

# III. Pregnancy problems <sup>(1)</sup>

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## III.1. Unpleasant symptoms in pregnancy

### 1. Nausea and vomiting

- 75% of all pregnant women suffer from nausea
- 10% of the conditions persist beyond the first trimester
- It is more severe with multiple pregnancy.
- Despite the popular name morning sickness, many women experience the symptoms throughout the entire day
- The most severe form is hyperemesis gravidarum, with electrolyte disturbance and dehydration (which needs hospital admission).

### Varieties of treatment

1. In the recent years, the use of anti-emetic drugs has declined because possible effects on the fetus
2. The non pharmacological approaches are often preferred particularly during the first few weeks when the developing fetus is most vulnerable
  - a. Small amount of carbohydrate such as biscuits or bananas may relieve some women.
  - b. Rest: may be helpful, if it is possible.
3. Vitamin B<sub>6</sub> (pyridoxine) may be effective in reducing the severity of nausea, but it is unclear by how much.
4. If an anti-emetic is used during pregnancy the choice now is anti-histamine. These agents appear to be effective but the safety has not been as extensively studied.

### 2. Tiredness

No information is available to help in the alleviation of tiredness. Where possible, women should be encouraged to rest.

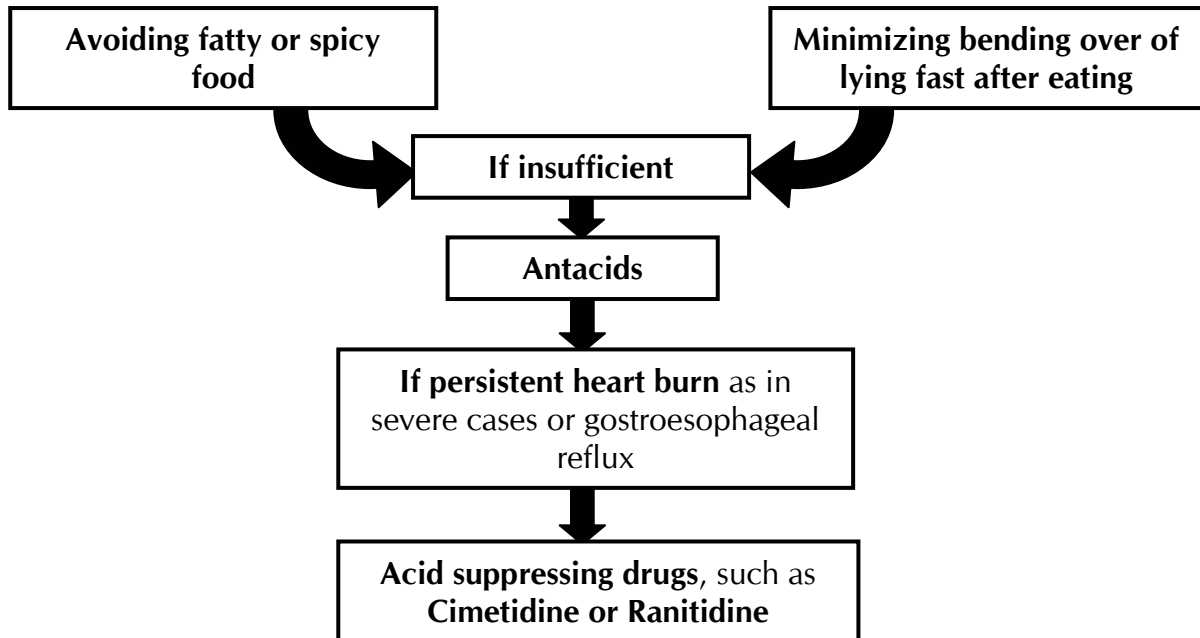
### 3. Backache

- Up to  $\frac{3}{4}$  of pregnant women report backache. One third of them find it a severe problem.
- There is little information from controlled trials about how to prevent or treat backache during pregnancy. Common-sense advice about life style, such as using chairs with good back support and avoiding heavy lifting.

#### 4. Heartburn

- Affects about 2/3 of all pregnant women
- It is commonly associated with eating, bending over, or lying down
- The most clear-cut precipitating factor is posture

