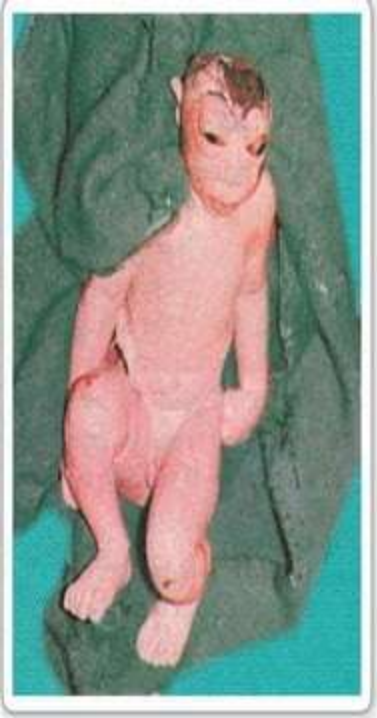

OBSTETRICS AND GYNECOLOGY

GROUP: TWO (2)

TOPIC: DYSTOCIA

LECTURER NAME: DR DAVID BREWEN CONTEH

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Content

- Definition of Dystocia
- Categories and terminologies
- Determinants of Labour
- Causes of the determinants of Labour
- Diagnosis
- Investigations
- Managements
- Complications
- Preventions

ABNORMAL LABOUR (DYSTOCIA)

- **Dystocia** literally means "difficult labor" or "dysfunctional labor"; abnormally slow labor progress. "cephalopelvic disproportion"; "failure to progress".

- **Dystocia** may be defined as failure to meet the defined milestone and time limits for normal labour and or the fetus shows signs of compromise.

- Prolonged labor is not synonymous with inefficient uterine contraction. Inefficient uterine contraction can be a cause of prolonged labor, but labor may also be prolonged due to pelvic or fetal factor.

- It arises from 3 distinct abnormalities ("3Ps") that may exist singly or in combination:

- **POWER**: Expulsive forces may be abnormal inadequate uterine contractions; inadequate voluntary maternal muscle effort during second-stage labor.
- **PASSENGER**: Fetal abnormalities of presentation, position ("asynclitism"), or development
- **PASSAGES**: Abnormalities of the maternal bony pelvis may create a contracted pelvis; soft tissue abnormalities of the reproductive tract may form an obstacle to fetal descent.

TYPES OF ABNORMAL LABOUR (DYSTOCIA)

- Poor progress in the first stage of labour
- Poor progress in the second stage of labour
- Precipitate labour
- Malpresentations
- Fetal compromise
- Trial of uterine scar
- Multiple pregnancy
- Induce labour

TERMINOLOGIES FOR POOR PROGRESS OF LABOUR

- Poor progress of labour
- Non-progress of labour
- Dysfunctional labour
- Labor dystocia
- Cephalo-pelvic disproportion
- Obstructed labour

SIGNIFICANCE

- Prolong/ Abnormal labour results in high fetal and maternal morbidity and mortality due to obstructed labour, sepsis, ruptured uterus and postpartum haemorrhage.

- **DETERMINANTS OF LABOUR (3PS')**
- Power
- Passenger
- Passage

POWER (UTERINE CONTRACTION AND MATERNAL BEARING DOWN)

- Dysfunctional uterine activity
- Inefficient uterine activity
- In-coordinate uterine activity
- Hypertonic but asynchronous uterine activity
- Inability of the maternal bearing down

THE PASSENGER (FETUS)

- **CAUSES**
- Macrosomia
- Malpresentation
- Malposition
- Congenital anomalies of the fetus like Anencephaly, Hydrocephalus, Spina bifida
- Fetal tumors like Omphalocele, Gastroschisis, cojoint twins

