

Complications Of Pregnancy

1. Antepartum hemorrhage
 - Abortion
 - Ectopic pregnancy
 - Placenta previa
 - Abruptio placentae
2. Pregnancy induced hypertension
3. Gestational diabetes
4. Urinary tract infection
5. Anemia

Antepartum hemorrhage

APH is defined as any bleeding from the genital tract before the onset of labour.

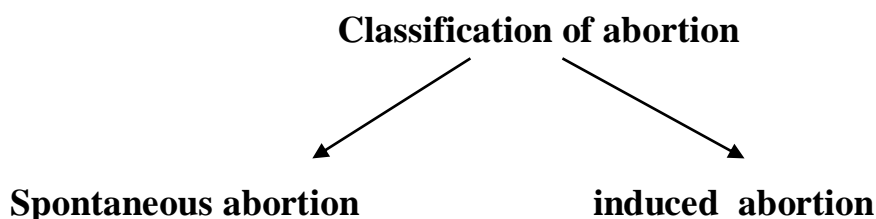
The Severity Of An Aph

1. **Spotting** – staining, streaking or blood spotting noted on underwear or sanitary protection
2. **Minor Haemorrhage** – blood loss less than 50 mL that has settled
3. **Major Haemorrhage** – blood loss of 50 – 1000 mL, with no signs of clinical shock
4. **Massive Haemorrhage** – blood loss greater than 1000 mL and/or signs of clinical shock

Bleeding in early pregnancy

Abortion

Abortion: pregnancy that ended before 20 weeks of gestation.



Types of abortions:

1. Threatened
2. Inevitable
3. Complete & incomplete
4. Missed
5. Recurrent or habitual

Causes of abortion

1. Genetic defect
2. Defective ovum or sperm
3. Defective implantation
4. Uterine fibroids
5. Maternal factors (chronic condition, acute infection, nutritional deficiencies, endocrine deficiencies).

6. Blood group dyscrasais
7. Abdominal trauma

Table 13-1 Comparison of Types and Management of Spontaneous Abortion (Miscarriage)*

TYPE	CRAMPS	BLEEDING	TISSUE PASSED	CERVICAL OPENING	UTERINE SIZE	NURSING MANAGEMENT
Threatened	Slight (with or without cramps)	Slight to moderate (bleeding ceases)	None	Closed	Commensurate with date	Bed rest, sedation, [†] avoidance of coitus, ultrasound; observe amount of bleeding (save pads); woman to gradually increase activity; perform pregnancy tests; give Rh ₀ (D) immune globulin (RhoGAM) within 72 hours if indicated
Inevitable	Moderate	Moderate to severe	None	Open, with membranes or tissues bulging	Commensurate with date	Bed rest, sedation; transfusion may be indicated; observe amount of bleeding, color (save pads); give RhoGAM if indicated
Incomplete	Severe	Severe and continuous	Placental or fetal tissue	Open, with tissue in cervical canal or passage of tissue	Smaller than date	Bed rest, sedation; observe to determine how much tissue is passed; save all available tissue; carefully record vital signs; dilation and evacuation (D&E) as necessary; give RhoGAM if indicated
Complete	None	Minimal	Complete placenta and fetus	Closed, with no tissue in cervical canal	Smaller than date	Observe to determine if all tissue is passed (save pads); give RhoGAM if indicated
Missed	None; no life felt	Brownish discharge	None; prolonged retention of tissue	Closed	Smaller than expected	No specific treatment available; oxytocin may be used to induce labor and delivery; check for coagulation defect (DIC)
Recurrent (habitual)						Comprehensive and conservative care essential in early months; cerclage surgery performed if necessary for incompetent cervix

