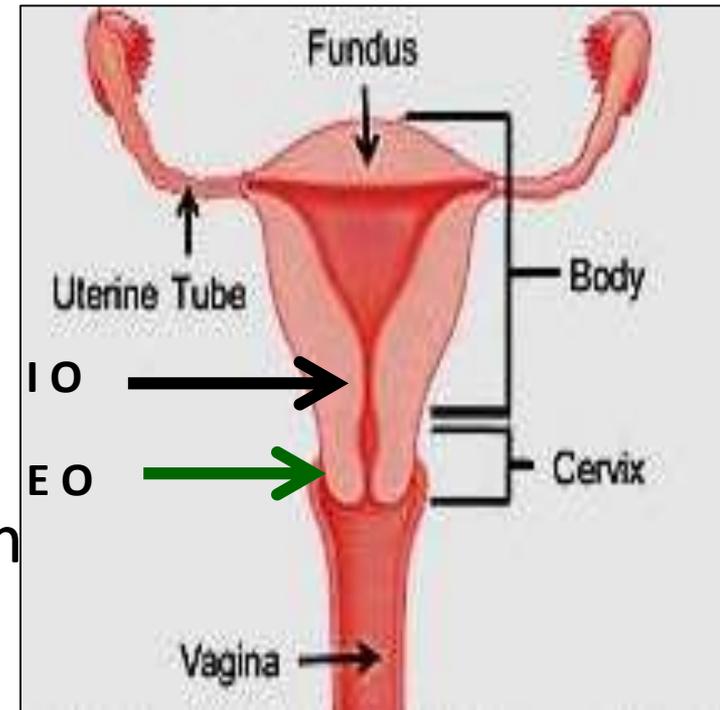


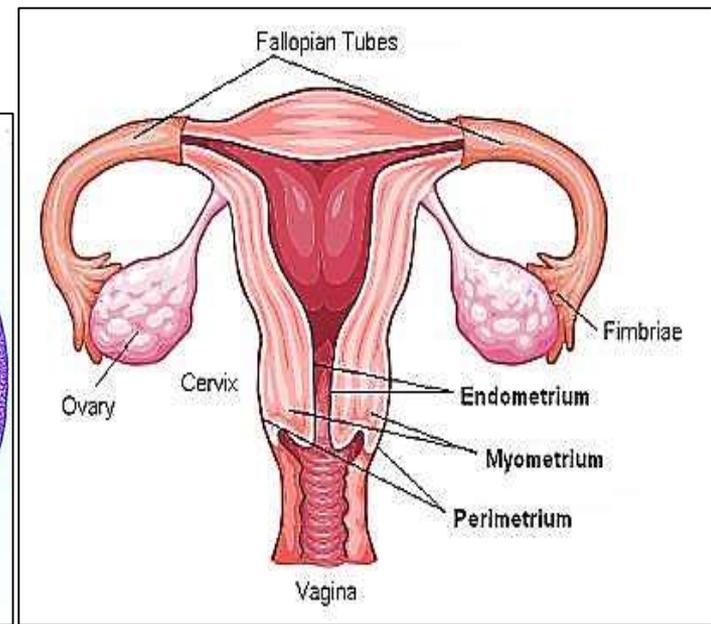
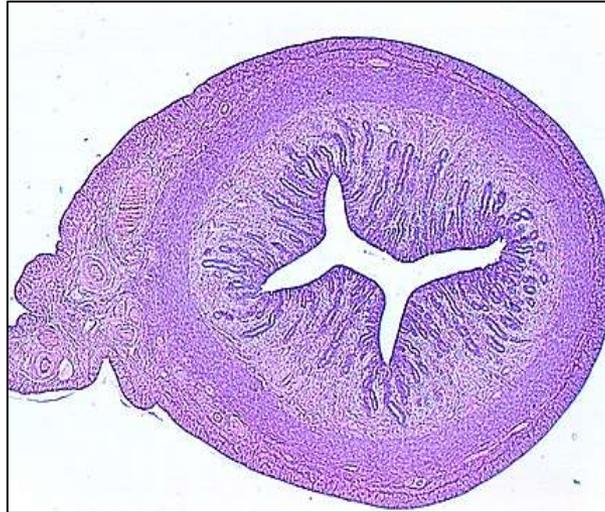
The uterus

- Pear shaped organ
- **Fundus**: dome shaped region
- **Body**: Major portion of the uterus
- **Cervix**: cylindrical part extends from the internal os & ends at external os