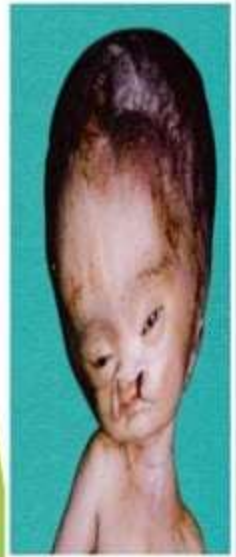


Fig. 27.4: Hydrocephalus with setting sun

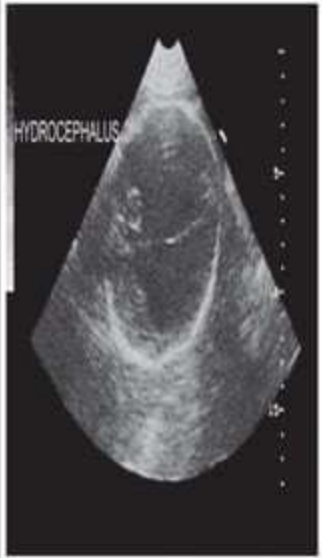


Fig. 27.4A: Sonogram showing hydrocephalus

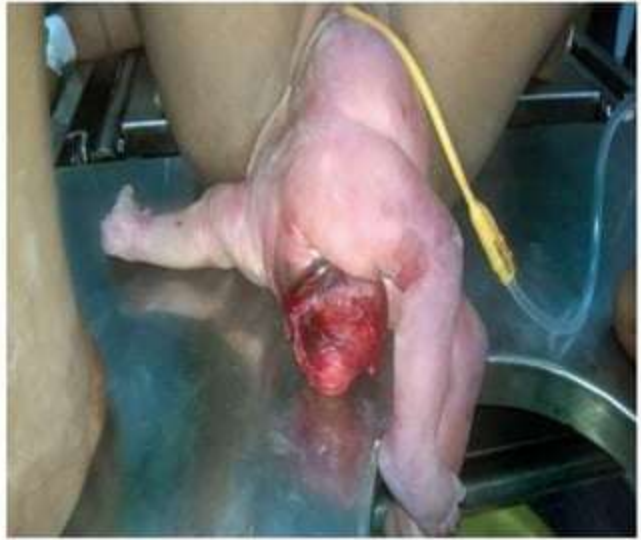


Fig. 27.8: Obstructed labor due to conjoint twins (ischiopagus with sacrococcygeal teratoma). *Courtesy:* Dept. Ob-Gyn; CNMCH, Kolkata

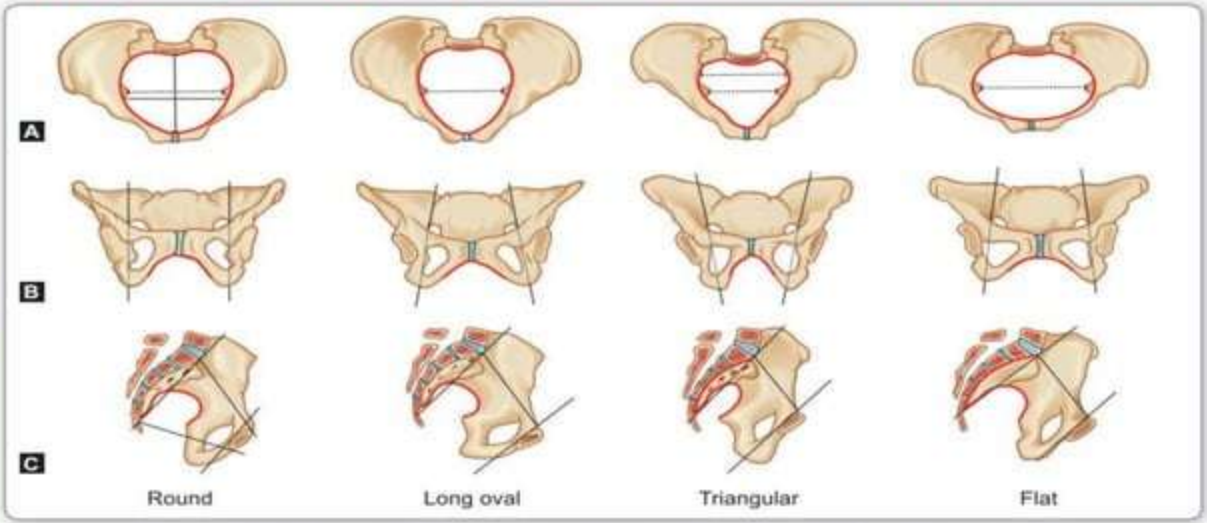
PASSAGE (PELVIC BONE)