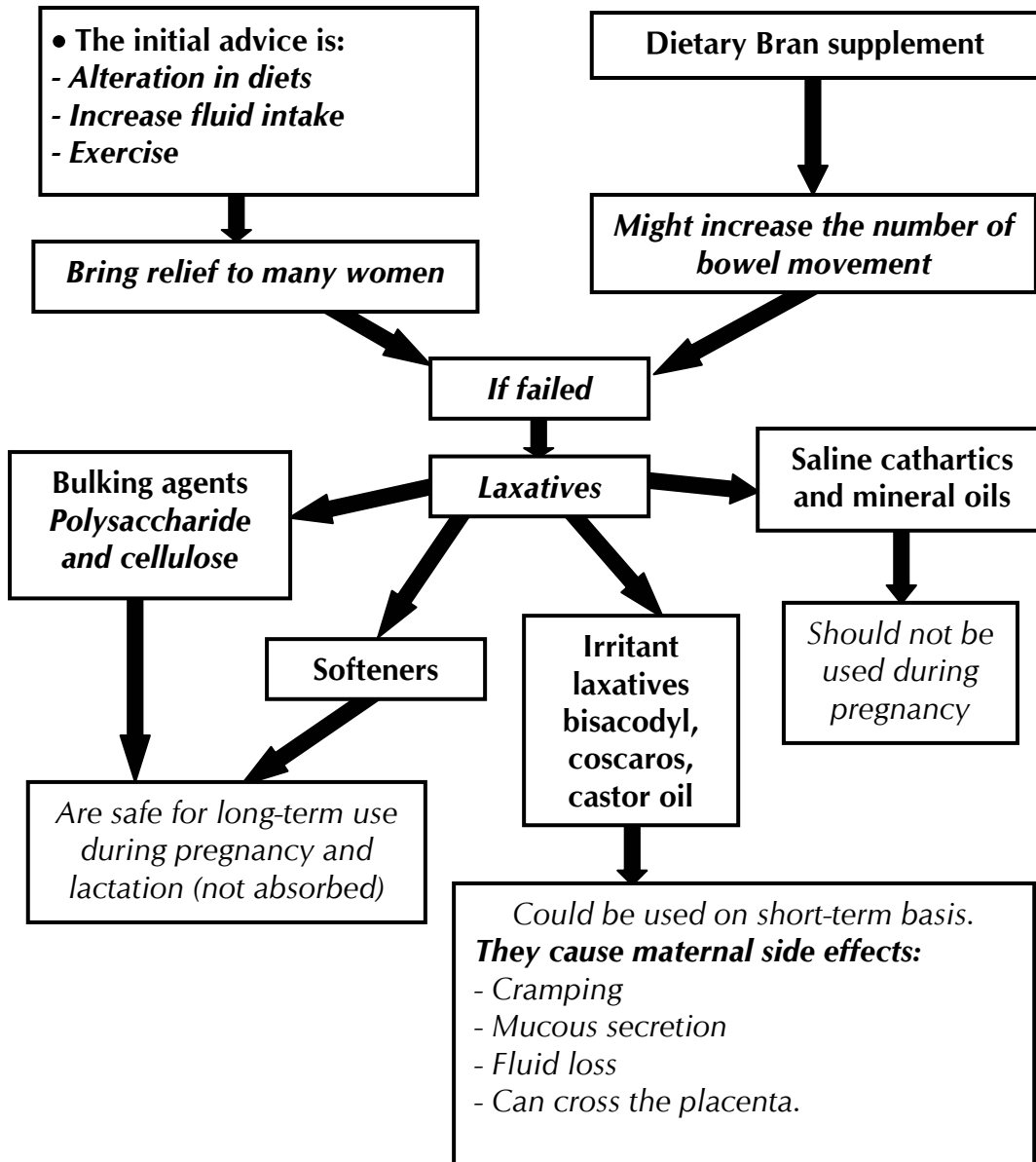
#### Treatment



## 5. Constipation

- It is a troublesome problem for many women during pregnancy, particularly the last trimester. Women with habitual constipation usually become more during pregnancy.

### Treatment



## 6. Hemorrhoids

- Effective prevention or of constipation will help to reduce the severity of hemorrhoids.
- Reassurance (hemorrhoids usually diminishes or disappear after the birth).
- Rest
- Elevation of the legs
- Avoiding constipation

## 7. Vaginitis

### A. Candidiasis

- The infection is found between 2 and 10 times more frequently in pregnant women, it usually clears spontaneously soon after delivery.
- Typical symptoms include irritating vaginal discharge and pruritus
- Examination reveals reddened mucosa with white patches

#### Treatment

- Imidazole is more effective than nystatin
- 7 day course is more effective than 3 day course.

#### The initial treatment

- 7-day course of topical imidazole
- Repeated courses may be required
- Oral drugs are not known to be safe during pregnancy

### B. Trichomoniasis

- Trichomonas vaginalis is frequently isolated from vaginal secretions during pregnancy
- It causes severe irritation and soreness and painful urination
- Up to half the women carrying the organism are asymptomatic
- Failure to treat trichomonas vaginalis leads to preterm birth

#### **Single dose (2 grams) metronidazole for both the wife and husband gives cure rate more than 90%**

- It is preferred not to give metronidazole in the first 3 months of pregnancy, instead imidazoles may provide symptomatic relief during early pregnancy

### C. Bacterial vaginosis

- Caused by number of mixed group of organisms, including Gardnerella, vaginitis, Mycoplasma hominis, and various anaerobes
- It is common, (Affect 20% of the pregnant women), but often asymptomatic
- There is evidence that bacterial vaginosis is associated with preterm birth
- Treatment: Antibiotics

## 8. Leg cramps

- Painful spasms of the calf muscles
- Experienced by almost half of all pregnant women, particularly in the later months of pregnancy
- The symptoms tend to occur at night.
- No pharmaceutical treatment for leg cramps has yet been firmly based on scientific evidence
- Massage, and stretching the affected muscles, often affords relief during an attack

## 9. Varicose veins and leg edema

- Varicose veins of the legs and vulva are very common during pregnancy.

- Leg edema can affect up to 80% of pregnant women, and should not be considered to be a sign of pregnancy-induced hypertension or pre-eclampsia
- There is little evidence to recommend any treatment for edema, which is either effective or acceptable.
- Supporting stockings remain the standard treatment for troublesome varicose veins and edema

## III.2. Abortion <sup>(1)</sup>

### **Introduction**

- It is the spontaneous loss of a pregnancy before the fetus is viable.
- One in seven clinically recognized pregnancies will miscarry, usually during the first 14 weeks of pregnancy.
- Over half of the babies who are miscarried during this period have chromosomal abnormality
- Other factors that influence the risk of abortion include; maternal age over 35 years, multiple pregnancy, polycystic ovaries, autoimmune disorders, poorly controlled diabetes, and 2 or more previous abortions.

