia and eclampsia, delivery action should be inducted under MgSO4 perfusion. When induction fails, delivery by cesarean can be considered. If delivery is predicted before 34th gestational week, maternal steroid application can be done to provide fetal lung maturation. Additionally, postnatal newborn conditions should also be supplied.
- Eclamptic pregnants should be made to deliver in the shortest possible time. After necessary vital diagnoses of pregnant are fixed, it is tried to do delivery by induction; delivery by cesarean should be planned if induction fails or other obstetric inducations appear.

- Cervix should be evaluated.
  1. If cervix is mature (soft, thin, partially open), membranes are opened and delivery action is inducted by using oxytocin.
  2. If there is abnormality in fetal heart rate, delivery by cesarean is performed.
  3. If cervix is not mature (hard, thick, closed), cervix can be matured by using prostaglandins or delivery is performed by cesarean.
- If fetus is dead or very premature to survive;
  1. Vaginal delivery is planned.
  2. If cervix is not mature (hard, thick, closed), cervix is matured by prostaglandins.
  3. If vaginal delivery can not be performed despite all, delivery by cesarean can be planned.

Chronic Hypertension

- If complication is not developed in a patient with chronic hypertension, plan the delivery at term. However, it should be taken into consideration that there will be an increase in fetal morbidity and mortality due to chronic hypertension. Also it is a fact that preeclampsia risk increases in such patients, therefore it is required to follow cases closely.
- If there is abnormality in fetal heart rate curve, fetal distress should be suspected.
- If there is a serious growth retardation and gestational age is reliable, delivery should be considered after cervix is evaluated.

Note: Evaluating pregnancy by ultrasonography at late pregnancy is not safe in terms of gestational age.

- If cervix is mature (soft, thin, partially open), delivery action should be inducted by using oxytocin after opening membranes.
- If cervix is not mature (hard, thick, closed), cervix should be matured by using prostaglandins.
- If any extraordinary situation occurs in the follow-up of delivery action, delivery is done by cesarean.

Prolonged Labor (Dystocia)

Related Messages

- Dystocia is formed of the appearance of four anomalies either one by one or as a combination;
  1. Abnormality in driving forces; uterine contractions (uterine dysfunctinos) at a rate not enough to dilate or wipe cervix or deliberate muscle effort at second phase of delivery.
  2. Maternal bone pelvis abnormalities; Pelvic contraction.
  3. Fetus development, position or presentation abnormalities.
  4. Urogenital system soft tissue abnormalities preventing fetus to progress.

Abnormal Action Due to Cephalopelvic Disproportion

- The statement of cephalopelvic disproportion is used in cases where fetal head and maternal pelvis shapes (three dimensional) do not allow vaginal delivery and thus delivery action is blocked. Most of these disproportions are caused by malposition of fetal head (asynclitism, hyperextension etc.).
- In a case where the action is stopped despite the augmentation by oxytocin, cephalopelvic disproportion or a possible macrosomic fetus should be suspected. In such cases;
  1. Carrying on vaginal delivery increases the risks of bleeding and uterine rupture.
  2. Due to prolonged membrane rupture, it increases the infection risk for mother and fetus.
  3. Mother and fetus with shoulder dystocia increases trauma risk. On the other hand, shoulder dystocia may occur even in

babies which are not macrosomic. It is not possible to predict shoulder dystocia before and during delivery.

- Pelvimetry is not useful for predicting "non-progress" in the action, therefore it should not be used for deciding delivery type.
- In intrapartum care, those given below are seen that they affect cesarean possibility for "the progress of action" and thus they are not suggested unless required:
  - o Active management of delivery action (induction)
  - o Early amniotomy.
- In order to decrease unnecessary cesareans due to dystocia, it is required to avoid delivery inductions without indication and to benefit prostaglandin preparations maturing cervix in patients with inappropriate cervix.

Protocol

1st Phase

- Early diagnosis and management of prolonged labor should be performed by using partogram.
- The first intervention after diagnosing prolonged labor is to increase uterus activity by doing amniotomy and applying oxytocin.
- Early amniotomy, early oxytocin application and regular professional support will make the action to progress and normal delivery will be done in this way.
- If uterus activity is provided and still the action hardly progresses, mechanical prevention should be considered. This case may occur because of cephalopelvic disproportion or relative cephalopelvic disproportion due to misplacement of head.