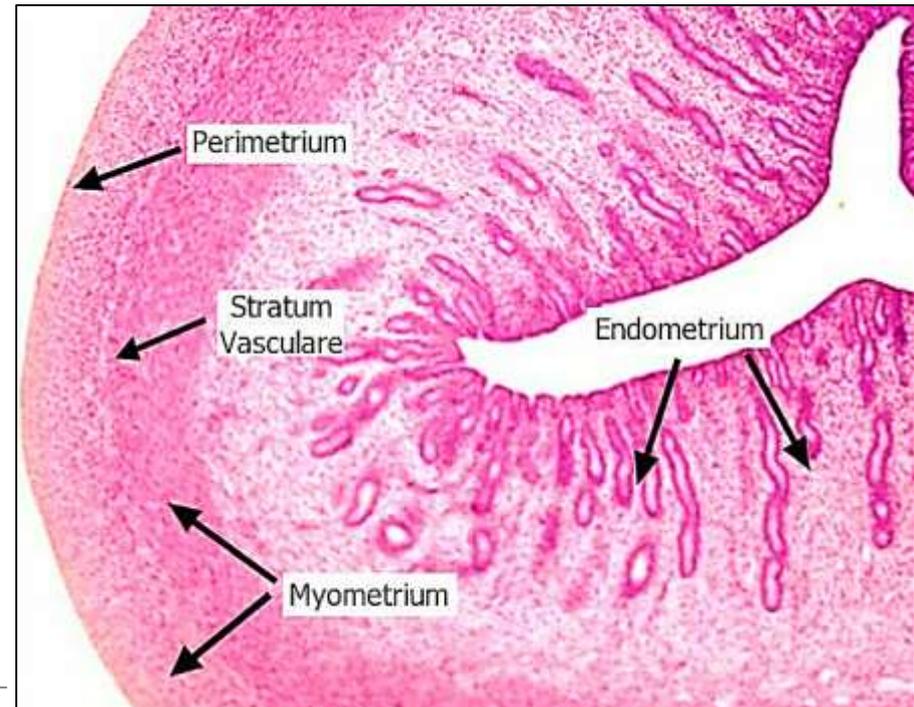
The uterine wall consists of 3 layers:

- Endometrium
- Myometrium
- Perimetrium



➤ Endometrium (mucosa)

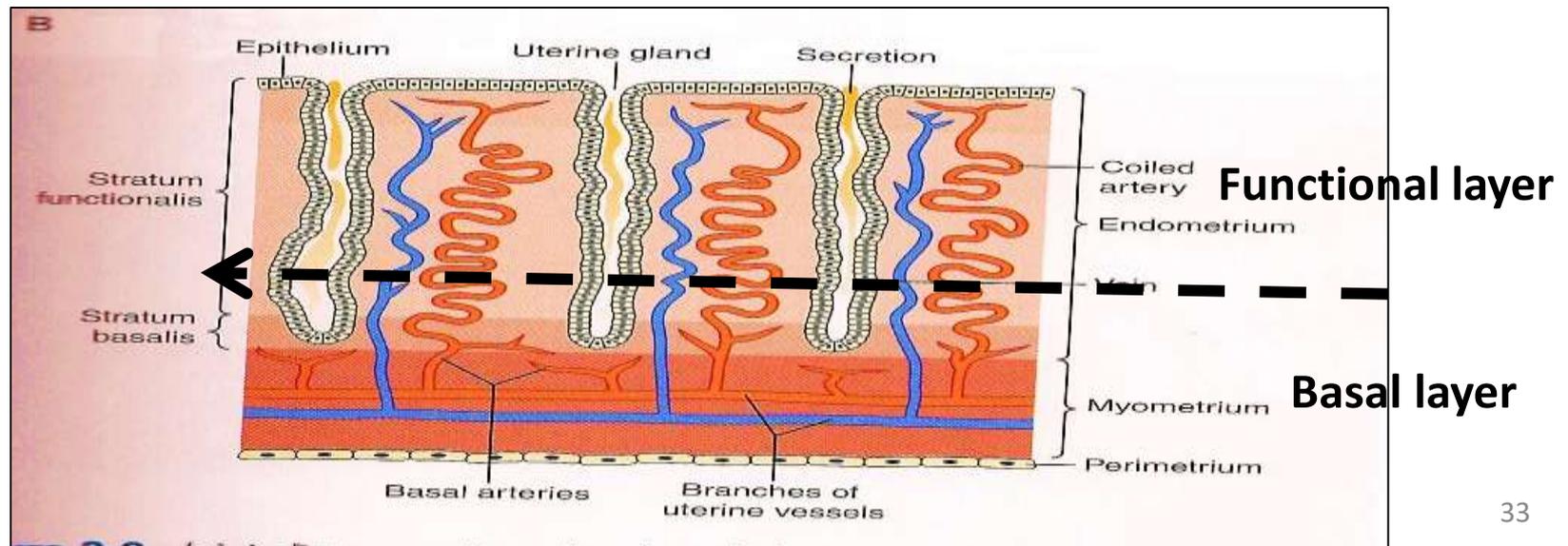
Lined with simple columnar epithelium partially ciliated & contain simple tubular glands (endometrial glands)