### **Confirmation of fetal life**

- Ultrasound can diagnose rapidly and accurately whether a fetus is alive or dead.
- The gestational sac can be visualized by 6 weeks menstrual age, and the fetus by 7 weeks where fetal life is confirmed by observation of heart pulsation.
- Blighted ova, which constitute the largest group of early pregnancy failure, are diagnosed by the inability to detect a fetus on careful examination.

### **Prevention of abortion**

#### **A. Bed-rest and hospitalization**

- It is often recommended for women whose pregnancies are complicated by a number of conditions including a history of recurrent abortion or early bleeding in the present pregnancy.
- There is no valid basis for advising bed-rest, the preferences of individual women should be the deciding factor, women should be encouraged to do whatever feels best for them.
- It would seem prudent to advise against prolonged immobilization.

#### **B. Hormones**

##### **• Progesterone**

- There is no evidence to suggest that they reduce the risk of abortion, stillbirth, or neonatal death, in women either with bleeding (threatened abortion) or with recurrent abortion
- Some studies suggest that fetal exposure to the drug may raise the risk of some congenital malformations and female masculinization, but other studies failed to detect these adverse effects

**So the safety of progesterone(s) and their benefits remains an open question**

##### **• Human chorionic gonadotrophin (hCG)**

- Data from several controlled trials suggest that this treatment may be effective in preventing recurrent abortion

**Pregnancy problems**

**C. Immunotherapy**

- During pregnancy, a woman’s immune system is modified to allow her body to accept the growing fetus, and not to reject it as foreign tissue
- Failure of this response, for whatever reason, is one possible but unproven cause of early pregnancy loss

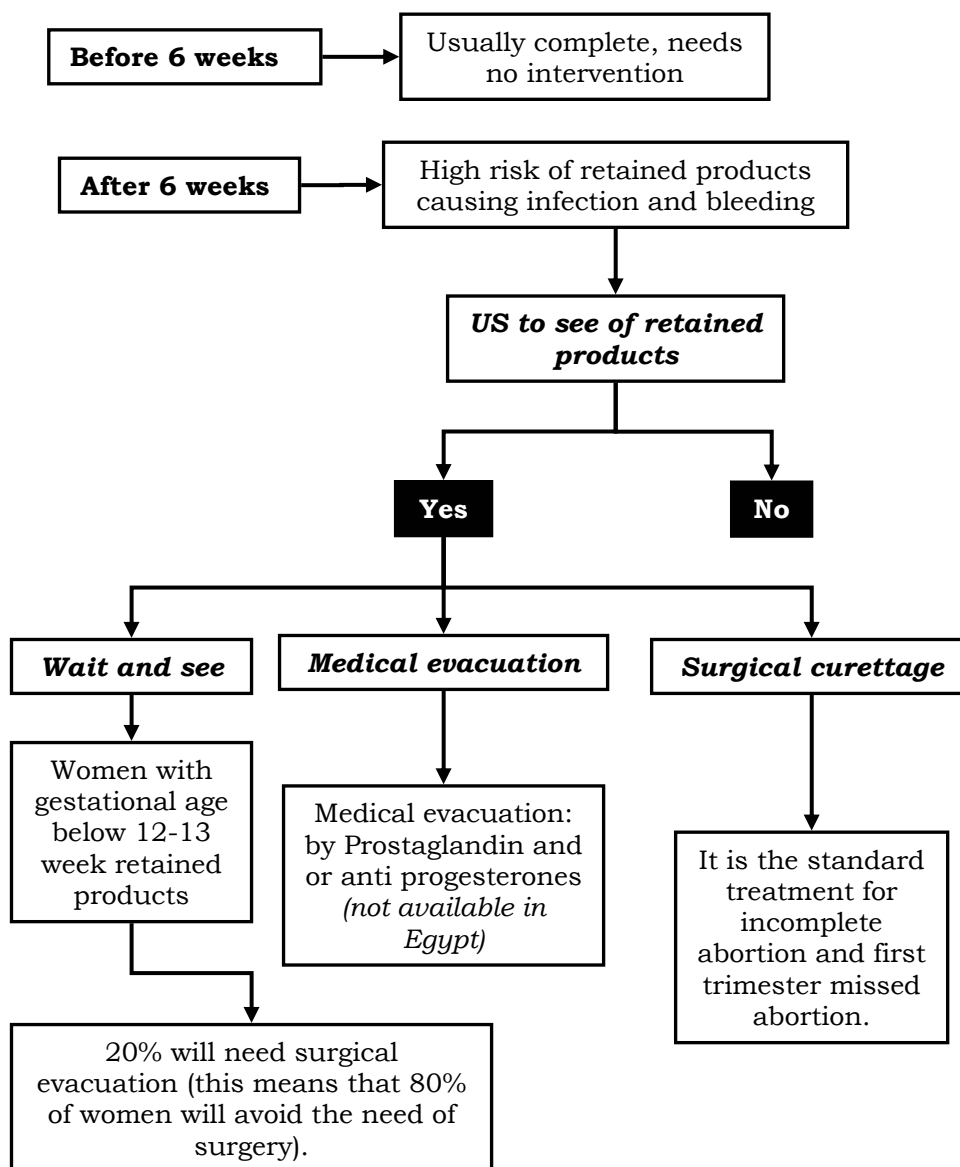
**The most commonly used form of immunotherapy is injection of the women with her husband white blood cells, trophoblast membrane and immunoglobulin.**

- Initial studies suggest a beneficial effect, but its usefulness will be limited by the high cost.

