

INC01 : Breast Changes in Pregnancy

BREAST CHANGES IN PREGNANCY

CHANGES IN THE BODY OF UTERUS:

- By 12 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 16 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 20 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 24 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 28 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 32 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 36 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 40 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.

Height of fundus by weeks of normal gestation with a single fetus:

10w, 20w, 30w, 40w

Enlarging Uterus During Gestation Period
Note Displacement of internal abdominal structures and diaphragm

Uterus after delivery, Uterus at 48th day, Inverted uterus

Changes in Uterine Size & Shape in Puerperium Period

BREAST CHANGES DURING PREGNANCY

- Hormonal changes during pregnancy cause reproductive forward and changes in breast tissues. The changes result in breasts, swelling, tingling and abnormal sensitivity to touch.
- Breasts start increasing in size at about eight weeks of pregnancy.
- Breasts start swelling, but not necessarily increasing in size.
- Nipples and areolae become darker and larger.
- During first months of pregnancy, the colostrum starts producing. In last months of pregnancy, breasts will have a little amount of milk yellow liquid.
- The areolae glands on the surface of the areola called as Montgomery's tubercles become more prominent.

Montgomery's tubercles during pregnancy
During pregnancy, areolae tubercles are enlarged in size and become more prominent.

12th week of Pregnancy, 28th week of Pregnancy, Lactating breast

INC02 : Uterine Changes During Pregnancy

UTERINE CHANGES DURING PREGNANCY

CHANGES IN THE BODY OF UTERUS:

- By 12 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 16 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 20 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 24 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 28 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 32 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 36 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.
- By 40 weeks the uterus is enlarged and inverted and has turned to the position of the fetus.

Height of fundus by weeks of normal gestation with a single fetus:

10w, 20w, 30w, 40w

Enlarging Uterus During Gestation Period
Note Displacement of internal abdominal structures and diaphragm

Uterus after delivery, Uterus at 48th day, Inverted uterus

Changes in Uterine Size & Shape in Puerperium Period

INC03 : First Stage of Labour

FIRST STAGE OF LABOUR

CERVICAL EFFACEMENT AND DILATION

Before Labour, Early Effacement, Complete Effacement, Complete Dilation (10 cm)

Note how cervix shortens up around presenting part (internal os)

A. Foetal Position before labour begins
B. Foetus moves into the birth canal and cervix begins to dilate.

FIRST STAGE OF LABOUR IS DIVIDED INTO TWO PHASES

A. Latent Phase

1. Cervical dilation < 3 cm and
2. Regular contractions

B. Active Phase

1. Cervical dilation > 3 cm and
2. Regular contractions

Normal Progress:

1. Multiparous women:
 - a. Mean duration: 8-16 hours
 - b. Maximum normal duration: 20 hours
2. Multiparous women:
 - a. Cervical Dilation: > 1.5 cm/hour
 - b. Cervical Dilation: > 1.5 cm/hour
 - c. Cervical Dilation: > 2 cm/hour

INC04 : Second Stage of Labour

SECOND STAGE OF LABOUR

A. Expulsion of the head of the foetus from uterus.

B. Expulsion of the foetus from uterus.

The second stage of labour begins when the cervix is completely effaced and ends with the delivery of the baby. The second stage is often referred to as the "pushing" stage. During the second stage, the woman becomes actively involved by pushing the baby through the birth canal to the outside world. When the baby's head is visible at the opening of the vagina, it is called "crowning". The second stage is shorter than the first stage, and generally takes between 30 to 90 minutes in a woman's first pregnancy.

INC05 : Third Stage of Labour

THIRD STAGE OF LABOUR

After the baby is delivered, the new mother enters the third and final stage of labour — delivery of the placenta. This stage usually lasts just a few minutes and involves the passage of the placenta out of the uterus and through the vagina.

A. EXPULSION OF THE PLACENTA

B. CONTRACTION OF UTERUS

C. EXPELLED PLACENTA

INC06 : Complete Breech Presentation

COMPLETE BREECH PRESENTATION

Complete Breech (Flexed)
Legs are normally flexed as in the vertex position.

Vaginal Examination of Complete Breech
Sacrum, anus, genitalia and feet can be identified. The sacrum can be mistaken for the occiput unless all four toes are palpated.

INC07 : Incomplete Breech Presentation

INCOMPLETE BREECH PRESENTATION

The incomplete breech presents with the legs flexed and one or both legs extended as the abdomen. Severely perinatally breech presentations are of this type and it is particularly common in pregnancies of first-time mothers with vertex presentations of the fetus.