2nd Phase

- Pregnants with fetuses who are in the position of forehead and face presentations may be suitable for vaginal delivery with intervention at operating room; however, cesarean should be preferred in such cases.
- It should be remembered that delivery actions of pregnants who are in occipito-lateral or -posterior position may take longer. Also vaginal delivery with intervention can be tried in operating room for such preg-

Diagnosis of non-progressive action

Finding	Diagnosis
Cervix is not open No/less contraction	False Labor
Cervix opening is not more than 4 cm despite regular contractions more than 8 hours	Prolonged Latent Phase
Cervical opening is on the right side of warning line on delivery action	Prolonged Active Phase
Despite sufficient contrations, discontinuation of cervical opening and descend of incoming part	Cephalopelvic Disproportion
Big head, 3rd level of edema (moulding) on scalp, inconsistency of cervix with incoming part, edema on cervix, aneurysm on inferior part of uterus, formation of retraction ring, discontinuation of cervical opening and descend of incoming part by reasons such as distress in mother and fetus, distractions less than 3 within 10 minutes which are shorter then 40 seconds	Obstructed Labor (Obstruction)
Incomings except occiput anterior vertex	Insufficient Uterus Activity, Bad Presentation or Position
Cervix is fully open but there is no descend despite powerful pushes of women	Prolonged Push (Expulsive) Phase

Abnormal delivery patterns, diagnosis criteria and treatment methods

	Diagnosis Criteria			
Delivery Pattern	Nullipara	Multipara	Preferred Treatment	Exceptional Treatment
Prolonged latent phase	>20 hours	>14 hours	Bed rest, nourishment	Oxytocin or cesarean delivery for emergency problems
Extension Disorders				
Extension of active phase dilatation	<1.2 cm/h	<1.5 cm/h	Wait-support treatment	For cephalopelvic disproportion
Extension of descend	<1.0 cm/h	<2.0 cm/h		
Discontinuation disorders				
Extension of deceleration phase	>3 hours	>1 hour	No cephalopelvic disproportion – oxytocin	Bed rest if there is fatigue
Secondary discontinuation in dilatation	>2 hours	>2 hours	cephalopelvic disproportion – cesarean	Cesarean delivery
Descending discontinuation	>1 hour	>1 hour	Decide according to patient	
Insufficiency of descending	There is no descending at second or third deceleration phase of delivery			

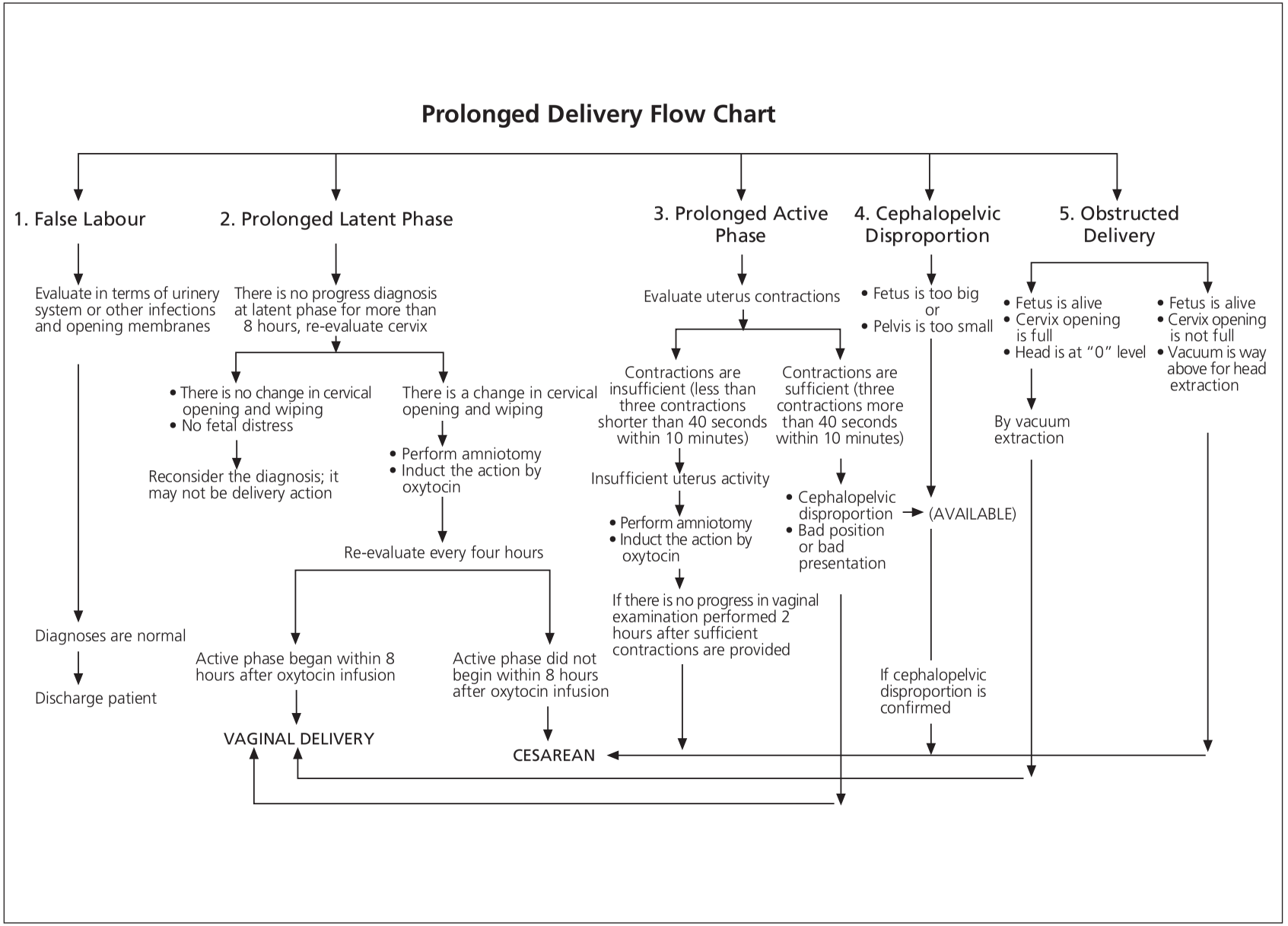
nancies. If delivery can not be done despite all these efforts, cesarean should be preferred.