**D. Interventions for women with autoimmune conditions**

- Around 15% of women with recurrent early pregnancy loss have antibodies to some of their own cells; corticosteroids with or without aspirin might improve the chance of having a healthy baby.

**Care following spontaneous abortion or missed abortion**



**Women preference should be taken into account in the decision about what form of care is given**

- Suction evacuation has the advantages of less blood loss, faster and less painful than conventional curettage.
- Prophylactic antibiotics following surgical evacuation may have a role in areas where the risk of postoperative infection is high.

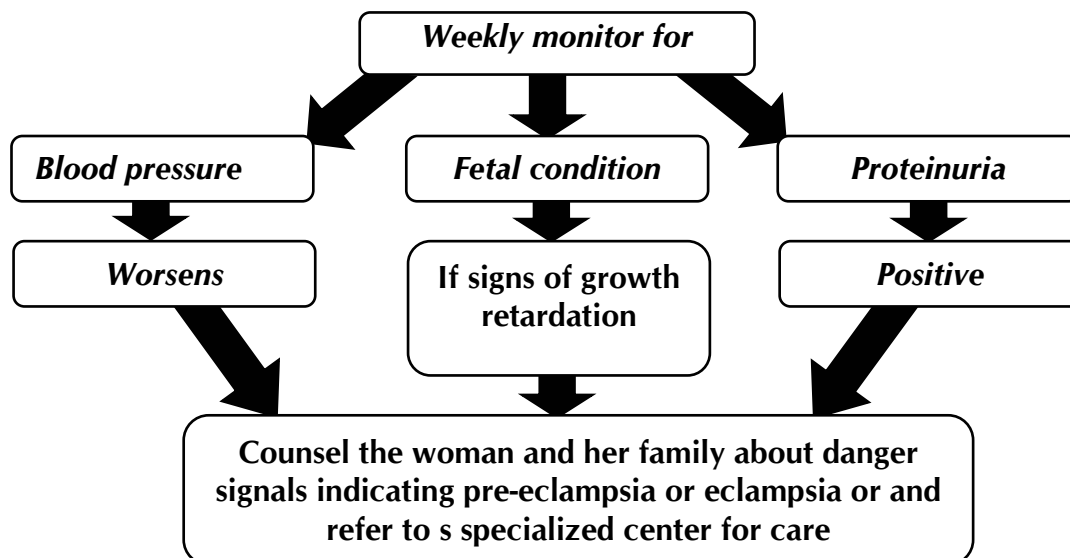
**III.3. Hypertension in pregnancy <sup>(1)</sup>****Prophylaxis****• Dietary measures**

- Restricting calories, fluids and salt intake does not prevent pregnancy induced hypertension. Salt intake during pregnancy should, therefore, be a matter of taste and personal preference.
- The beneficial effects of aspirin, calcium and other agents in preventing pregnancy induced hypertension have not yet been proven.
- Diuretics may reduce blood pressure, but there is no clear evidence of benefit with respect to the prevention of pre-eclampsia or the risk of perinatal death.

**• Early detection and management**

In women with risk factors is the most effective in prevention of convulsions. These women should be:

- Followed up regularly.
- Given clear instructions on when to return to the health care center.
- Education of family members to understand the significance of the signs of progression to increase their support.

**• Management of pregnancy induced hypertension on an outpatient basis:**

## III.4. Rhesus iso-immunization <sup>(1)</sup>

### There is an effective prophylaxis if properly used

- Postpartum prophylaxis with anti-D immunoglobulin should be given within 72 hours of birth to all RHD negative women who give birth to a RHD positive baby, or a baby whose RHD status can't be determined.
- Anti-D immunoglobulin should be administered also to all RHD negative women during pregnancy where there is an increased risk of fetomaternal bleeding.
- Routine use of anti D immunoglobulin at 28 or 34 weeks of pregnancy for all RH negative women is of value as well, but the costs are high.

## III.5. Infection in pregnancy

### 1. HIV Infection <sup>(1)</sup>

- The organism is transmitted from mother to baby by intrauterine transmission or at birth.
- As there is now good evidence of reduced transmission of HIV infection from mother to baby by parenteral Zidavudine treatment, so offering screening for HIV in pregnancy is being widely advocated.
- But the statistics in our country indicates that it is not a major problem.

### 2. Syphilis <sup>(1)</sup>

- Syphilis remains a major or public health problem in the developing world.
- Syphilis during pregnancy may cause:
  - Abortion
  - Preterm birth
  - Perinatal death
  - Subclinical congenital syphilis
  - Congenital syphilis
- Congenital syphilis can be largely prevented by identification and treatment of infected mother during pregnancy. That most of infected women are free of symptoms, and can only be identified by blood testing.
- A program of screening and treating seropositive women is cost-effective, become effective treatment is simple and available.
- Treatment of mothers preferably by penicillin, infants and women's sexual partners should be followed up and treated if found to be effective.
- All infants born to seropositive mothers should be treated whether or not the mothers were treated during pregnancy.