Nursing responsibilities

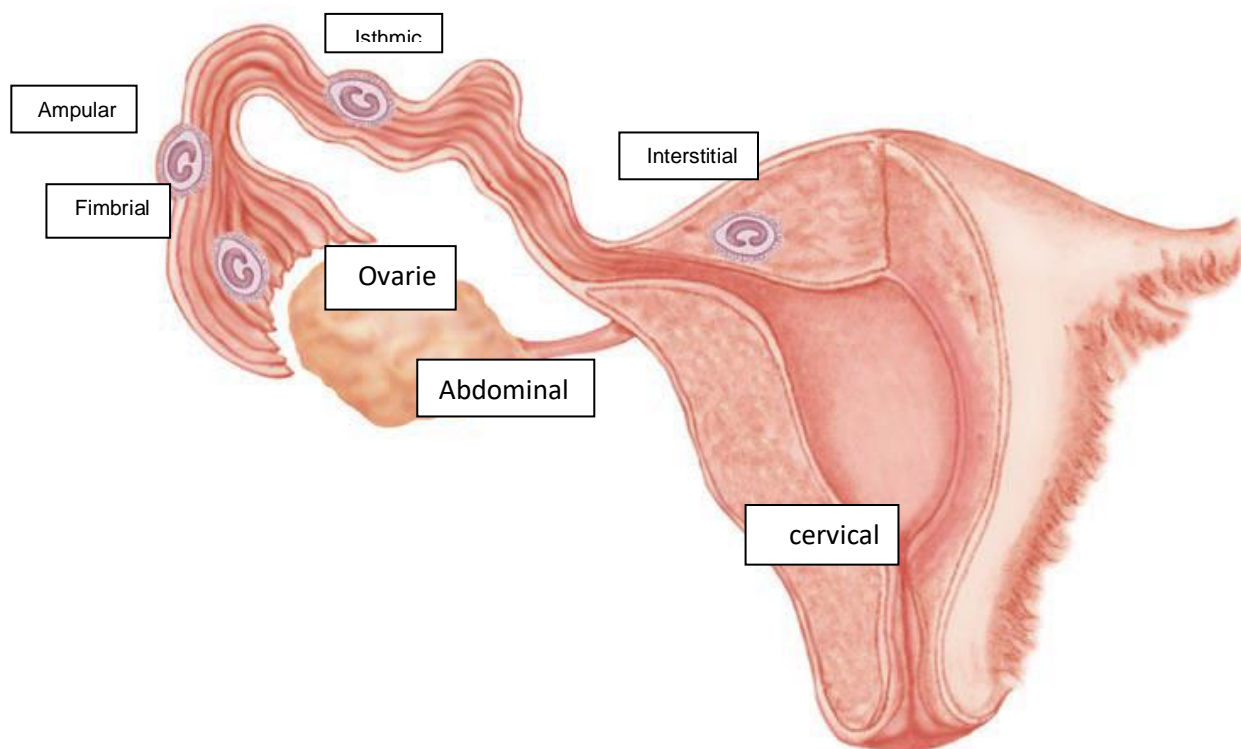
1. Monitoring vital signs
2. Observe signs of shock, pallor, cold clammy skin
3. Weighing perineal pads to accurately determine the amount of bleeding.
4. Intravenous therapy
5. Assessing fetal heart
6. Oxygen therapy if needed
7. Obtained history and laboratory report
8. Blood transfusion if necessary
9. Surgical intervention (dilation & curettage) to remove the remainder of the product of conception
10. In case of RH incompatibility, give the women $RH_0(D)$ immune globuline.

Discharge Teaching For The Women After Early Miscarriage

1. Advise the women to report any **heavy, profuse or bright red bleeding** to a health care provider.
2. Reassure the women that a **scant, dark discharge** may persist for **1 to 2** weeks.
3. To reduce the risk to infection, remind the women **not to put anything into the vagina for 2 weeks or until bleeding has stopped** (e.g. no tampon, no vaginal intercourse). She should take **antibiotics** as prescribed.
4. Advise the women to eat foods high in **iron and protein**
5. Advise the women that attempts at pregnancy should be postponed for at **least 2 months** to allow her body to recover.

Ectopic Pregnancy

Is an implantation of a fertilized ovum in an area outside the uterine cavity.



Sites of ectopic pregnancy.