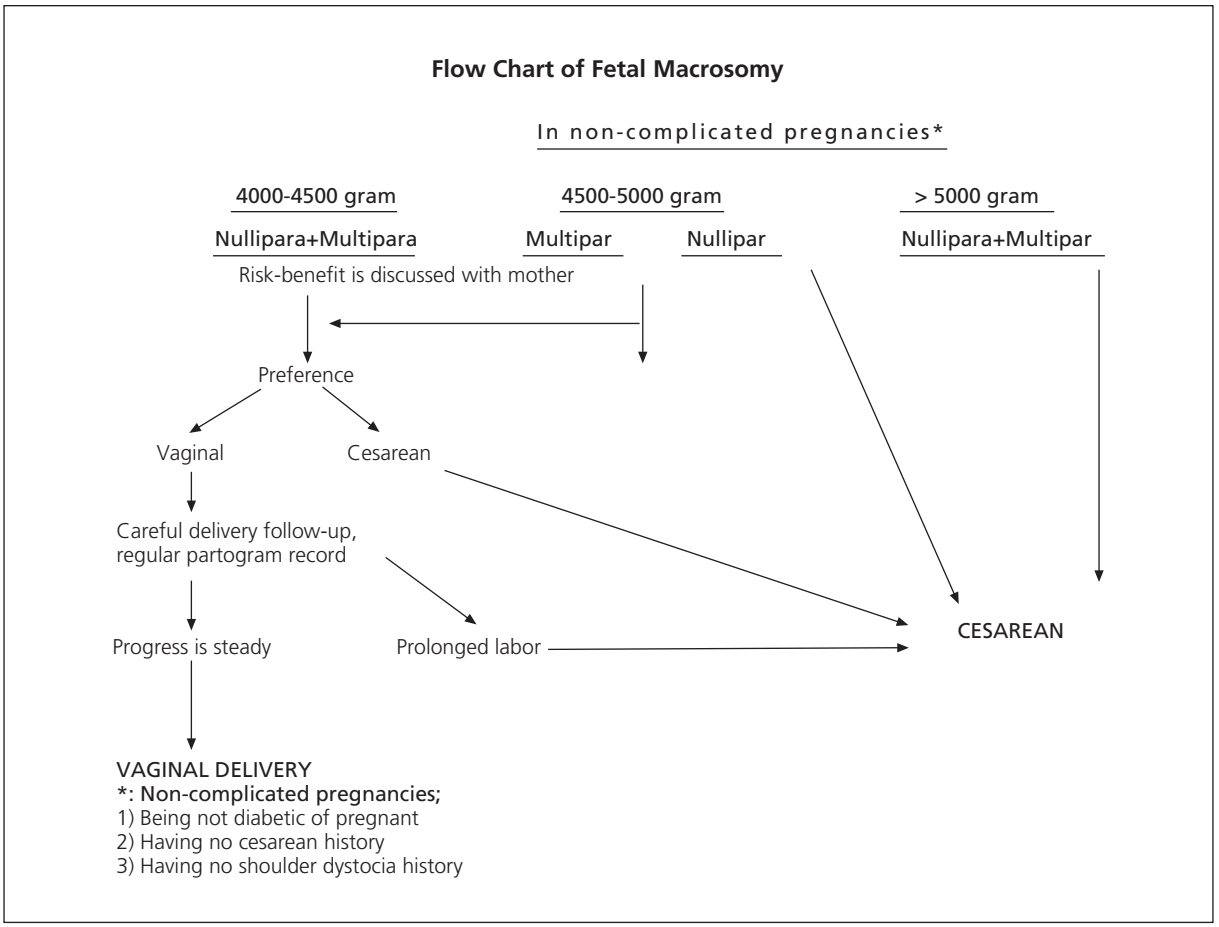
- Prolonged labor can only be considered;
  - ❖ If pregnant has not proceeded to active period 8 hours after initiating oxytocin infusion,
    - If cervical opening is on the right side of warning line on delivery action graph (partogram),
    - If delivery is not carried out despite delivery pains of pregnant which continue for 12 hours or more.