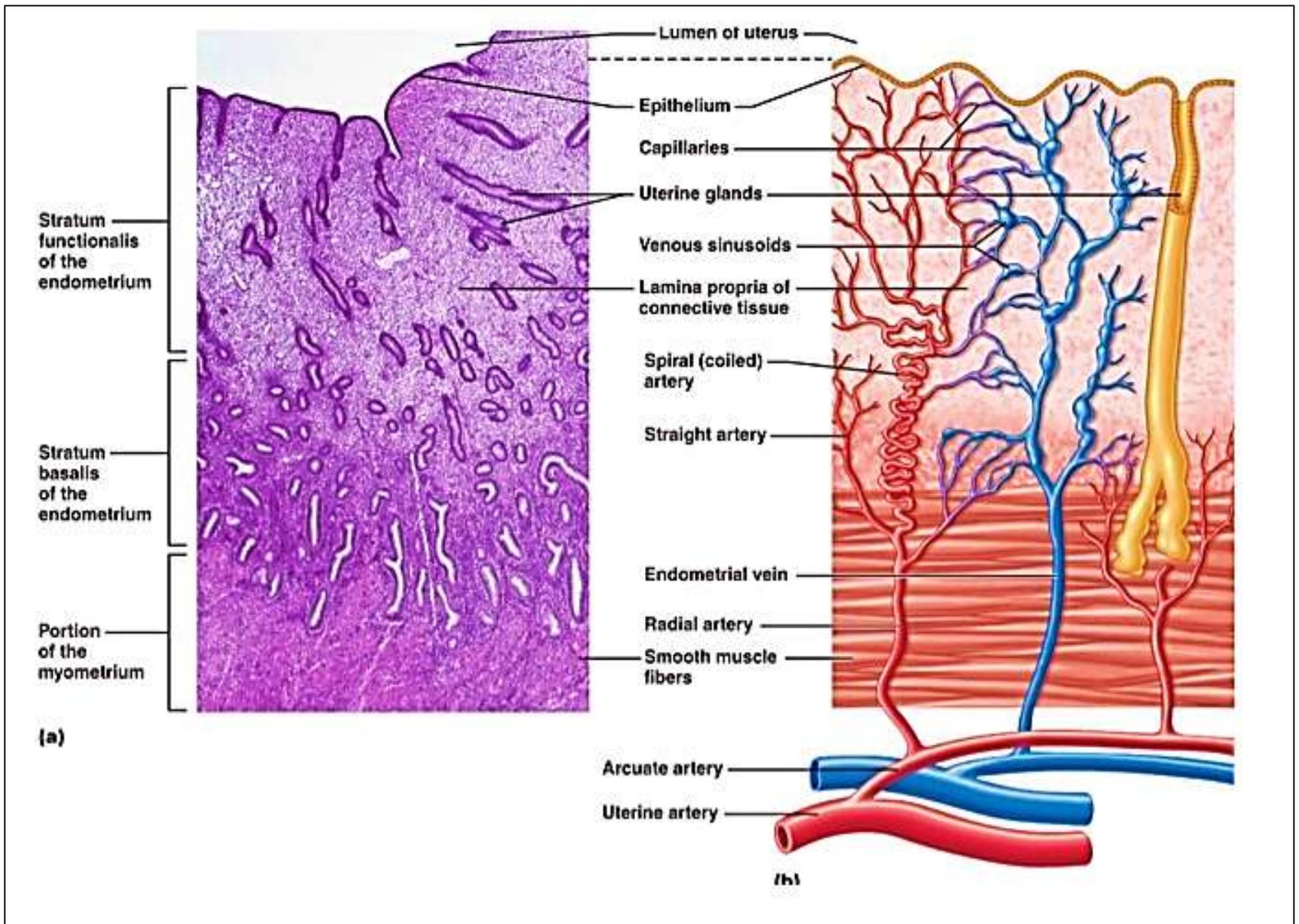


Endometrium composed of 2 layers:

Functional layer superficial layer (spiral /coiled arteries) undergoes cyclic changes during menstruation (i.e. proliferative & secretory uterine phases)

Basal layer: deeper & adjacent to myometrium. It remains mostly unchanged during menstruation & consider as the reserve part (straight arteries)