### 3. Gonorrhoea <sup>(7)</sup>

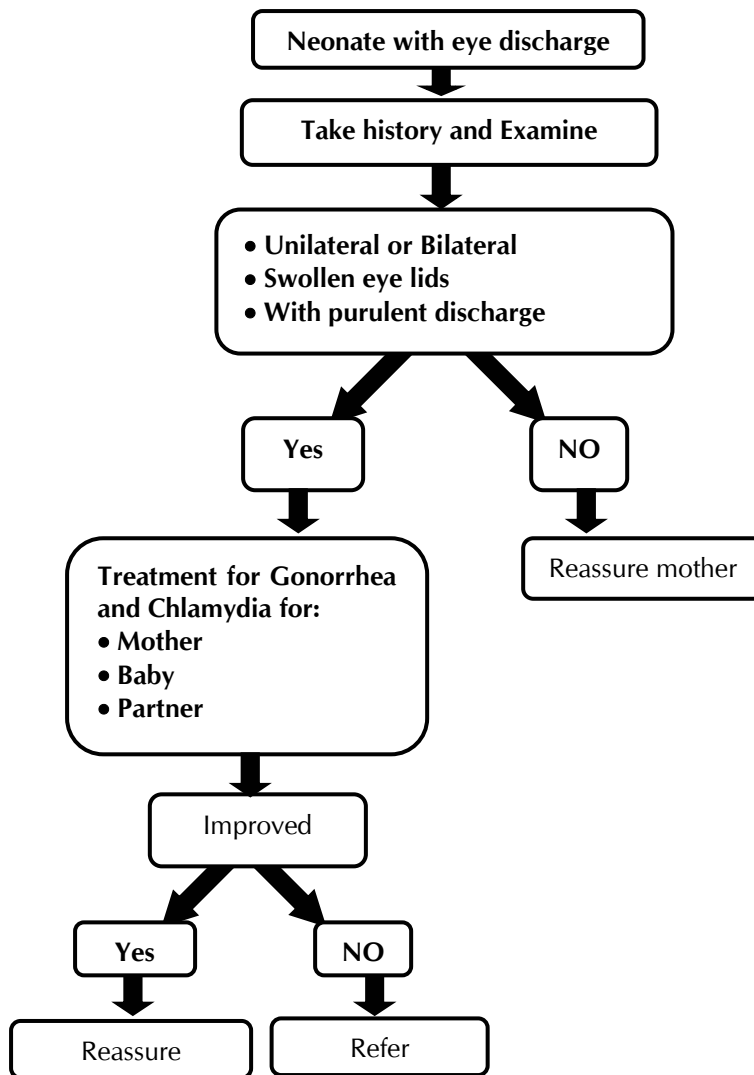
- Some prefer routine screening during pregnancy, by obtaining cervical swab at the first antenatal visit, however, culture remain the gold standard for diagnosis.
- Treatment: A large proportion of gonococcal isolates world wide are now resistant to penicillins, tetracyclins, so treated with certain third generation cephalosporins.

- The most common gonococcal infection in neonates is conjunctivitis if untreated

Prophylaxis against ophthalmia neonatorum <sup>(7)</sup>

- The infant's eyes should be carefully cleaned immediately after birth and application of
  - Tetracycline ointment (less irritant)
  - Silver nitrate solution

**Neonatal conjunctivitis <sup>(7)</sup>**



**4. Chlamydia trocomatis <sup>(7)</sup>**

- Maternal chlamydial infection may carry potential adverse effects of infection on the new born.
- It may be a symptomatic in mother or mucopurulunt discharge but conjunctivitis to the newborn.
- No evidence support the routine screening for chlamydia.

**5. Bacterial vaginosis <sup>(1)</sup>**

- Caused by large number of a mixed group of organisms and various anaerobs.
- Affects 20% of pregnant mothers.
- There is evidence that bacterial vaginosis in associated with preterm labor.

## **Pregnancy problems**

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- It is treated with antibiotics effectively and improvement of the outcome of pregnancy to women with past history of preterm.
- So it is worthwhile to screen such women in subsequent pregnancies.

### **6. Bacteriuria <sup>(1)</sup>**

- Means significant number of bacteria in urine
- 15-45% of untreated cases develop complications
- Affects 3-8% of pregnant women.
- Screening pregnant women to detect a symptomatic bacteriuria and treating the condition with antibiotics is worthwhile.
- This practice will reduce the incidence of pyelonephritis and preterm labor and low birth infants.

#### **Screening:**

- Culture and colony count or
- Detecting of urinary nitrites

### **7. Pyelonephritis <sup>(1)</sup>**

- Presented with fever, flank pain, dysuria or positive urine culture
- Women should be hospitalized.

### **8. Rubella <sup>(1)</sup>**

- High community level of rubella immunization should be obtained
- All rubella susceptible women of child bearing age should be identified and vaccinated.

Rubella vaccination in the early postpartum period is safe and effective. This opportunity for immunization shouldn't be missed.

## **III.6. Diabetes in pregnancy <sup>(1)</sup>**

- Diabetic pregnant women should be cared for by both obstetricians and physicians specialized in care for diabetes.
- There is considerable evidence to suggest that pregnancy in diabetic women should be managed with fewer obstetric interventions than that are currently practiced.
- Many diabetic women can be treated as normal pregnant women, with the one major addition of careful control of blood glucose level.
- Allow pregnancy to continue at least until the expected date of delivery, associated with a decreased need to assess pulmonary maturity.

### III.7. Bleeding in the later half of pregnancy <sup>(1)</sup>

Bleeding in the second half of pregnancy constitutes a possible life threatening condition. All professionals who care for women during pregnancy and childbirth must be aware of the causes and prognosis of such bleeding, and have a clear plan in mind for its different diagnosis and management and what is possible to be done during referral in the ambulance, and what is going to be done in the hospital as to be clear in mind.

#### ***Vaginal bleeding in later pregnancy and labor*** <sup>(8)</sup>

##### **Problems**

- Vaginal bleeding after 22 weeks of pregnancy
- Vaginal bleeding in labor before delivery.