Fetal Macrosomy

Related Messages

- It is the state that birth weight of fetus is 4000 gr and above (incidence: 9%).
- Fetal macrosomy increases the rates of maternal (postpartum haemorrhage, anal sphincter laceration, postpartum infection) and fetal (prolonged labor, delivery possibility with increased intervention, shoulder dystocia, brachial plexus injury, meconium aspiration, fetal mortality) morbidities.
- Approximate fetal weight should be determined in pregnancy follow-up both clinically (fundal length-Leopold maneuver) and ultrasonographically (if applicable).
- It is required to be awake in pregnants with obese, diabetic and macrosomic infant delivery history in terms of fetal macrosomy.
- Pregnant should be evaluated carefully in terms of approximate fetal weight in postterm pregnancies.
- Normal vaginal delivery can be performed in non-diabetic pregnants with 4000-4500 gr


Prolonged Delivery Flow Chart
1. False Labour
2. Prolonged Latent Phase
3. Prolonged Active Phase
4. Cephalopelvic Disproportion
5. Obstructed Delivery
Evaluate in terms of urinery system or other infections and opening membranes
There is no progress diagnosis at latent phase for more than 8 hours, re-evaluate cervix
Evaluate uterus contractions
• Fetus is too big or
• Pelvis is too small
• Fetus is alive
• Cervix opening is full
• Head is at "0" level
• Fetus is alive
• Cervix opening is not full
• Vacuum is way above for head extraction
• There is no change in cervical opening and wiping
• No fetal distress
There is a change in cervical opening and wiping
Contractions are insufficient (less than three contractions shorter than 40 seconds within 10 minutes)
Contractions are sufficient (three contractions more than 40 seconds within 10 minutes)
By vacuum extraction
Reconsider the diagnosis; it may not be delivery action
• Perform amniotomy
• Induct the action by oxytocin
Insufficient uterus activity
• Cephalopelvic disproportion
• Bad position or bad presentation
(AVAILABLE)
Re-evaluate every four hours
• Perform amniotomy
• Induct the action by oxytocin
Diagnoses are normal
If there is no progress in vaginal examination performed 2 hours after sufficient contractions are provided
Active phase began within 8 hours after oxytocin infusion
Active phase did not begin within 8 hours after oxytocin infusion
If cephalopelvic disproportion is confirmed
Discharge patient
VAGINAL DELIVERY
CESAREAN



approximate fetal weight (AFW) (after all risks and benefits are discussed with mother). Follow-up of delivery action should be carried out carefully and progress should be recorded regularly by using partogram. Induction assisting delivery can be used (it should be remembered that it increases cesarean rates). Delivery is done by cesarean if prolonged action is considered.