Clinical Manifestations

The classic signs of ectopic pregnancy include the following:

1. Missed menstrual period
2. Low Abdominal pain (stabbing pain)
3. Vaginal "spotting"

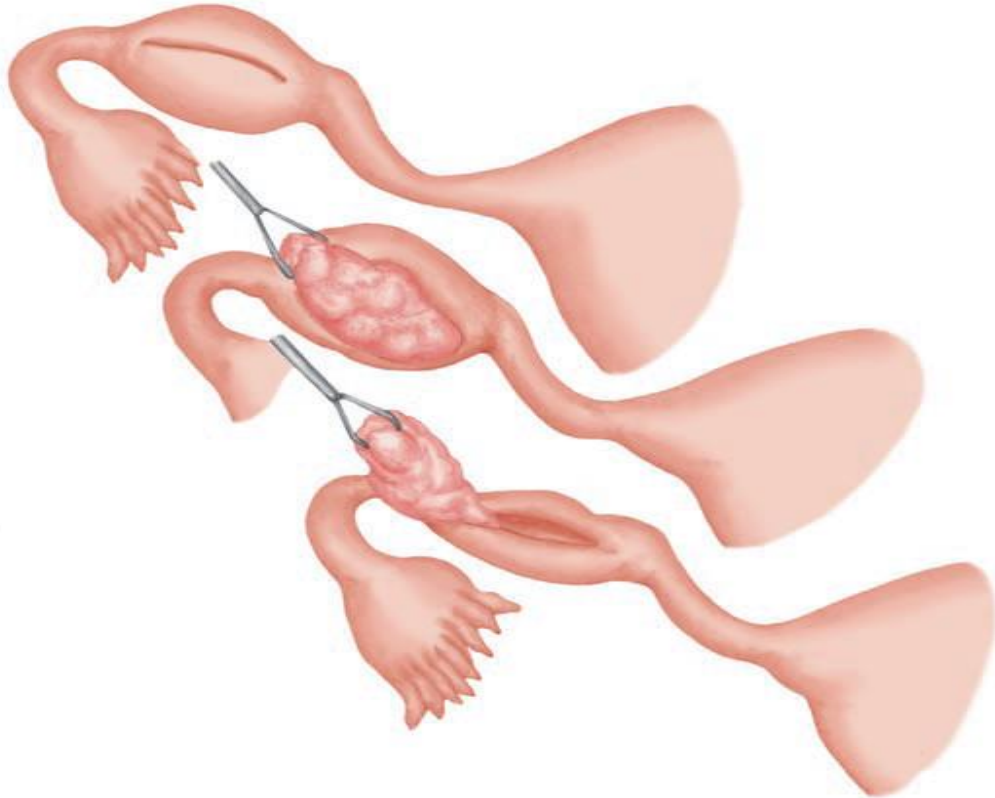
Risk Factors for Ectopic Pregnancy

1. History of sexually transmitted diseases (gonorrhea, chlamydial infection)
2. History of pelvic inflammatory disease
3. History of previous ectopic pregnancies
4. Failed tubal ligation
5. Intrauterine device
6. Multiple induced abortions
7. Maternal age older than 35 years
8. Some assisted reproductive techniques such as gamete intrafallopian transfer (GIFT).

Therapeutic Management

- Management of tubal pregnancy depends on whether the tube is intact or ruptured. The chemotherapeutic agent **methotrexate** is used to inhibit cell division in the developing embryo. (a folic acid antagonist) are used to prevent the toxic response to the drug.

- Surgical management of a tubal pregnancy that is un ruptured may involve a linear **salpingostomy** to salvage the tube .
- When an ectopic pregnancy results in rupture of the Fallopian tube removal of the tube (**salpingectomy**) with ligation of bleeding vessels.