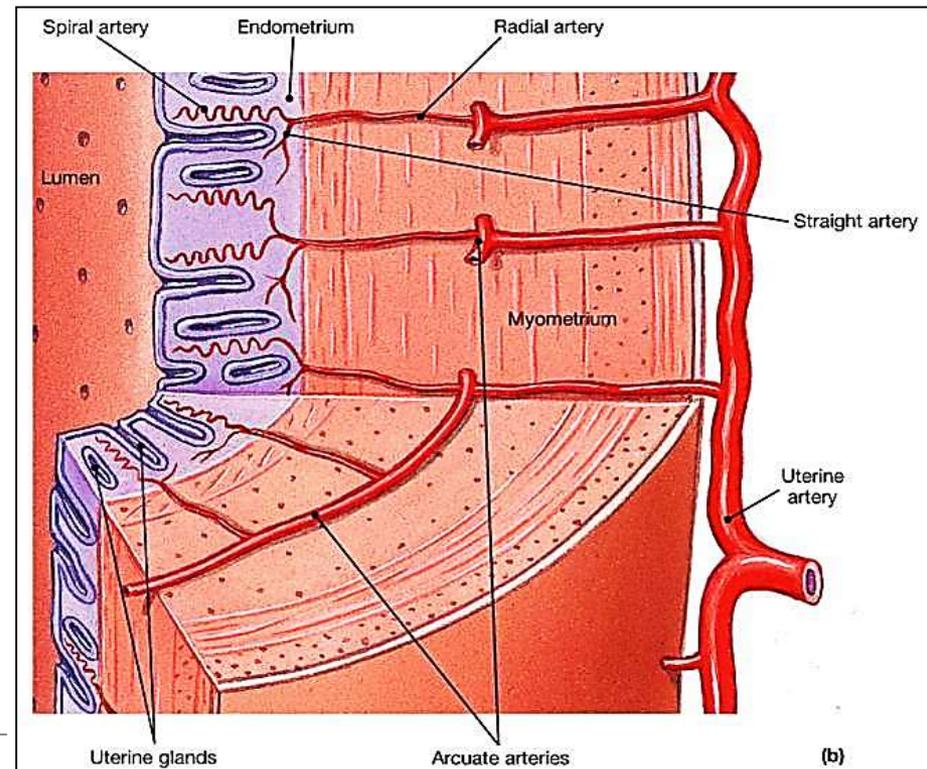
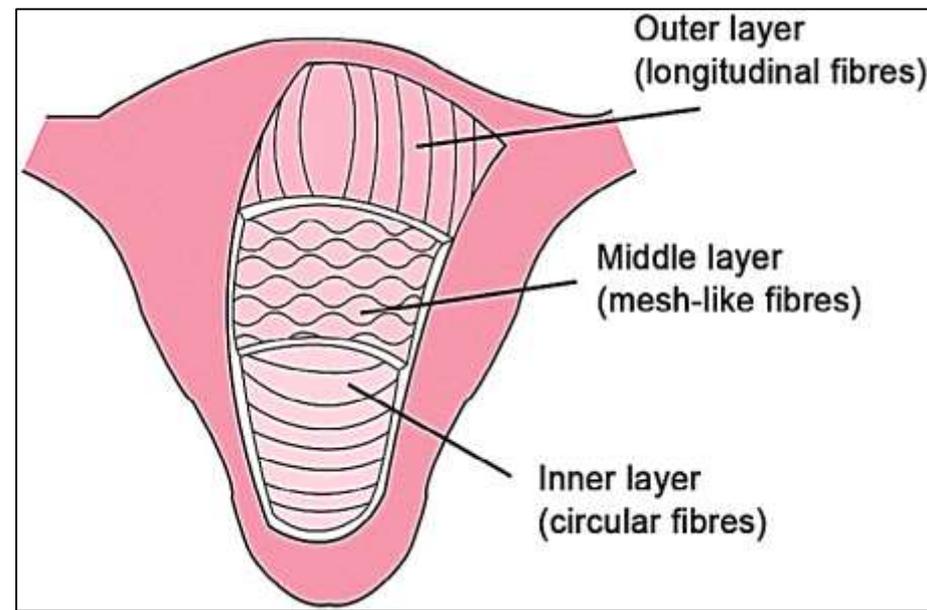
Blood supply of the wall of the uterus

➤ Myometrium:

Is the thickest layer,
Composed 3 layers of smooth muscles:

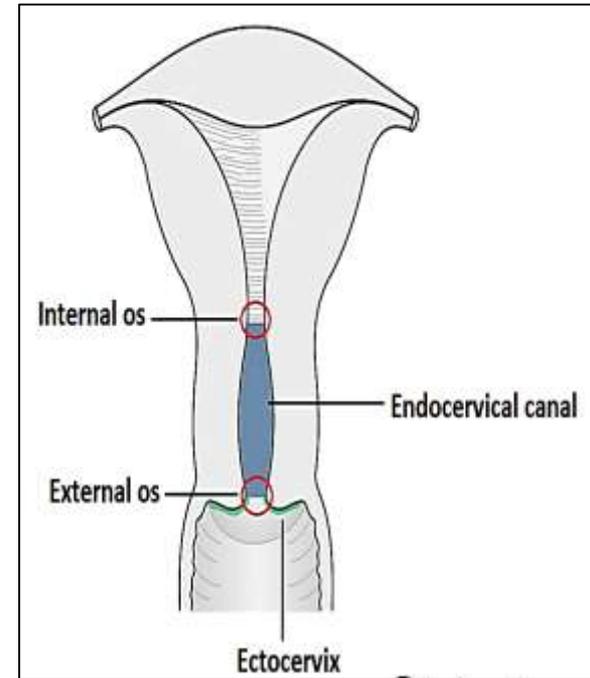
- outer longitudinal
- Middle thick, mesh like fibers, richly vascularized
- Inner circular
- Uterine muscles during pregnancy undergoes hyperplasia & hypertrophy