Frank Breech
(Breech with extended legs)
Presentation: First: Sacrum
Abduct: Flexion except for legs at knees

Vaginal Examination of frank breech is LLL position.
In feet felt: the legs are extended

INC08 : Foot Presentation

FOOT PRESENTATION

Footling Breech
This is rare. One or both feet present because neither hips nor knees are fully flexed. The feet are lower than the buttocks, which distinguishes it from the complete breech.

Single Footling Presentation

Knee Presentation
Knee presentation is very rare. One or both hips are extended with the knees flexed.

INC09 : Shoulder Presentation

SHOULDER PRESENTATION

- Shoulder Presentation**
 - Occurs when fetus is transverse with back down
 - Shoulder sits over pelvic inlet
- Epidemiology**
 - Incidence: 0.3% of singleton births
- Causes**
 - Prematurity
 - Placenta Praevia
 - Abnormal uterus
 - Contracted pelvis or relaxed abdominal wall
 - Polhydramnios
- Diagnosis**
 - Leopold's Manoeuvres
 - Transverse lie should be easy to identify
 - Digital cervical exam
 - No presenting part
- Management**
 - Caesarean section required in most cases
 - Indications to consider External Cephalic Version
 - Intact membranes and no labour
 - Back-up transverse lie with cervix fully dilated
- Complications**
 - Uterine Rupture



Dorsoposterior Shoulder Presentation



Dorsoposterior Shoulder Presentation

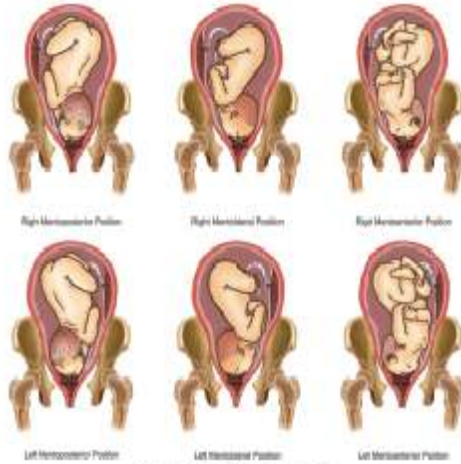
INC10 : Face Presentation

FACE PRESENTATION

When the attitude of the head is one of complete extension, the occiput of the fetus will be in contact with its spine and the face will present. The incidence is about 1 : 500 or less. In face presentation position, the denominator is the mentum.



Vaginal examination in LMA position. Submentocephalic diameter measures 9.5 cm.



Six positions of face presentation

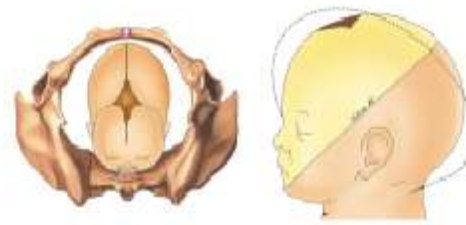
INC11 : Brow Presentation

BROW PRESENTATION



Face Presentation occurring in 80% successful pregnancies	11% or less	10-15%
Incidence	11%	10-15%
Stillbirths	5%	10-15%
Perinatal deaths	2%	1-15%
Total malformations	-	-
Abnormalities	-	-
Hydrocephalus or neural tube	8%	10-15%
Microcephalus + hydro	8%	10-15%
Malformations	1%	10-15%
Fractures	1%	10-15%
Conjunctival laceration	10%	10-15%

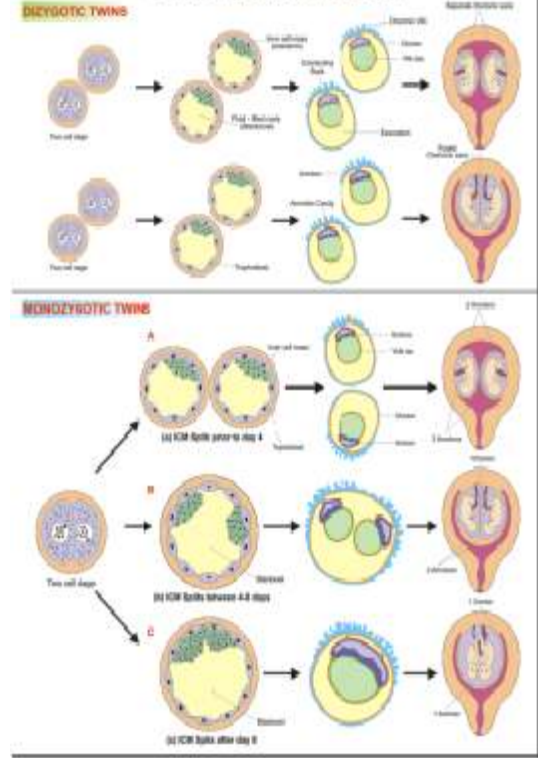
In Brow Presentation, the head is above the brim and not engaged. The mento-vertical diameter of the head is trying to engage in the transverse diameter of the brim.