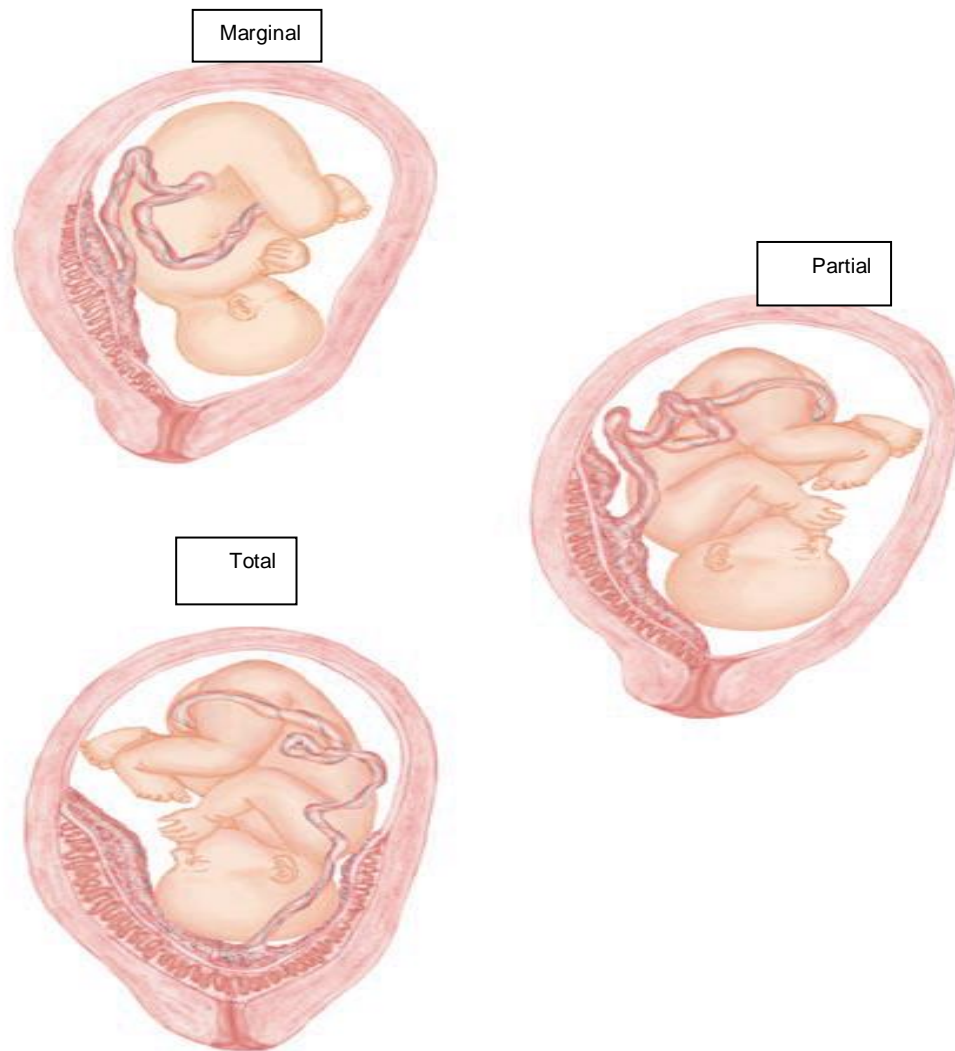


Placenta praevia

The placenta is to be previa when all or part of the placenta implants in the lower uterine segment and therefore lies in front of the presenting part Placenta praevia is due to delay in implantation of the blastocyst so that this occurs in the lower part of the uterus

Classification

- **Lateral:** The placenta encroaches on the lower uterine segment but does not reach the internal cervical os.
- **Marginal:** The placenta encroaches on or covers the internal cervical os. Before cervical dilatation occurs
- **Central:** The placenta completely covers the os. even with cervical dilatation.



Symptoms and signs

- painless vaginal bleeding
- sometimes lower abdominal discomfort
- Vaginal bleeding
- Malpresentation of the fetus
- Uterine hypotonus.
- Soft uterus and non – tender
- Fetal malpresentation (breech/transverse/oblique
- High presenting part.