➤ Perimetrium: CT & peritoneal mesothelium



Cervix of uterus

- Is the lower cylindrical part of the uterus (endocervix)
- Its mucosa lined with **simple columnar mucus secreting epithelium** & contain **branched cervical glands**
- external os: junction between cervix & vagina, lined e **stratified squamous epithelium**



Cervical glands

1- Branched mucus glands

2- Not significantly affected by Menstruation

3- cervical secretions are **watery** at time of ovulation to allow the passage of sperms to uterus

4- Proliferate during pregnancy & secrete **viscid mucus** to prevent passage of microorganisms

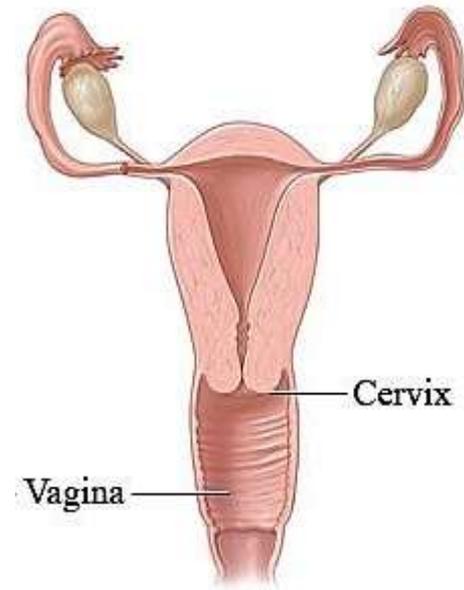
5- Cervical dilatation (ripening) before labor is due to intense collagenolysis, which promote its softening & normal labor



The vagina

It is a fibro-muscular canal

Wall consists of 3 layers: Mucosa, muscularis, adventitia



Epithelium : stratified squamous epith.

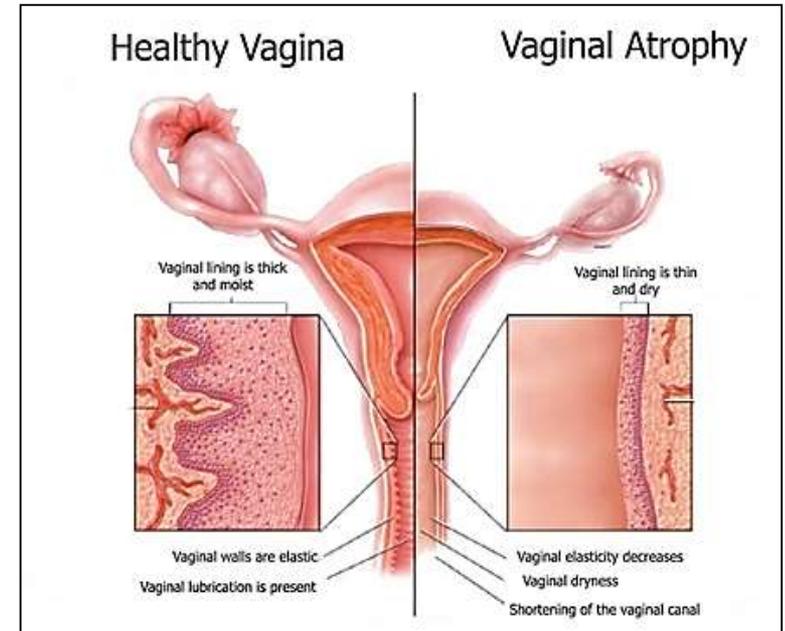
- The epithelium synthesizes & accumulates ↑ glycogen (estrogen effect)
- Normal bacteria in vaginal lumen
→ glycogen → lactic acid
→ acidic pH of vagina (protective barrier)