**Table-1: Vaginal bleeding in later pregnancy and labor**

Type of Bleeding	Probable Diagnosis	Action
Blood-stained mucus (show)	Onset of labor	Proceed with management of normal labor and childbirth
Any other bleeding	Antepartum hemorrhage	Determine cause

##### **General management**

- **SHOUT FOR HELP.** Urgently mobilize all available personnel.
- Make a rapid evaluation of the general condition of the woman including vital signs (pulse, blood pressure, respiration, temperature).

##### **DO NOT DO A VAGINAL EXAMINATION AT THIS STAGE**

- If shock is suspected, immediately begin treatment. Even if signs of shock are not present, keep shock in mind as you evaluate the woman further because her status may worsen rapidly. If shock develops, it is important to begin treatment immediately.
- Start an IV infusion and infuse IV fluids

## Diagnosis

Table-2: Diagnosis of antepartum hemorrhage

Presenting symptom and other symptoms and signs typically present	Symptoms and signs sometimes present	Probable diagnosis
<ul style="list-style-type: none"> <li>• Bleeding after 22 weeks gestation (may be retained in the uterus)</li> <li>• Intermittent or constant abdominal pain</li> </ul>	<ul style="list-style-type: none"> <li>• Shock</li> <li>• Tense/tender uterus</li> <li>• Decreased/absent fetal movements</li> <li>• Fetal distress or absent fetal heart sounds</li> </ul>	Abruptio placentae
<ul style="list-style-type: none"> <li>• Bleeding (intra-abdominal and/or vaginal)</li> <li>• Severe abdominal pain (may decrease after rupture)</li> </ul>	<ul style="list-style-type: none"> <li>• Shock</li> <li>• Abdominal distension/free fluid</li> <li>• Abnormal uterine contour</li> <li>• Tender abdomen</li> <li>• Easily palpable fetal parts</li> <li>• Absent fetal movements and fetal heart sounds</li> <li>• Rapid maternal pulse</li> </ul>	Ruptured uterus
<ul style="list-style-type: none"> <li>• Bleeding after 22 weeks gestation</li> </ul>	<ul style="list-style-type: none"> <li>• Shock</li> <li>• Bleeding may be precipitated by intercourse</li> <li>• Relaxed uterus</li> <li>• Fetal presentation not in pelvis/lower uterine pole feels empty</li> <li>• Normal fetal condition (unless the mother is in a shock)</li> </ul>	Placenta previa

## Management

### *Abruptio placentae*

**Abruptio placentae is the detachment of a normally located placenta from the uterus before the fetus is delivered**

- Assess clotting status using a bedside clotting test. Failure of a clot to form after 7 minutes or a soft clot that breaks down easily suggests coagulopathy.
- Transfuse as necessary, preferably with fresh blood.
- If bleeding is heavy (evident or hidden), deliver as soon as possible:
  - If the cervix is fully dilated, deliver by vacuum extraction;
  - If vaginal delivery is not imminent, deliver by caesarean section.

Note: In every case of abruptio placentae, be prepared for postpartum hemorrhage.

- If bleeding is light to moderate (the mother is not in immediate danger), the course of action depends on the fetal heart sounds:
  - If fetal heart rate is normal or absent, rupture the membranes with an amniotic hook or a Kocher clamp

- If contractions are poor, augment labor with oxytocin;
- If the cervix is unfavorable (firm, thick, closed), perform caesarean section.
- If fetal heart rate is abnormal (less than 100 or more than 180 beats per minute)
  - Perform rapid vaginal delivery;
  - If vaginal delivery is not possible, deliver by immediate caesarean section.

### ***Coagulopathy (clotting failure)***

Coagulopathy is both a cause and a result of massive obstetric hemorrhage. It can be triggered by abruptio placentae, fetal death in-utero, eclampsia, amniotic fluid embolism and many other causes. The clinical picture ranges from major hemorrhage, with or without thrombotic complications, to a clinically stable state that can be detected only by laboratory testing.

**Note: In many cases of acute blood loss, the development of coagulopathy can be prevented if blood volume is restored promptly by infusion of IV fluids (normal saline or Ringer's lactate).**

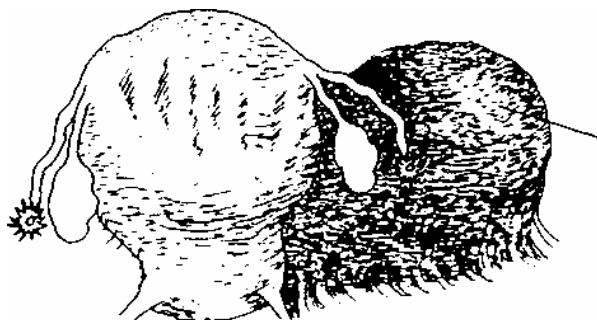
- Treat the possible cause of coagulation failure:
  - abruptio placentae;
  - eclampsia
- Use blood products to help control hemorrhage
  - Give fresh whole blood, if available, to replace clotting factors and red cells;
  - If fresh whole blood is not available, choose one of the following based on availability:
    - fresh frozen plasma for replacement of clotting factors (15 mL/kg body weight);
    - packed (or sedimented) red cells for red cell replacement;
    - cryoprecipitate to replace fibrinogen;
    - platelet concentrates (if bleeding continues and the platelet count is less than 20000).

### ***Ruptured uterus***

Bleeding from a ruptured uterus may occur vaginally unless the fetal head blocks the pelvis. Bleeding may also occur intra-abdominally. Rupture of the lower uterine segment into the broad ligament, however, will not release blood into the abdominal cavity.