Management

1. The woman is evaluated to determine the amount of hemorrhage
2. electronic fetal monitoring is initiated to evaluate the fetus
3. ultrasound examination and monitoring
4. administration of corticosteroids to the mother to speeds maturation of the fetal lungs
5. Nurses are often responsible for helping the woman and family understand the physician's plan of care

6. Nurses help the woman and family develop a workable plan for homecare that may include strict bed rest except for going to the bathroom, the presence of another adult to manage the home and be present if an emergency arises.
7. Teaching also includes emphasizing the importance of
 - (1) assessing color and amount of vaginal discharge or bleeding, especially after each urination or bowel movement,
 - (2) assessing fetal activity (kick counts) daily
 - (3) assessing uterine activity at prescribed intervals, and
 - (4) Refraining from sexual intercourse to prevent disruption of the placenta
8. The women and her family are instructed to report a decrease in fetal movement or an increase in uterine contractions or vaginal bleeding.

Abruptio placentae

Hemorrhage resulting from premature separation of the placenta

Clinical types and presentation

Three types of abruption have been described

1. **Revealed** :The major haemorrhage is apparent ,the haemorrhage occurs from the lower part of the placenta and blood escapes through the cervical os. Abruption tends to occur after 36 weeks gestation.
2. **Concealed** :the haemorrhage occurs between the placenta and the uterine wall.
 - The uterine content increases in volume and the fundal size appears larger than would be consistent with the estimated date of labor.
 - Uterine tonus is increased and pain and shock
 - The uterus may become rigid and tender.
3. **Mixed, or concealed and revealed.**: Haemorrhage occurs close to the placental edge and, after an interval when the haemorrhage is concealed, blood loss soon appears vaginally.

Differentiation between placenta previa and bruptio placenta

Signs	Placenta previa	Abrupsio Placentae
Placenta location	Lower third of uterus	Normal
Onset	Frequently quiet for first episode of bleeding	Stormy in moderate to severe bleeding
Pain	Painless bleeding	May be cramplike to sever
Abdomen & uterus	Soft not tender	Tender to rigid
Bleeding	External, bright red bleeding; shock with excessive bleeding	External or internal, bright or dark blood

Care of women with bleeding

- Estimate and document blood loss.
- Monitor vital signs frequently.
- Monitor intake and output.
- Assess presence and character of:
 - Pain
 - Uterine tenderness
 - Abdominal and uterine rigidity
- Have woman's blood typed and cross-matched.
- Monitor and maintain intravenous infusion.
- Observe for signs of shock.
- Prepare woman for surgery if indicated.
- If bleeding is in the third trimester of pregnancy:
 - Monitor fetal heart tones.
 - Monitor labor contractions.
 - Assess whether woman's vaginal examination should be omitted.
- Administer oxygen by mask.
- Monitor coagulation profile test studies.
- Prepare for newborn resuscitation.

Hypertensive Disorders Of Pregnancy

Four categories of hypertensive disorders occurring during pregnancy.

Classifications	comments
Preeclampsia	Systolic blood pressure >140 mm Hg or diastolic blood pressure ≥ 90 mm Hg that develops after 20 weeks of pregnancy and is accompanied by proteinuria ≥ 0.3 g in a 24-hr urine collection (random urine dipstick is usually $>1\pm$).
Eclampsia	Progression of preeclampsia to generalized seizures that cannot be attributed to other causes
Gestational hypertension	Systolic blood pressure ≥ 140 mm Hg or diastolic blood pressure ≥ 90 mm Hg that develops after 20 weeks of pregnancy, but without significant proteinuria (negative or trace on a random urine dipstick).
Chronic hypertension	Systolic blood pressure ≥ 140 mm Hg or diastolic blood pressure ≥ 90 mm Hg that was known to exist before pregnancy or develops before 20 weeks of gestation. Also diagnosed if the hypertension does not resolve during the postpartum period.
Preeclampsia superimposed on chronic hypertension	Development of new-onset proteinuria >0.3 g in a 24-hr collection in a woman who has chronic hypertension. In a woman who had proteinuria before 20 weeks, preeclampsia should be suspected if the woman has a sudden increase in proteinuria from her baseline levels, a sudden increase in blood pressure when it had been previously well controlled, development of thrombocytopenia (platelets $<100,000/\text{mm}^3$), or abnormal elevations of liver enzymes (AST or ALT).