CAUSES

- Cephalopelvic disproportion
- Contracted pelvis
- Abnormal pelvis
- Bony tumours
- Fractures
- Soft tissue tumours of muscles/ pelvic organs like Fibroid, Adenomyosiss e.t.c
- Cervical dystocia
- Developmental abnormal of genital tract

PELVIC TYPES

- Gynecoid (50%)
- Anthropoid (25%)
- Android (20%)
- Platypelloid (5%)



Figs 24.1A to C: Anatomical features of parent pelvic types: (A) Inlet; (B) Cavity; (C) Outlet

COMMON CLINICAL FINDINGS IN WOMEN WITH INEFFECTIVE LABOR

- **Inadequate cervical dilation or fetal descent:**
- Protracted labor—slow progress
- Arrested labor—no progress

- **Inadequate expulsive effort—ineffective pushing**
- Fetopelvic disproportion:
- Excessive fetal size
- Multiple pregnancy
- Epidural Analgesic
- **Inadequate pelvic capacity**
- Malpresentation or position of the fetus
- Abnormal fetal anatomy
- Ruptured membranes without labor

PATTERNS OF DYSFUNCTIONAL LABOUR IN THE FIRST STAGE

- Prolong latent phase
- Primary dysfunctional labour
- Secondary arrest

PARTOGRAPH ANALYSING THE CERVICOGRAM

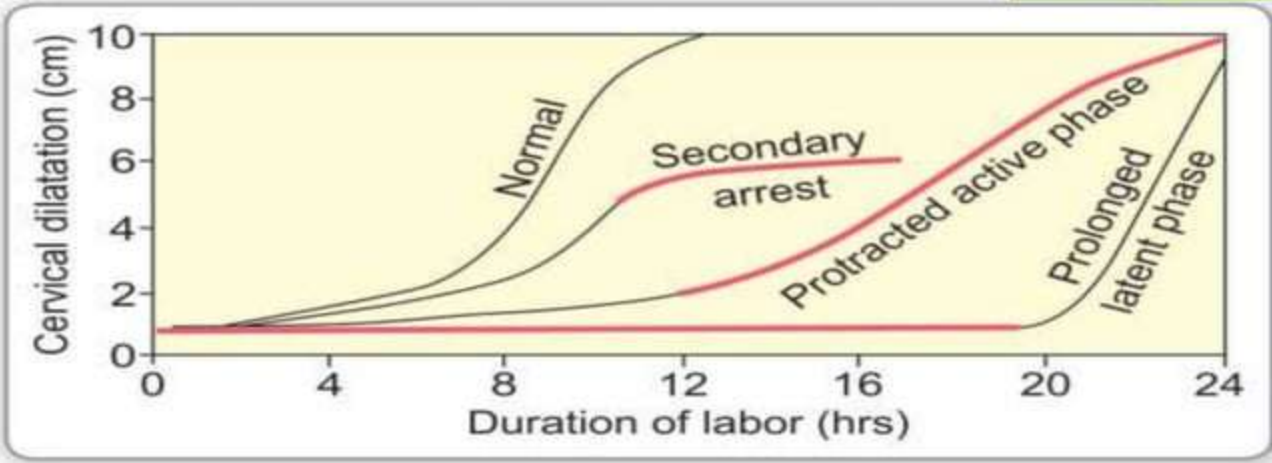


Fig. 27.1: Partographic analysis of labor to detect types of prolonged labor—protracted latent phase, protracted active phase and secondary arrest