- Cesarean is suggested for nullipara pregnancies with >4500 gr AFW and diabetic mother candidates with >4000 gr AFW.
- Delivery of pregnants who have >4000 gr AFW with cesarean history should be performed by cesarean.
- Delivery of pregnants who have >4000gr AFW with shoulder dystocia history should be performed by cesarean.

Cord Prolapse

Related Messages

- Fetal mortality rate due to cord prolapse regardless of delivery type has recently been increased to 0.55% from 0.43%.
- In 20-30% of cord prolapse, cervix is fully open and head is on or under the level of spinae. In this case, while delivery can be performed by emergency forceps and vacuum, cesarean can be applied since morbidity rates are high (intracranial hematoma, fascial or cranial damages etc.) despite proper vacuum and forceps conditions.

Protocol

Reminder: 1 - Diagnosis

- Umbilical cord lies under incoming part of fetus within delivery canal.

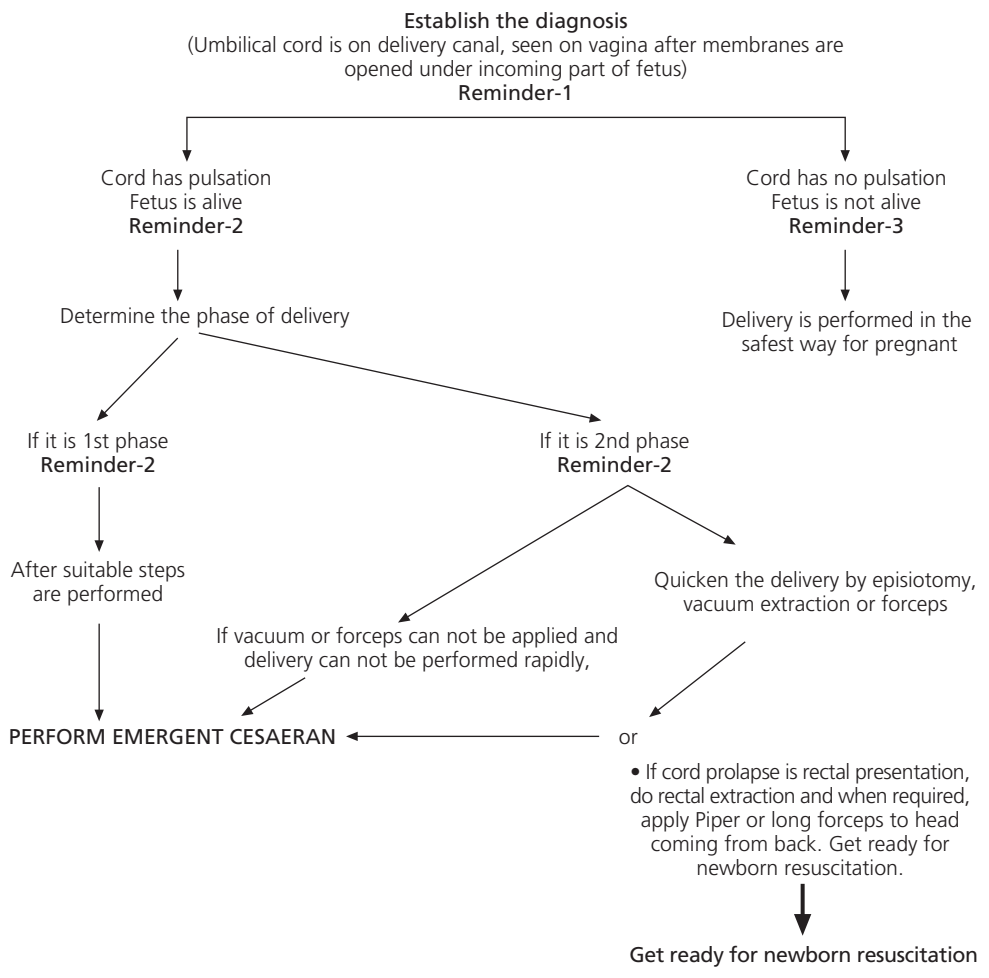
- Umbilical cord is seen in vagina after membranes are opened.