Vaginal examination with brow presentation. Moulding in a brow presentation (dotted line)

INC12 : Twin Pregnancy

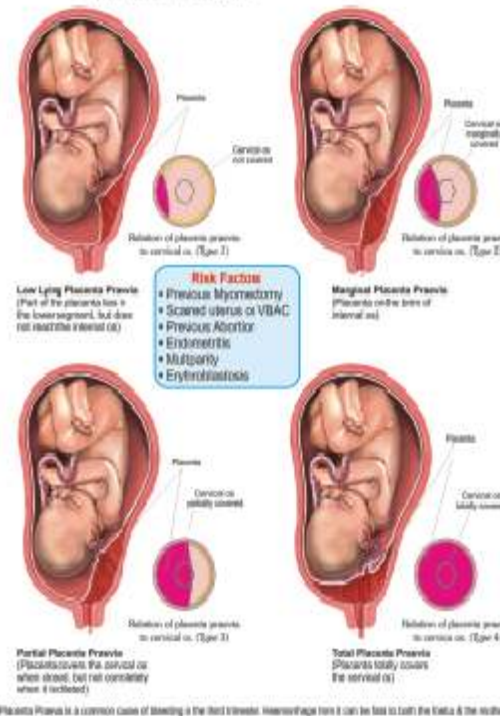
TWIN PREGNANCY



INC13 : Placenta Praevia

PLACENTA PRAEVIA

Placenta Praevia: Abnormal implantation of Placenta in lower Uterine Segment. About 80% cases occur in multiparas. Probably increases after the age of 35.

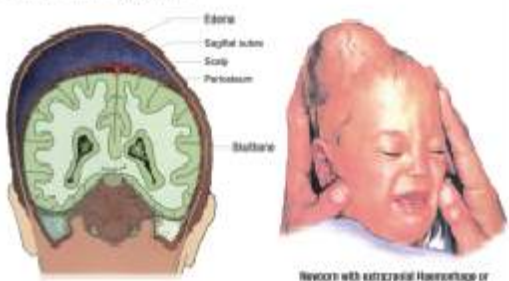


- Risk Factors**
- Previous Mysectomy
 - Scarred uterus or VBAC
 - Previous Abortion
 - Endometriosis
 - Multiparity
 - Erythroblastosis

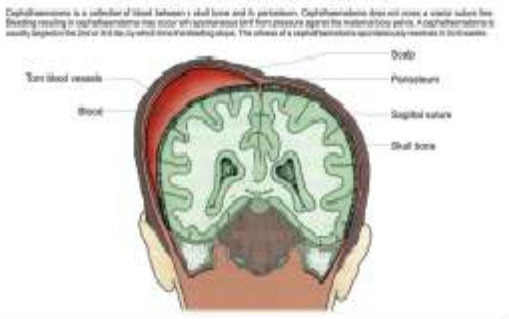
INC14 : Caput Succedaneum

CAPUT SUCCEDANEUM

Caput succedaneum is a collection of fluid, that normally functions to protect the developing fetus from external pressure. It is a collection of fluid that accumulates between the fetal scalp and the uterine wall. It is a collection of fluid that accumulates between the fetal scalp and the uterine wall.



CEPHALHAEMATOMA



INC15 : Congenital Malformations of New Born

CONGENITAL MALFORMATIONS OF NEW BORN

Total Anomalous Pulmonary Venous Return

Encephaloceles

Frontal Encephalocele

Occipital Encephalocele

Lymphatic Malformation (LM)

Central Lymphatic Malformation

INC16 : Cleft Lip-Palate

CLEFT LIP-PALATE

Unilateral cleft lip (partial)

Unilateral cleft of primary palate (complete, involving lip and alveolar ridge)

Bilateral cleft lip

Partial cleft of palate

Complete cleft of secondary palate and unilateral cleft of primary palate

Cleft lip and palate are congenital anomalies resulting in structural facial malformation. The lip and palate, fail to close in approximately 1 in every 1,000 neonates. Cleft lip (with or without cleft palate) occurs more frequently in males, and isolated cleft palate is more frequent in females. Combination of cleft lip and palate occurs in approximately 50% of cases; cleft lip alone occurs in about 25% of cases, and cleft palate alone occurs in about 25% of cases.