Risk Factors for Pregnancy-Related Hypertension

1. First pregnancy
2. Age ≥ 35 years
3. Anemia
4. Family history of pregnancy-induced hypertension
5. Chronic hypertension or preexisting vascular disease

6. Chronic renal disease
7. Obesity
8. Diabetes mellitus
9. Antiphospholipid syndrome
10. Multifetal pregnancy
11. Mother or sister who had preeclampsia

Mmanagement

NURSING INTERVENTIONS		RATIONALES	
Restrict activity with frequent rest periods.		Rest promotes increased diuresis and decreases blood pressure and edema; strict bed rest is not recommended.	
Weigh at the same time each day, preferably in early morning with empty bladder.		Weight change indicates increase or decrease in fluid retention (is not diagnostic of gestational hypertension [GH]).	
Take blood pressure every 4 hours.		Blood pressure increase is indicative of greater severity of disease.	
Assess fetal heart rate (FHR) frequently or monitor FHR continuously with electronic fetal monitor.		Assesses fetal well-being or fetal compromise.	
Check urine for protein every 4 hours.		Assesses for preeclampsia.	
Assess 24-hours fluid intake and hourly urinary output.		Assesses adequate kidney function.	
Test for deep tendon reflexes (DTRs) for hyperreactivity.		Assesses muscle and nerve irritability.	
Inquire about presence of headache, visual disturbance, and epigastric pain.		Checks for signs that are indicative of increasing disease severity.	
Assess for signs of labor such as frequency and strength of contractions.		Medication prescribed for GH may slow or stop labor.	
Assess anxieties and concerns.		Anxiety can increase blood pressure.	
Attempt to reduce sensory stimulation.		Reduces neuromuscular irritability.	
Check protein dietary intake.		Protein provides appropriate nutrients.	
Assess need for sedation.		Sedation provides rest and reduces blood pressure.	
Assess fetal kick count daily.		Determines status of fetus.	
Check for completeness of emergency tray or equipment in woman's room and for drugs.		Have all necessary equipment readily available for emergency.	

Home Care of Mild Gestational Hypertension

- Restricted activity
- Rest on left side
- Daily blood pressure in same arm and position
- Daily weight
- Daily urine dipstick test for protein
- Fetal kicks and uterine activity monitored
- Diet with increased protein

Gestational diabetic

Carbohydrate intolerance of variable severity with onset or first recognition during pregnancy, it occurs after 20 week of gestation.

Risk factors

Older mothers, especially over the age of 30 years of age

- Women with a family history of type 2 diabetes
- Women who are overweight
- Indigenous Australians
- Women who have had gestational diabetes
- Women who have had large babies or obstetric complications
- Woman who has had polycystic ovarian syndrome

Management

- Provide preconception care for women with preexisting T1DM or T2DM or a history of GDM
 - Educate patients to maintain adequate nutrition and glucose control before conception, during pregnancy, and postpartum
- Close to normal glycemic control prior to and throughout pregnancy offers substantial benefit for both mother and child
 - Maintenance of normoglycemia prior to and through the first trimester results in a complication risk close to that of women without diabetes

- Early referral to a specialist is essential
- Collaborative effort among obstetrician/ midwife, endocrinologist, ophthalmologist, registered dietitian, and nurse educator
 - Individualized treatment plans, involving a combination of
- Glucose monitoring
- Medical nutrition therapy (MNT)
- Pharmacotherapy
- Exercise
- Weight management strategies
- Psychological support
- Self-monitoring of blood glucose (SMBG)
- SMBG ≥ 3 times daily
- More frequent SMBG may be required, including:
 - Morning fasting
 - Premeal (breakfast, lunch, and dinner)
 - 1-hour postprandial (breakfast, lunch, and dinner)
 - Before bed
- Measures glucose levels over 24-hour period
- Choose healthy low-carbohydrate, high-fiber sources of nutrition, with fresh vegetables as the preferred carbohydrate sources
- Avoid sugars, simple carbohydrates, highly processed foods, dairy, juices, and most fruits
- Eat frequent small meals to reduce risk of postprandial hyperglycemia and preprandial starvation ketosis
- Metformin and the sulfonylurea glyburide are the 2 most commonly prescribed oral antihyperglycemic agents during pregnancy.
- Pt. education about insulin administration.
- Counsel women on diabetes management during labor and delivery
- During the 4-6 hours prior to delivery, there is increased risk of transient neonatal hypoglycemia.
- Labor and delivery in women with insulin-dependent type 1 diabetes should be managed by an endocrinologist or a diabetes specialist
- Blood glucose levels should be monitored closely during labor to determine patient's insulin requirements