Reminder: 2 - If Cord Has Pulsation

- Fetus is alive.
- The phase of delivery should be determined by doing a vaginal examination immediately.
- If pregnant is in the first phase of delivery, in all cases;

1. Hand should be placed into vagina by wearing a sterile glove and incoming part should be pushed upwards and drawn away from pelvis to decrease the pressure on cord.
2. Other hand should be placed on pubis from abdomen and incoming part should be kept out of pelvis.
3. While incoming part is held on pelvis entrance tightly, hand in vagina should be withdrawn. Hand on abdomen should be kept on its position until cesarean is done.
4. If possible, tocolytic agents should be applied to reduce contractions.
5. Then, emergency cesarean should be performed.

Cord Prolapse Flow Chart



If Pregnant is in the Second Phase of Delivery;

1. Delivery should be quickened by episiotomy and (if possible) vacuum extraction or forceps.
2. In case of cord prolapse, if presentation is rectal or foot presentation, rectal extraction is done and Piper or long forceps can be applied to head coming from back. On the other hand, this method requires significant training in terms of its applicability. Additionally, morbidity will increase depending on the procedure. Cesarean can be applied as soon as rectal or foot presentation is detected.
3. Newborn should be prepared with his/her physician for newborn resuscitation.

Reminder: 3 - If Cord Has no Pulsation

- Fetus is dead.
- Delivery should be performed in the safest way for pregnant.

Placenta Previa

Related Messages

- Placenta previa (Pp) is seen in 0.3-0.5% of pregnancies.
- Cesarean and uterine surgeries undergone, smoke habits, advanced maternal age, multiparity, multiple pregnancies and cocaine use aer risk factors.
- Pp is the first indication in approximately 3% of all cesareans (2.2% non-active, 0.9% active vaginal bleeding is observed).
- Pp may have painless bleeding. Pregnant is evaluated together with fetus in Pp grade 3 and 4 (with closed placenta internal os) and cesarean possibility of pregnant can be discussed after 36th week. Elective cesarean can be applied at 36th-37th gestational weeks after (if possible) fetal lung maturation is documented.
- Pregnants who had cesarean due to Pp have more blood loss risk compared to other cesarean indications. Therefore, blood transfusion unit and experience obstetrician are required.
- Pregnants whose placenta covers internal cervical os partially or completely (grade 3 or 4 placenta previa) should have cesarean.
- Placenta previa and placenta accrete association should always be kept in mind (and the risk should be eliminated by ultrasonography if applicable).
- If distance between placenta and internal os can be calculated by ultrasonography, vaginal delivery can be tried in cases where this distance is 2 cm and above.
- If there is association between placenta previa and anterior wall placement, incision in cesarean should be performed by taking serious hemorrhage risk into consideration.

Protocol

Reminder: 1 - Diagnosis

- Placenta previa is to implant placenta on or near cervix.
- Placenta previa should be determined after 20th week. If placenta covers cervical os, USG should be repeated monthly.
- If there is vaginal bleeding and Pp is diagnosed, at least 4 units of erythrocyte suspension and coagulation factors should be prepared urgently.
- If gestational week is between 24 and 34, steroid should be applied for fetal lung maturation.
- If gestational week is lower than 34, patient diagnosed Pp with active uterine contractions should be dispatched to centers (by stabilizing the condition of mother) which are capable of doing neonatalogical care.

Reminder 2 - Delivery

1. Vaginal delivery can be tried if Pp grade 1 or 2 and head are settled. On the other hand,

risks during delivery and procedure can be expressed to mother-to-be and cesarean can be considered by cesarean consent. If vaginal delivery is considered, amniotomy should be done in operating room and emergency cesarean measures should be taken.