Musculosa : formed of IC & OL smooth ms. fibers

Adventitia: dense CT rich in elastic fibers

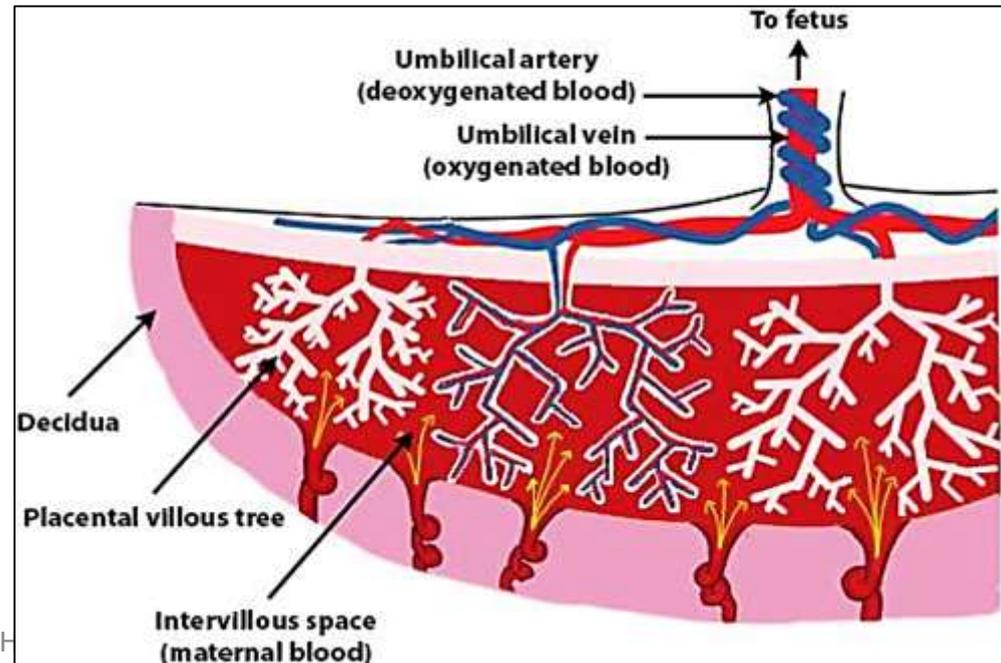
- The elasticity of the vagina is due to large number of elastic fibers in mucosa & adventitia



- The mucus in vagina comes from cervical glands . The vagina contains **No glands**

The placenta

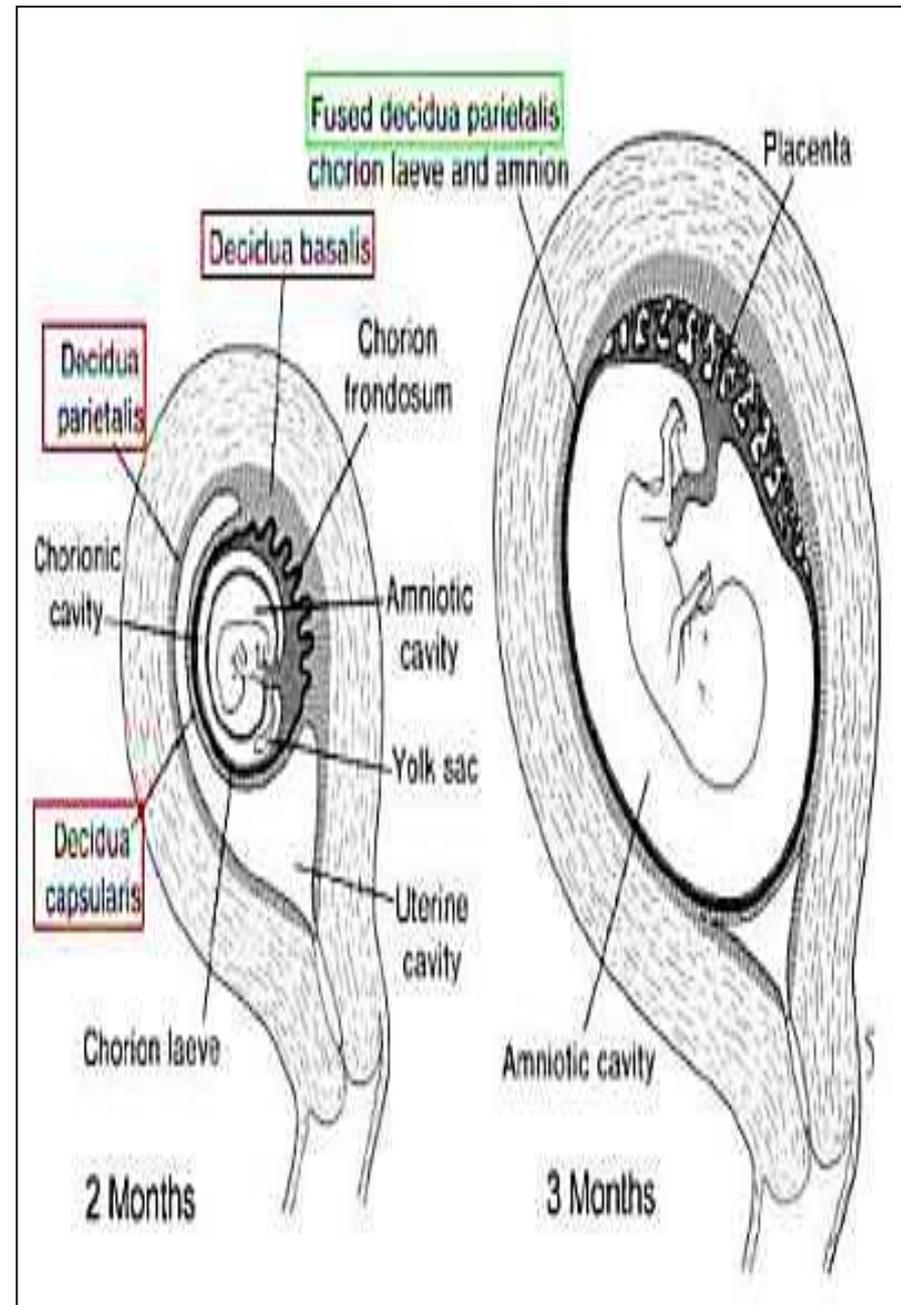
- Is disc shaped endocrine organ, forms during implantation
- It consists of 2 parts: maternal & fetal
- Function :
 - Is the site of exchange between the mother & fetus
 - 1. Nutrition & respiration
 - 2. Removal of waste
 - 3. Secretion of hormones