UTI : is result from **bacterial invasion** or from **congenital anomaly** that obstructs urine flow. True bacteriuria (more than 100,000 colony forming units (CFU) / mL) in the absence of specific symptoms of acute urinary tract infection. > **gram-negative aerobic bacilli** is the most common pathogen, **Staphylococcus saprophyticus** is the second most frequently.

Predisposing factors

1. High number of pelvic examination
2. History of UTI
3. Impaired bladder function; bacteria ascends from perennial or vaginal sit to the urethra.
4. Operative delivery




Sign &Symptomes

1. Dysuria, urgency, frequency, nocturia, haematuria and suprapubic discomfort in afebrile women with no evidence of systemic illness.
2. flank or renal angle pain, pyrexia, rigor, chills, nausea and vomiting **in case of** Pyelonephritis.

Risk factors

- ☒ Low socio-economic status
- ☒ Sickle cell trait
- ☒ Diabetes mellitus
- ☒ Neurogenic bladder retention
- ☒ History of previous urinary tract infections
- ☒ Structural abnormality of urinary tract
- ☒ Presence of renal stones

Management

-  Antibiotic therapy for 10 days(ampicillin, cephalosporine)
-  Analgesia.
-  Hydration

Teaching

1. Self care measures.
2. Reporting complications
3. Preventive measures
4. Avoiding carbonated drinks (increase alkalinity)
5. Dringing acidic fluid (fruit juice).
6. Wipe from front to back
7. Increase fluid intake
8. Urinate frequently

Anemia during pregnancy

A Reduction In Red Blood Cell Volume, Is Measured By Hematocrit (Hct) Or A Decrease In The Concentration Of Hemoglobin (Hgb) In The Peripheral Blood.

Types of anemia

1. **Physiological anemia:** excess of plasma volume and decrease the hemoglobin concentration
2. **Iron-deficiency anemia:** inadequate dietary intake of iron and iron therapy.

The most common complications of anemia are :

Preterm delivery, perinatal mortality, and postpartum depression. Low birth weight and poor mental and psychomotor performance, The risks of hemorrhage (impaired platelet function), infection during and after birth, fatigue, headache, restless legs syndrome, and pica eating behaviors.

Treatment: routine iron supplementation for all pregnant women starting at a low dose of 30 mg/day beginning at the first prenatal visit.

Teaching For The Woman With Iron-Deficiency Anemia

- Take your prenatal vitamin daily; if you miss a dose, take it as soon as you remember.
 - For best absorption, take iron supplements between meals.
 - Avoid taking iron supplements with coffee, tea, chocolate, and high-fiber food.
 - Eat foods rich in iron, such as: Meats, green leafy vegetables, legumes, dried fruits, whole grains, Peanut butter, bean dip, whole-wheat fortified breads and cereals
 - For better iron absorption from foods, consume the food along with a food high in vitamin C.
 - Increase your exercise, fluids, and high-fiber foods to reduce constipation.
 - Plan frequent rest periods during the day.
3. **Folic-acid deficiency anemia:** may result from inadequate intake, poor absorption, or during interaction, poor cooking habits, can destroy the folic acid content of food. the daily requirement of it is 0.4 mg.
 - ❖ Food high in folic-acid include dark green leafy vegetables, citrus fruit, beans, fortified breakfast cereals.