2. Delivery is performed by cesarean at Pp grade 3 and 4.

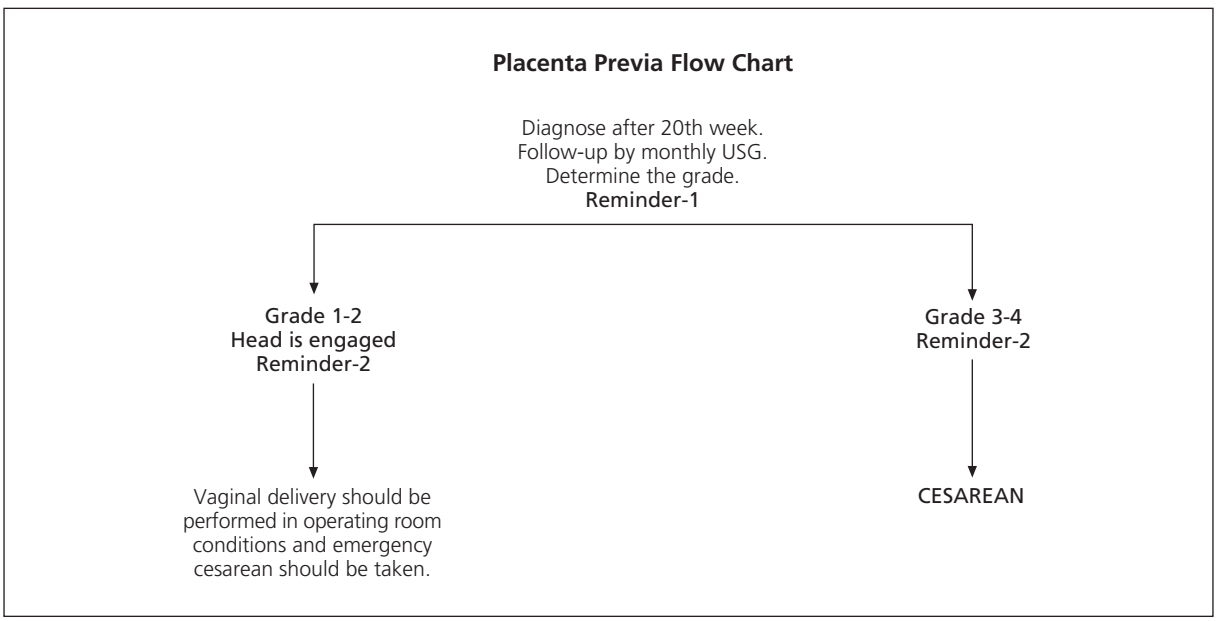
Warning: Vaginal examination should not be performed without doing emergency cesarean preparation.

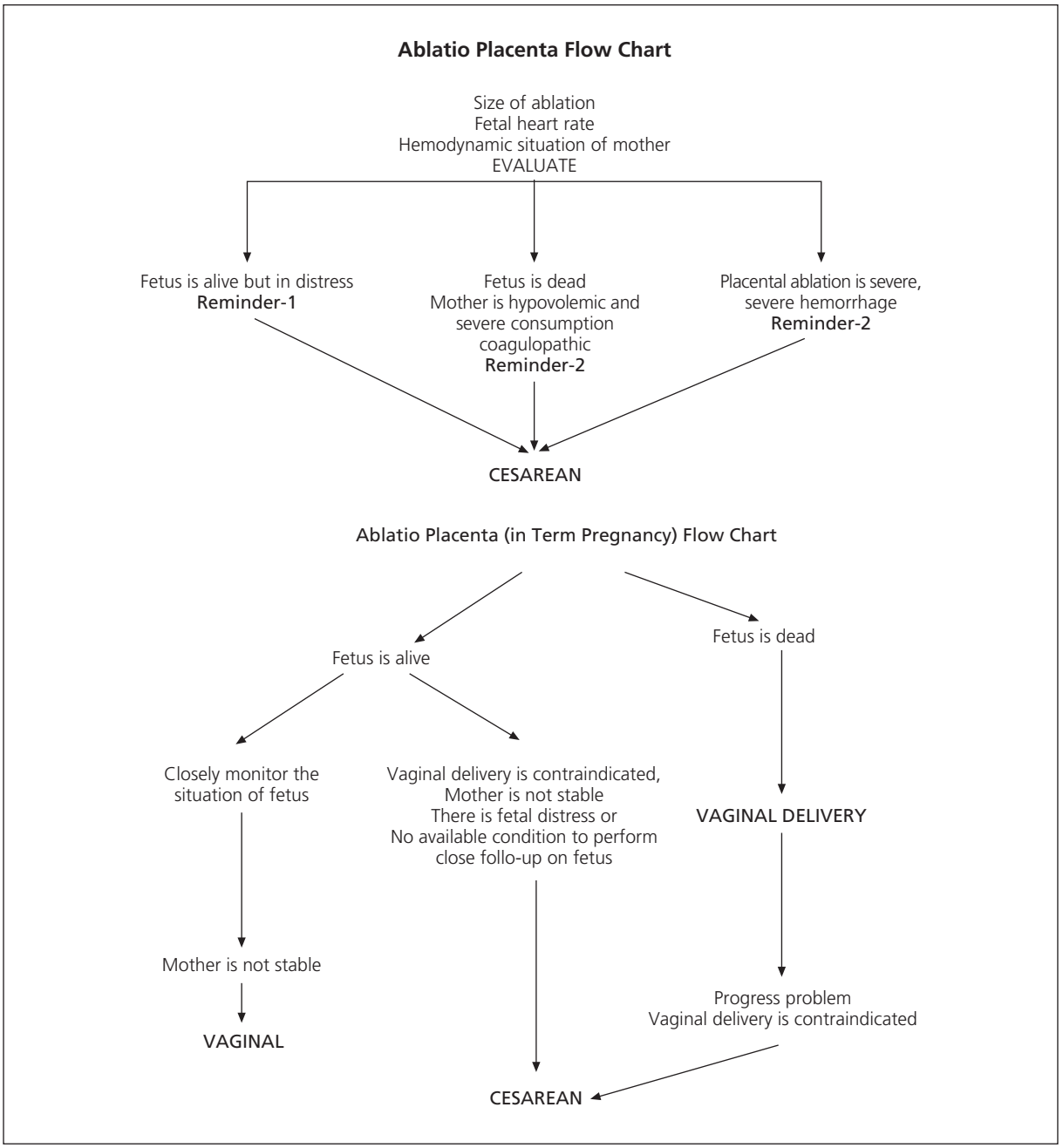
- If bleeding repeates, by comparing wait-and-see treatment with delivery, their benefits and risks in terms of mother and fetus should be considered and treatment should be decided.