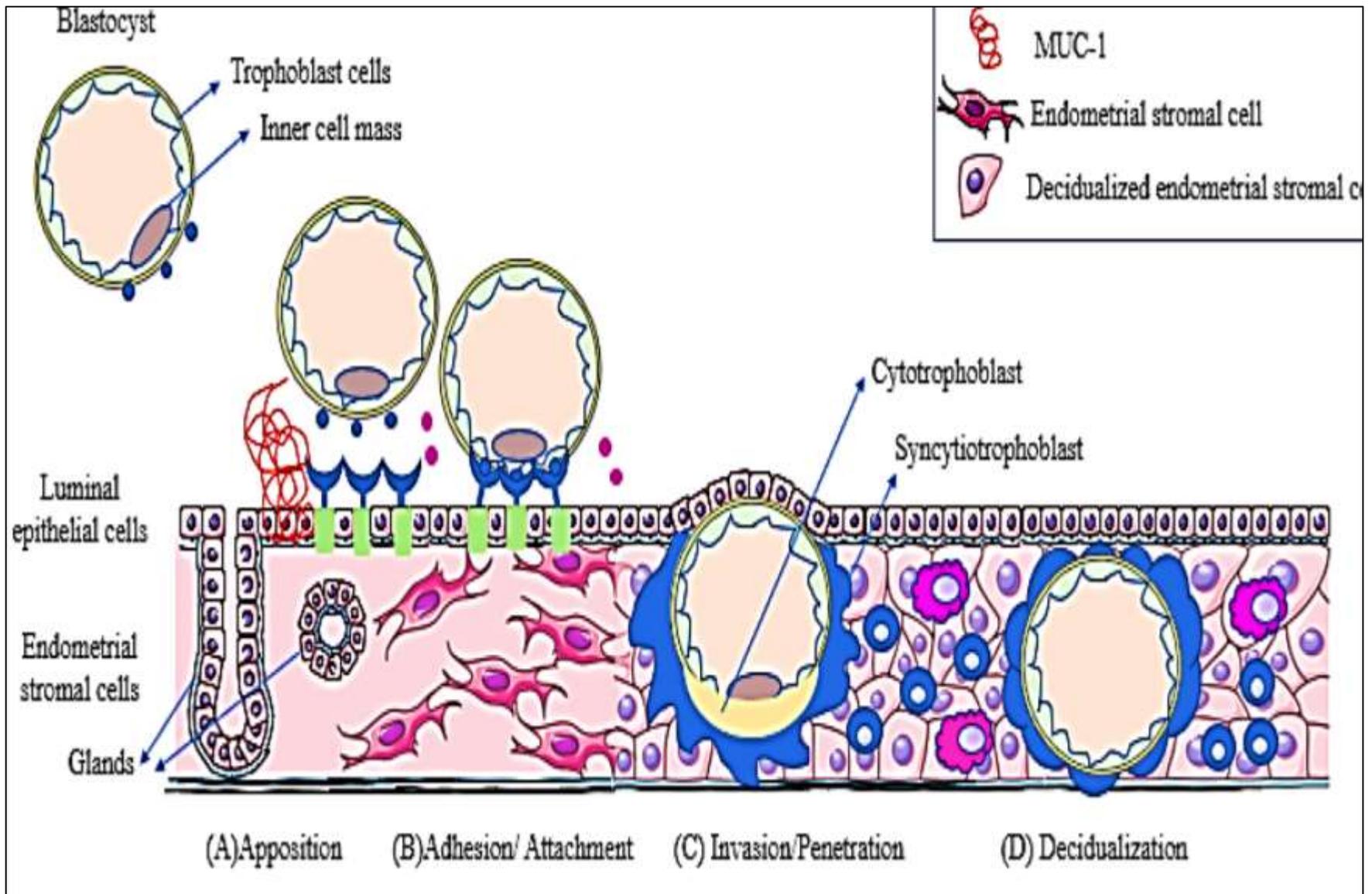


A- maternal part (**decidua basalis**):

The decidua (endometrium) is divided into:

- **Decidua basalis:** between embryo & myometrium (most imp)
- **Decidua capsularis:** between embryo & lumen of uterus
- **Decidua parietalis :** endometrium lining the rest of uterine cavity