- Restore blood volume by infusing IV fluids (normal saline or Ringer's lactate) before surgery.
- When stable, immediately perform caesarean section and deliver baby and placenta.
- If the uterus can be repaired with less operative risk than hysterectomy would entail and the edges of the tear are not necrotic, repair the uterus. This involves less time and blood loss than hysterectomy.

**Figure-4: Rupture of lower uterine segment into broad ligament will not release blood into the abdominal cavity**



## III. 8. Suspected fetopelvic disproportion

### 1. Fetopelvic disproportion

- No reliable methods are available for accurate prediction of fetopelvic disproportion before labor.
- Labor is the best test of pelvic adequacy in cephalic presentations.

### 2. Breech presentation

- At present there is inadequate evidence about the effectiveness of routine cesarean section for term breech presentation in improving outcome.

### 3. External cephalic version for breech presentation

- Version at term shows better results. The procedure leads to 58 % reduction in the relative risk of non-cephalic presentation at birth, and 48% reduction in the risk of cesarean section.
- Delay of external cephalic version until term allows time for maximal number of spontaneous versions to take place and for obstetrical complications that may require delivery by cesarean section to become apparent.
- External cephalic version is an invasive procedure that involves some risk to the fetus, and has to be done in hospitals.
- The risks to the baby are related to the gestational age, and to the method employed. The complications are greater when external cephalic version is done before 37 weeks gestation.
- Anti-D immunoglobulin should be given to Rh -ve women following version

## Shoulder dystocia (stuck shoulders)

### Problem

The fetal head has been delivered but the shoulders are stuck and cannot be delivered

### Risk factors

- **Prepregnancy:**
  - Maternal birth weight
  - Prior macrosomia
  - Obesity
  - Prior gestational diabetes
  - Prior shoulder dystocia
  - Pre-existing diabetes
  - Multiparity
  - Advanced maternal age
- **Antepartum:**
  - Excessive maternal weight gain
  - Short stature
  - Macrosomia
  - Postdatism
- **Intrapartum:**
  - Prolonged second stage
  - Failure of descent of head
  - Need for midpelvic or assisted delivery
  - Protracted descent
  - Abnormal first stage

### General management

- Shoulder dystocia has to be anticipated during antenatal care and the case has to be delivered in a hospital, however be prepared for shoulder dystocia at all deliveries.

**Shoulder dystocia cannot be totally predicted**

## Diagnosis

- The fetal head is delivered but remains tightly applied to the vulva
- The chin retracts and depresses the perineum.
- Traction on the head fails to deliver the shoulder, which is caught behind the symphysis pubis.

## Management

- Make an adequate episiotomy to reduce soft tissue obstruction and to allow space for manipulation.
- With the woman on her back, ask her to flex both thighs, bringing her knees as far up as possible towards her chest. Ask two assistants to push her flexed knees firmly up onto her chest.

**Figure-5: Assistant pushing flexed knees firmly towards chest**



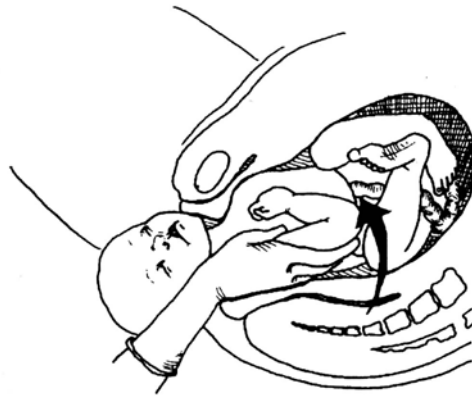
- Wearing high-level disinfected gloves:
  - Apply firm, continuous traction downwards on the fetal head to move the shoulder that is anterior under the symphysis pubis;

**Note: Avoid excessive traction on the head as this may result in brachial plexus injury**

  - Have an assistant simultaneously apply suprapubic pressure downwards to assist delivery of the shoulder;

Note: Do not apply fundal pressure. This will further impact the shoulder and can result in uterine rupture
- If the shoulder still is not delivered:
  - Wearing high-level disinfected gloves, insert a hand into the vagina;
  - Apply pressure to the shoulder that is anterior in the direction of the baby's sternum to rotate the shoulder and decrease the shoulder diameter;
  - If needed, apply pressure to the shoulder that is posterior in the direction of the sternum.
- If the shoulder still is not delivered despite the above measures:
  - Insert a hand into the vagina;
  - Grasp the humerus of the arm that is posterior and keeping the arm flexed at the elbow, sweep the arm across the chest. This will provide room for the shoulder that is anterior to move under the symphysis pubis (Figure-6).

Figure-6: Grasping the humerus of the arm that is posterior and sweeping the arm across the chest.



- If all the above measures fail to deliver the shoulder, other options include:
  - Fracture the clavicle to decrease the width of the shoulders and free the shoulder that is anterior;
  - Apply traction with a hook in the axilla to extract the arm that is posterior.

### III.9. Pre-labor rupture of membranes <sup>(8)</sup>

Watery vaginal discharge after 22 weeks gestation

#### General management

- Confirm accuracy of calculated gestational age, if possible.
- Use a high-level disinfected speculum to assess vaginal discharge (amount, color, odor) and exclude urinary incontinence.

If the woman complains of bleeding in later pregnancy (after 22 weeks}, do not do a digital vaginal examination.