IMPORTANT NURSING CHARTS
 A set of 20 charts
 Laminated Art, Size 51 x 66 cm (Available in English only)

INC17 : Spina Bifida

SPINA BIFIDA

Spina bifida is a type of birth defect called neural tube defect. In spina bifida, a baby's spine does not close completely during early pregnancy. Spina bifida can begin to develop in a fetus even before the mother knows she is pregnant.

Myelomeningocele

- A cyst made up of meninges, which surround the spinal cord, protrudes through the open part of the spine.
- Spinal fluid can leak out.
- The cyst can be surgically removed.
- Development after surgery is usually normal.

Spina bifida with neural cocleus

- Thinned areas form.
- No symptoms. Defects in the skin or a growth of hair over malformed vertebrae.
- Small defect in one or more vertebrae.
- Spinal cord and nerves are normal.
- Usually no orthopedics.

Myelomeningocele

- This is the most severe form of spina bifida.
- A cyst made up of meninges, nerve roots, and sometimes the spinal cord itself comes through the open spot.
- Substantal problems including paralysis and incontinence of bowel and bladder may occur. These symptoms are frequently not cured by surgery.
- Myelomeningocele is frequently accompanied by changes in the spinal cord that prevent cerebrospinal fluid from circulating normally around the brain. These changes may require additional surgery to prevent increased pressure in the spinal fluid, which goes into the brain cavity, thus leading to a serious condition called "hydrocephalus." This causes pressure on the brain itself.

INC18 : Hydrocephalus

HYDROCEPHALUS

Hydrocephalus is a condition of excess production, flow, or absorption of cerebrospinal fluid (CSF). It is characterized by an abnormal increase in CSF volume within the skull and enlarged ventricles in the brain. CSF is normally reabsorbed by the choroid plexus.

Clinical appearance in advanced hydrocephalus

Pathophysiology and Pathology

1. Hypertension during pregnancy
 - a. May be pre-eclampsia, toxemia, or preeclampsia.
 - b. Causes of the rigidity of veins.
 - c. Closely associated defects.
2. Risk factors for acquired conditions, such as infections, trauma, spontaneous intracranial bleeding, and neoplasms.
3. Communicating hydrocephalus
 - a. Failure of absorption system.
 - b. Excessive production of CSF.
 - c. The ventricular system becomes greatly dilated.

Normal Mechanisms in Infants

1. Excessive fluid growth.
2. Delayed closure of the anterior fontanelle.
3. Fontanelles close and absorbed above the surface of the skull.
4. Signs of increased intracranial pressure.
5. Later physical signs
 - a. Fontanelle becomes prominent.
 - b. Scaly rashes along with prominent scalp veins.
 - c. Eyelids and eyelids may be closed upward, opening the sclera above the iris.
 - d. When eyelids close upward, causing "sunset eyes."
 - e. Strabismus, hydrostrabismus, or strabismus with XNIX.
 - f. Difficulty holding head up.
 - g. Progressive mental developmental lag.

Section through brain showing marked dilation of lateral and 3rd ventricles

Diagnosis Evaluation

1. Ophthalmology may reveal papilloedema.
2. CT scan in the diagnostic test is done.
3. Skull X-ray shows widening of the fontanelle and suture and position of intracranial bone.
4. Infant's head circumference, including abnormal fontanelles.

Management

1. Hydrocephalus can be treated through a variety of surgical procedures.
2. Intracranial fluids for removal done in communicating hydrocephalus.
3. Subtotal skull resect (partial).

Prognosis

1. Many children experience normal motor and intellectual development.
2. The severity of hydrocephalus is directly proportional to the extent between onset of hydrocephalus and the time of diagnosis.
3. Approximately two-thirds of patients will die at any time age if they do not receive surgical treatment.

Potential brain sites in children with hydrocephalus

1. Abnormal dilation of 3rd ventricle
2. Central expansion of 3rd ventricle
3. Abnormal expansion of 4th ventricle
4. Anterior expansion (posteriorly)

INC19 : Anencephalus

ANENCEPHALUS

Clinical Appearance in Anencephaly

DEFINITION

A neural tube defect occurring prior to 28 days which prevents the closure of the anterior neuropore resulting in a large defect of the skullcap, meninges and brain.

