

* PBL ②

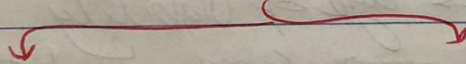
- Gestational period [weeks, days] → the pregnancy period, starts from the last period. (36-40 weeks)

- Premature, [Neonates → less than 1 month]

↓
their gestational period less than 37 weeks

- Each day ~~is~~ during pregnancy is important for the baby, such as increasing their no. of cells

prematurity



extremely premature



under the 28 weeks of gestational

→ very preterm

→ late preterm

stages during the pregnancy :-



Embryonic stage

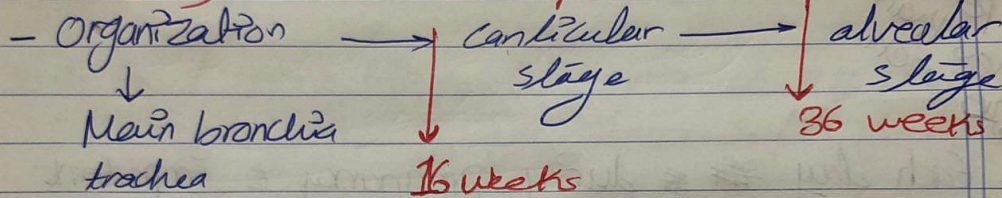


fetal stage

- First 28 days of the baby is very important. Heart has many complications, highest m.o. of period heart has mortality

• NICU. → the babies that are at risk
 ↓
 for the baby to give them the good protection

• Lung babies development •



← Before the 16 weeks the baby will die. No blood air barrier.

can survive ↓
 * 24 weeks → age of viability
 * (22-24) weeks → some contrivances can deal with them so they can survive.
 → they have blood air membrane.

- Respiratory rate of the babies are higher than our respiratory rate

• Surfactant → lipoprotein

↓
 at 25 weeks start its synthesis

↓
 Mostly lipid protein A, B, C, D.
 → hydrophilic
 → hydrophobic

surfactant → from the pneumocyte type 2

↓
secreted inside the alveoli
→ decreased the surface tension
→ prevented the collapse during the end of exhalation.

• Babies that are born without surfactant
the babies can take birth but
can't exhale due to increase the pressure
inside the lung to zero, that will
be difficult to exhale the air

↓
high work of breathing
is needed to open the
alveoli

* Transformation from fetal to the baby life:-
adult

□ Placenta does the gases exchange
Ventilation uses

↓ persistent fetal circulation
→ through clamping the umbilical vein
to prevent fetal circulation.
by the help of the catecholamines that
are going up due to the stress.

• Respiratory rate to the babies (40-60)

↓
Must be sufficient
to give them the good
amount of O₂ and
get rid of the CO₂

↓
• Any disruption of this balance
will lead to respiratory
distress syndrome.

↓
Intrinsic
lung problems

↓
Mat-lung problems
- Abdominal pressure
- Anemia
- Acidosis

↙
In this lecture
we're going to talk
about -

↓
Respiratory distress syndrome (RDS) → No surfactant

- ↓
the most risk factor the
- gestational period
 - Diabetes mellitus due to the affected on the pneumocyte 2

RDS → presented shortly after birth (6 hrs)

↓ the lung can't be seen in the x-ray
↓ at very severe case

• RDS → low Compliance → can't take deep inspiration → low surfactant.

• retraction of the chest wall

↓
chest wall
has very high
Compliance

(BUT)

the lung is
stiff

• Nasal firing → Contract of the Nasal Muscles.

→ Airway ~~is~~ resistance in the newborn depend on the Nasal resistance, so to decrease the resistance we need to increase the diameter of the Nasal.

(PEP) → Close the epiglottis (partially close)
to leave little amount
of the air in the lung
to make good inspiration
after expiration.

* Cyanosis → Bluish colour

5mg of hemoglobin not oxygenated

* RDS → was called hyaline membrane

* RDS → leading to Acidosis

↓ put the babies on the ventilation.
Respiratory Metabolic

* Gives the corticosteroid to the mother to prevent RDS

* Make the gestational period longer
(prolong the pregnancy)

* Babies need 24 hrs to get the benefit from the corticosteroid and affect the pneumocyte 2

Secondary RDS → due to late a drug that has been affect on the pneumocyte 2 maturation.

Intratracheal tube → we give the surfactant
to enter the alveoli

(animal sources) • From the cow's

• giving surfactant only for
the severe RDS

↓
has many side effects.

RDS → These babies can't balance their
temperature.