PROLONG LATENT PHASE

- During latent phase changes occur in ground substance glycoprotein, collagen content and hydration state of cervix.
- These changes result in remodelling and effacement (shortening) of cervix.
- Median duration 8.6 hrs, may last upto 20 hrs in nullipara and 14 hrs in multipara
- Painful contractions

CAUSES

- Unripe cervix
- Ineffective, inadequate uterine contractions
- Abnormal fetal position
- Unrecognized pelvic disproportion
- Dysfunctional labour

PRIMARY DYSFUNCTIONAL LABOUR

- It is the prolonged active phase of first stage.
- Slow dilation of active phase occurs in 25% primiparae and 10% multipara
- It is defined as rate of cervical dilation <1.2cm/hr in primipara and <1.5cm/hr in multipara
- Causes: Poor and incoordinate uterine contractions, malposition such as occipitoposterior position and cephalopelvic disproortion

SECONDARY ARREST

- Cessation of cervical dilation following a normal period of active phase dilation.
- It may occur in any stage of active phase. After a period of normal rate of cervical dilatation in active phase, no further dilatation occurs for a minimum time period of 2 hours.
- It results in flattening of curve in partogram over 2-4 hrs.
- It affects 6% of nullipara and 2% multipara
- Causes:
- Cephalopelvic disproportion
- Contracted pelvic
- Malposition

DIAGNOSTIC AIDS

- **PARTOGRAM:**
- Graphic illustration of patient's progress in labour as well as record of maternal and fetal observations.
- It is a valuable tool for managing intrapartum women
- Helps in identifying slow progress of labour.
- Labor is considered abnormal when cervicograph crosses the alert line and falls on zone 2 and intervention is required when it crosses the action line and falls on zone 3. Partograph can diagnose any dysfunctional labor early and help to initiate correct management

- **CERVICOGRAM:**
- Is the portion of partogram in which cervical dilation in hours is plotted against time in hours and it also shows descent of presenting part with time.

ABNORMAL LABOUR PATTERNS

TABLE 23-2. Abnormal Labor Patterns, Diagnostic Criteria, and Methods of Treatment

Labor Pattern	Diagnostic Criteria: Nulliparas	Diagnostic Criteria: Multiparas	Preferred Treatment	Exceptional Treatment
Prolongation Disorder				
Prolonged latent phase	>20 hr	>14 hr	Bed rest	Oxytocin or cesarean delivery for urgent problems
Protraction Disorders				
Protracted active-phase dilation	<1.2 cm/hr	1.5 cm/hr	Expectant and support	Cesarean delivery for CPD
Protracted descent	<1 cm/hr	<2 cm/hr		
Arrest Disorders				
Prolonged deceleration phase	>3 hr	>1 hr	Evaluate for CPD: CPD: cesarean No CPD: oxytocin	Rest if exhausted Cesarean delivery
Secondary arrest of dilation	>2 hr	>2 hr		
Arrest of descent	>1 hr	>1 hr		
Failure of descent	No descent in deceleration phase or second stage			

CPD = cephalopelvic disproportion.
Modified from Cohen, 1983.