Ablatio Placenta

Related Messages

- Ablatio placenta is seen approximately in 1% of deliveries.
- Trauma, smoking, multiple pregnancies, hypertension, preeclampsia, thrombophilia, advanced maternal age, intrauterine infections, polyhydramniosis, premature membrane rupture, ablation history in previous pregnancies, male fetus and cocaine use are the risk factors for ablation placenta.
- Diagnosis is basically established clinically, ultrasonography and Kleihauer-Betke test has a limited value in diagnosis.
- Management should be individualized in ablation placenta. Decision should be taken according to patient (according to severity of ablation, gestational week and presentation of fetus).
- In major ablato placenta (>50%), outcomes are fatal in terms of fetus even if fetus is alive.
- In ablation placenta, it should be careful in terms of coagulopathy and hypovolemic and measures should be taken according to these conditions.
- If vaginal delivery is planend, regular fetal follow-up is required to reduce perinatal mortality. Mother-to-be should be informed about the process and emergency cesarean should be applied if mother requests cesarean after information exchange.





- Conservative management policy can be accepted until fetal lung maturation is provided in less serious cases among preterm pregnancies.
- If mother is stable and fetus is lost, vaginal delivery should be preferred.
- Ablatio placenta and severe preeclampsia association should not be forgotten.

Protocol

Reminder-1

- Delivery of fetus which is alive but in distress should be performed by cesarean.
- While serious coagulation disorders increase bleeding risk that may develop during cesarean, the possibility of losing fetus during vaginal delivery is also quite high in

case of a severe ablatio placenta. Therefore, pregnant should be informed about possible risks when ablation placenta is detected. When ablation placenta is detected, delivery can be performed by cesarean before the case gets worse.

Reminder: 2

- The cases where cesarean delivery is preferred in ablation placenta;
  - If ablatio placenta is severe, cesarean should be arranged in the shortest possible time by also considering possible coagulation problems (by preparing fresh frozen plasma, fibrinogen, erythrocyte suspension).
  - If mother has hypovolemia and severe consumption coagulopathy and if the reason of the case is ablatio placenta, certain treatment of dissiminated intravascular coagulation (DIC) would be by the immediate practice of delivery.
  - After normal vaginal delivery decision is taken, delivery should be performed by cesarean if delivery act does not progress rapidly.
  - In case of feto-pelvic disproportion, malpresentation, undergone uterus surgery, delivery by cesarean should be preferred since there is a risk of coagulopthy development.

Reminder-3

- Mother should be monitored closely after delivery. Monitorization to follow vital findings and follow-up of incoming-outgoing fluid should be performed. Close monitorization of mother should be provided in terms of coagulopathy.
- Uterine tonus and dimension after delivery should be followed up carefully (hysterectomy may be required if bleeding continues and uterus is hypotonic).

Vasa Previa

Related Messages

- It is a rare condition which progresses with high fetal mortality.
- Transvaginal ultrasonography and color Doppler ultrasonographic examination can be useful for antenatal examination.
- Elective cesarean should be performed.