#### Diagnosis

Table-3: Diagnosis of vaginal discharge

Presenting symptom and other symptoms and signs typically present	Symptoms and signs sometimes present	Probable diagnosis
• Watery vaginal discharge	<ul style="list-style-type: none"> <li>• Sudden gush or intermittent leaking of fluid</li> <li>• Fluid seen at introitus</li> <li>• No contractions within 1 hour</li> </ul>	Prelabor rupture of membranes
<ul style="list-style-type: none"> <li>• Foul-smelling watery vaginal discharge after 22 weeks</li> <li>• Fever/chills • Abdominal pain</li> </ul>	<ul style="list-style-type: none"> <li>• History of loss of fluid</li> <li>• Tender uterus</li> <li>• Rapid fetal heart rate</li> <li>• Light<sup>a</sup> vaginal bleeding</li> </ul>	Amnionitis
<ul style="list-style-type: none"> <li>• Foul-smelling vaginal discharge</li> <li>• No history of loss of fluid</li> </ul>	<ul style="list-style-type: none"> <li>• Itching</li> <li>• Frothy/curdish discharge</li> <li>• Abdominal pain</li> <li>• Dysuria</li> </ul>	Vaginitis/cervicitis
• Bloody vaginal discharge	<ul style="list-style-type: none"> <li>• Abdominal pain</li> <li>• Loss of fetal movements</li> <li>• Heavy, prolonged vaginal bleeding</li> </ul>	Antepartum hemorrhage
• Blood-stained mucus or watery vaginal discharge (show)	<ul style="list-style-type: none"> <li>• Cervical dilatation and effacement</li> <li>• Contractions</li> </ul>	Possible term labor, or Possible preterm labor

<sup>a</sup> Light bleeding: takes longer than 5 minutes for a clean pad or cloth to be soaked

<sup>b</sup> Determine cause and treat accordingly

#### Management

##### Prelabor rupture of membranes

Prelabor rupture of membranes (PROM) is rupture of the membranes before labor has begun. PROM can occur either when the fetus is immature (preterm or before 37 weeks) or when it is mature (term).

**Confirming the diagnosis**

- The typical odor of amniotic fluid confirms the diagnosis.
- If membrane rupture is not recent or when leakage is gradual, confirming the diagnosis may be difficult:
  - Place a vaginal pad over the vulva and examine it an hour later visually and by odor
  - Use a high-level disinfected speculum for vaginal examination
    - Fluid may be seen coming from the cervix or forming a pool in the posterior fornix;
    - Ask the woman to cough; this may cause a gush of fluid.

Do not perform a digital vaginal examination as it does not help establish the diagnosis and can introduce infection.
- If available, do tests:
  - The nitrazine test depends upon the fact that vaginal secretions and urine are acidic while amniotic fluid is alkaline. Hold a piece of nitrazine paper in a hemostat and touch it against the fluid pooled on the speculum blade. A change from yellow to blue indicates alkalinity (presence of amniotic fluid). Blood and some vaginal infections give false positive results;
  - For the ferning test, spread some fluid on a slide and let it dry. Examine it with a microscope. Amniotic fluid crystallizes and may leave a fern-leaf pattern. False negatives are frequent.

**Management**

- If there is vaginal bleeding with intermittent or constant abdominal pain, suspect abruption placentae
- If there are signs of infection (fever, foul-smelling vaginal ' discharge), give antibiotics as for amnionitis and transfer the patient
- If there are no signs of infection and the pregnancy is less than 37 weeks (when fetal lungs are more likely to be immature):
  - Give antibiotics to reduce maternal and neonatal infective morbidity and to delay delivery
    - Erythromycin base 250 mg by mouth three times per day for 7 days;
    - PLUS amoxicillin 500 mg by mouth three times per day for 7 days;
  - Consider transfer to the most appropriate service for care of the newborn, if possible;
  - Give corticosteroids to the mother to improve fetal lung maturity:
    - Betamethasone 12 mg IM, two doses 12 hours apart;
    - OR dexamethasone 6 mg IM, four doses 6 hours apart.

**Note: Corticosteroids should not be used in the presence of frank infection.**

- Deliver at 37 weeks;
  - If there are palpable contractions and blood-stained mucus discharge, suspect preterm labor
- If there are no signs of infection and the pregnancy is 37 weeks or more:
  - If the membranes have been ruptured for more than 18 hours, give prophylactic antibiotics in order to help reduce Group B streptococcus infection in the neonate:
    - Ampicillin 2 g IV every 6 hours;
    - OR penicillin G 2 million units IV every 6 hours until delivery;
  - If there are no signs of infection after delivery, discontinue antibiotics.

- Assess the cervix
  - If the cervix is favorable (soft, thin, partly dilated), induce labor using oxytocin)
  - If the cervix is unfavorable (firm, thick, closed), ripen the cervix using prostaglandins and infuse oxytocin or deliver by caesarean section

### **III.10. Post term pregnancy <sup>(1)</sup>**

#### **Pregnancy lasting 42 complete weeks or more**

- Its incidence varies from 4-14%
- The more accurate determination of gestational age made possible by routine early pregnancy ultrasound reduces the number of women who receive induction of labor for apparently post term pregnancy.

#### **Prevention of post term pregnancy:**

##### **1. Stripping or sweeping of membranes in pregnancies at or beyond term.**

- Reduce the incidence of formal induction labor.
- Reduce the frequency of pregnancies after 42 weeks.

**Women have reported discomfort from this maneuver.**

##### **2. Breast and nipple stimulation can't be recommended to prevent post term pregnancy.**

A policy of induction of labor after 41 weeks gestation slightly reduces the risk of perinatal death.