DIAGNOSIS OF ABNORMAL LABOUR

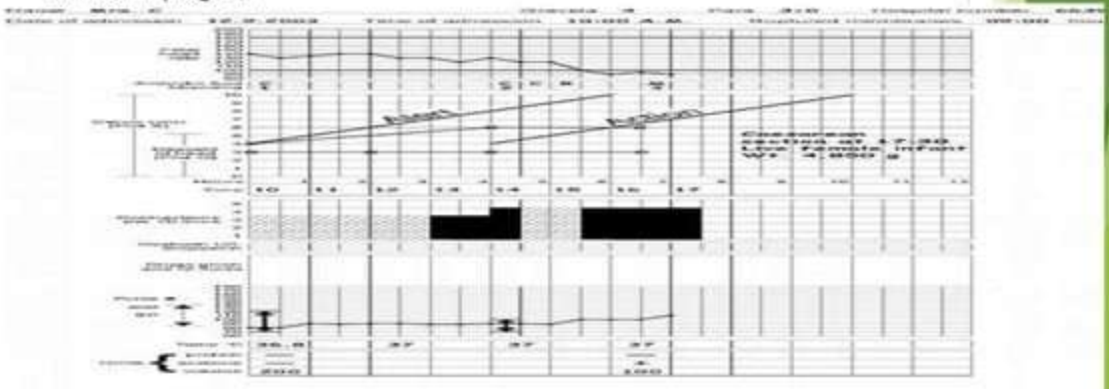
- **History:**
- How long is has got contraction and also how long she is in labour

- **Physical Examination**: Depends on type and cause of prolonged labour and actual duration of which a woman is in labour.

- **General examination**
- Features of maternal distress
- Dehydration
- Tachycardia >100/m
- Raise temperature
- Scanty urine

DIAGNOSIS

- ►**Patograph** will recognize impending obstruction of labor
- ►Careful general, abdominal and vaginal examination can detect if labor is slow or no progress



ASSESSMENT OF PROGRESS IN LABOR

- Progress dilation of cervix
- 1cm/hr in primigravida
- 1.5-2 cm/hr in multigravida
- Progressive descent of head
- Ideally the assessment of progression of labor is normally done by plotting in the **partograph**

PARTOGRAPH

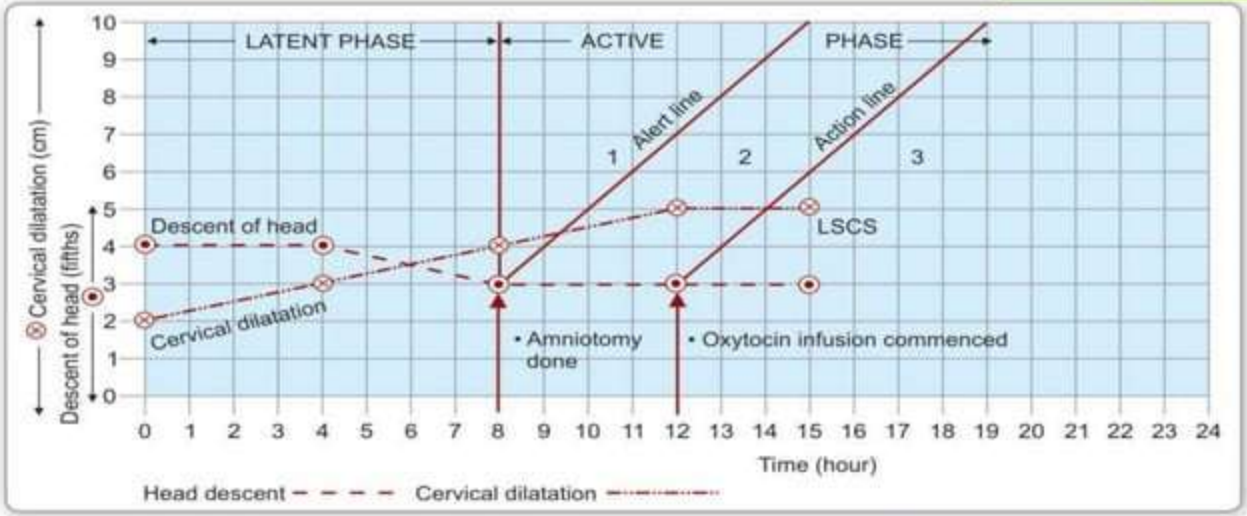


Fig. 27.2: Cervicograph showing slow (protracted) cervical dilatation and descent of the presenting part. Oxytocin infusion was started following amniotomy. Partograph showed arrest in the progress in spite of adequate contractions. Labor was terminated by cesarean section