EPIDEMIOLOGY

INCIDENCE 1:100 live births

RISK FACTORS

1. Occurrence rate is 4% and increases to 10% if a couple has had 2 previous anencephalic births.
2. Maternal age related deficiency.
3. Folate acid deficiency.

ASSOCIATED ANOMALIES

1. Atrial septal defects (due to shallow pericardial fluid).
2. 100% have ears, chest problems, congenital heart disease.

PATHOPHYSIOLOGY

1. Soft, cartilaginous skull that the skull cap (protruding) are absent.
2. Absence of the cerebellum.
3. Absence of the brainstem usually present.
4. Hypoplastic pituitary gland.
5. The remaining brain remaining masses of perinatal connective tissue, vascular, and meninges.

CLINICAL FEATURES

1. Obvious appearance a large defect in the roof of the skull (skullcap), meninges, and brain exposure is self-evident since most of normal brain connective with the meninges continuous with the site.
2. The cranial defect may indicate edema in the central region exposing the brain and followed when later postnatally.
3. The skull plates may protrude due to inadequately reabsorbed CSF.

INVESTIGATIONS

1. Prenatal Diagnosis
 - a. Elevated maternal serum alpha-fetoprotein (AFP).
 - b. Level of chorionic gonadotropin (CG) and amniocentesis.
2. Postnatal - Elevated AFP and amniocentesis.

MANAGEMENT

1. The treatment of anencephaly are difficult as the child cannot sleep at all.

Development of Neural Tube

INC20 : Breast Self Examination

BREAST SELF EXAMINATION

Look in the mirror for visual signs and consult a doctor as soon as possible if you notice any of these changes. The woman lies on her back for breast self-examination. She places all her fingers to feel for lumps (either superficial or deeper in tissue) or changes.

Visual Inspection

1. Inspect for changes in size, shape, or color.
2. Inspect for changes in the position of the areola.
3. Inspect for changes in the position of the nipple.
4. Inspect for changes in the position of the breast.

Palpation with Fingers

1. Palpate for lumps, thickening, or changes in texture.
2. Palpate for changes in the position of the areola.
3. Palpate for changes in the position of the nipple.
4. Palpate for changes in the position of the breast.

Palpation with Palms

1. Palpate for lumps, thickening, or changes in texture.
2. Palpate for changes in the position of the areola.
3. Palpate for changes in the position of the nipple.
4. Palpate for changes in the position of the breast.

Palpation with Fists

1. Palpate for lumps, thickening, or changes in texture.
2. Palpate for changes in the position of the areola.
3. Palpate for changes in the position of the nipple.
4. Palpate for changes in the position of the breast.

Visual Inspection

1. Inspect for changes in size, shape, or color.
2. Inspect for changes in the position of the areola.
3. Inspect for changes in the position of the nipple.
4. Inspect for changes in the position of the breast.

Palpation with Fingers

1. Palpate for lumps, thickening, or changes in texture.
2. Palpate for changes in the position of the areola.
3. Palpate for changes in the position of the nipple.
4. Palpate for changes in the position of the breast.

Palpation with Palms

1. Palpate for lumps, thickening, or changes in texture.
2. Palpate for changes in the position of the areola.
3. Palpate for changes in the position of the nipple.
4. Palpate for changes in the position of the breast.

Palpation with Fists

1. Palpate for lumps, thickening, or changes in texture.
2. Palpate for changes in the position of the areola.
3. Palpate for changes in the position of the nipple.
4. Palpate for changes in the position of the breast.

Visual Inspection

1. Inspect for changes in size, shape, or color.
2. Inspect for changes in the position of the areola.
3. Inspect for changes in the position of the nipple.
4. Inspect for changes in the position of the breast.

Palpation with Fingers

1. Palpate for lumps, thickening, or changes in texture.
2. Palpate for changes in the position of the areola.
3. Palpate for changes in the position of the nipple.
4. Palpate for changes in the position of the breast.

Palpation with Palms

1. Palpate for lumps, thickening, or changes in texture.
2. Palpate for changes in the position of the areola.
3. Palpate for changes in the position of the nipple.
4. Palpate for changes in the position of the breast.

Palpation with Fists

1. Palpate for lumps, thickening, or changes in texture.
2. Palpate for changes in the position of the areola.
3. Palpate for changes in the position of the nipple.
4. Palpate for changes in the position of the breast.