ABDOMINAL AND VAGINA EXAMINATION :

- Prolonged labor is not a diagnosis but it is the manifestation of an abnormality, the cause of which should be detected by a thorough abdominal and vaginal examination. During vaginal examination, if a finger is accommodated in between the cervix and the head during uterine contraction pelvic adequacy can be reasonably established. Intranatal imaging (radiography, CT or MRI) is of help in determining the fetal station and position as well as pelvic shape and size.
- -The retraction ring might appear and felt between the tonic contracted upper segment of the uterus and the distended lower segment
- - Distended urinary bladder

MANAGEMENT

- The management of obstructed labour depend on the following:
- Immediate management
- General management
- Obstetrics management

- **IMMEDIATE MANAGEMENT**
- Correct maternal dehydration
- Contraction prevent by tocholytic drugs
- Blood sample send for grouping and cross matching

Cont'

- . **GENERAL MANAGEMENT**
- Assessment of vital of mother and general condition
- IV fluids to correct dehydration
- Broad spectrum antibiotics
- Catheterization
- Sodium bicarbonate infusion to correct acidosis..

- **OBSTETRIC MANAGEMENT**
- 1. Delivery of fetus:
- a. Vaginal delivery: if head is low and vaginal delivery
- is not risky, forceps extraction may be done
- b. Caesarean section:

- 2. Active management of 3rd stage of labor
- 3. Continuous bladder drainage for 2-3 days to prevent any urogenital fistula

LAB INVESTIGATION

- FBC
- Urinalysis and Electrolyte
- ABG
- Abdominal USS

MANAGEMENT OF PROLONGED LATENT PHASE

- Reassurance
- Adequate analgesia
- Careful consideration before embarking on active management interventions e.g use of prostaglandins for cervical ripening.

MANAGEMENT OF PRIMARY DYSFUNCTIONAL LABOUR

- Optimization of maternal condition by adequate hydration, and pain relief. In 40% of woman progress labour improves by improving hydration.
- Provision of one to one care. (Not necessarily a midwife, but any caregiver)
- A longer time period to allow labour to progress.
- Mobilization
- Oxytocin augmentation; 70% of nullipara and 80% multipara respond
- Caeserean section

MANAGEMENT OF SECONDARY ARREST

- Careful clinical assessment is required for the following before any intervention is undertaken.
- Estimate of fetal size
- Degree of engagement (5ths)
- Position of presenting part
- Signs of obstruction (moulding)
- Fetal well being (FHS, liquor)
- Descent of presenting part with contractions.
- Frequency of contractions
- Presence of pelvic mass
- Abnormalities of bony pelvis
- After careful assessment, when oxytocin augmentation is done in 60% of nullipara and 70% of multipara improve their progression but CS rate is 10 times increased.

COMPLICATIONS OF ABNORMAL LABOUR

- **MATERNAL COMPLICATIONS**

- Obstructed labour
- Sepsis
- Shock
- Ruptured uterus
- Increased risk of operative delivery
- Increase risk of anaesthesia
- Increase risk of PPH
- Vesicovaginal fistula (Following Obstructed labour)
- Maternal death

COMPLICATION CONT'.

- **FETAL COMPLICATIONS**

- Birth asphyxia
- Still birth
- Neonatal sepsis
- Cephalheamatoma
- Skull fractures
- Metabolic Acidosis

PREVENTION

- Proper assessment of pregnant woman during ANC
- Regular ANC visit
- Proper assessment in the labour to detect the cause if any
- Partograph have to strictly followed
- Prompt follow appropriate treatment to solve the problem

REFERENCES

Cunningham FG, Leveno KJ, Bloom SL, Spong CY, et al (eds).William's Obstetrics 25th edition; 2018; chapter 23 Abnormal Labor

Dc Dutta's textbook of Obstetrics 8th Editions

THANK YOU ALL FOR YOUR ATTENTION