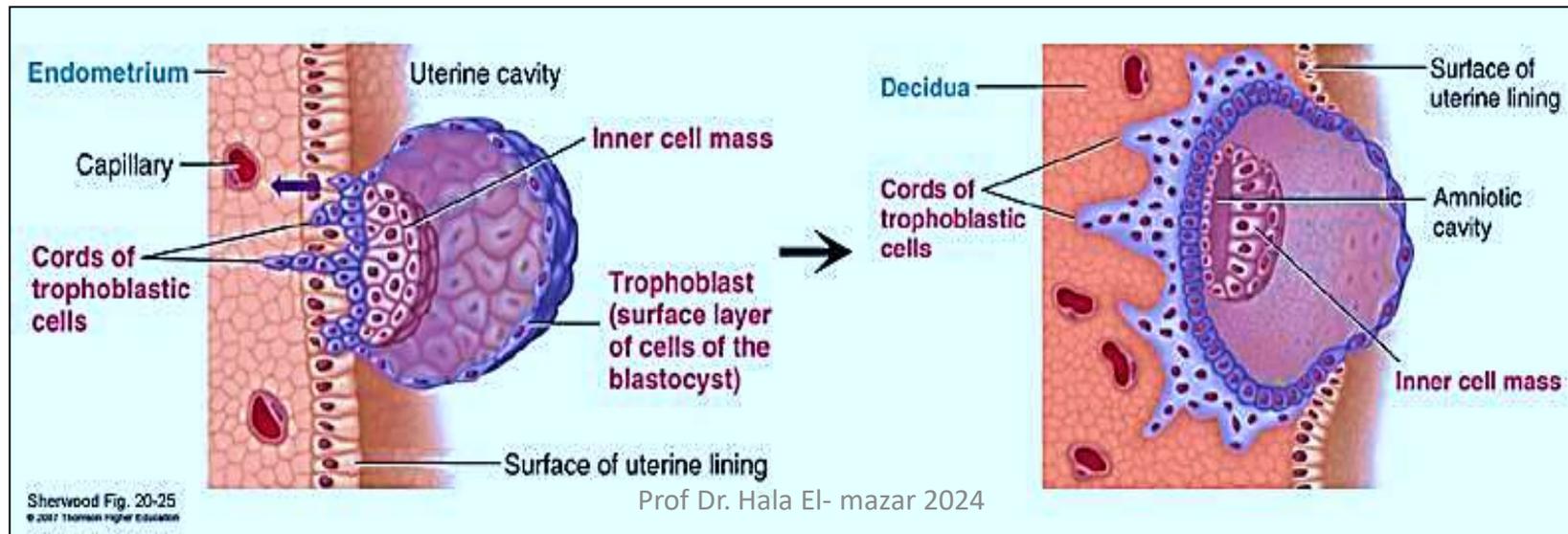




Implantation of blastocyst

B- fetal part(**chorionic villi**):

- Finger- like projections from the outer wall of blastocyst (**Trophoblast**) allow the embryo to invade the uterine wall
- By day 9 after fertilization the embryo is completely embedded in the endometrium
- The villi branch & embed in the decidua basalis
- The villi are separated by inter-villous spaces which contain maternal blood



Each chorionic villus consists of:

1- Central core: contain fetal BV

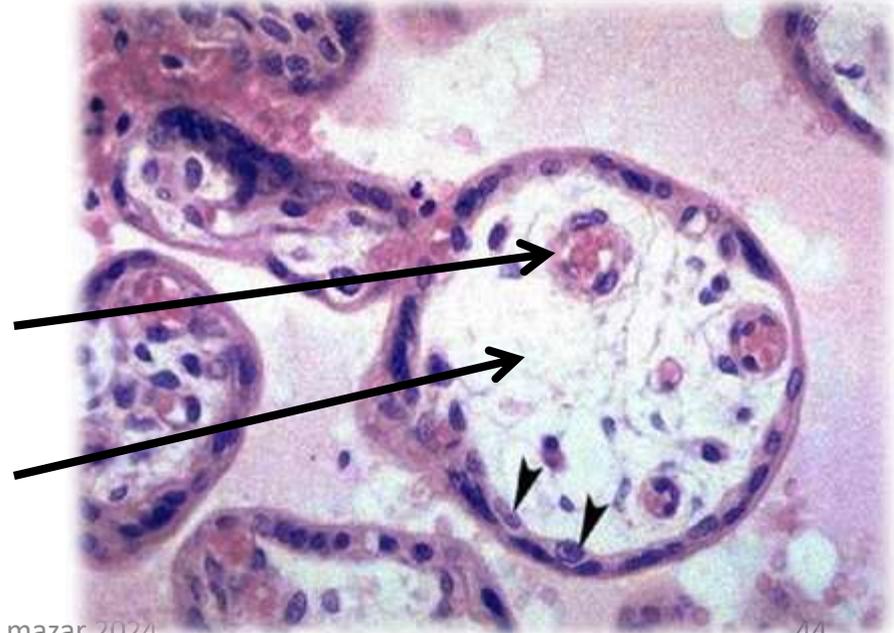
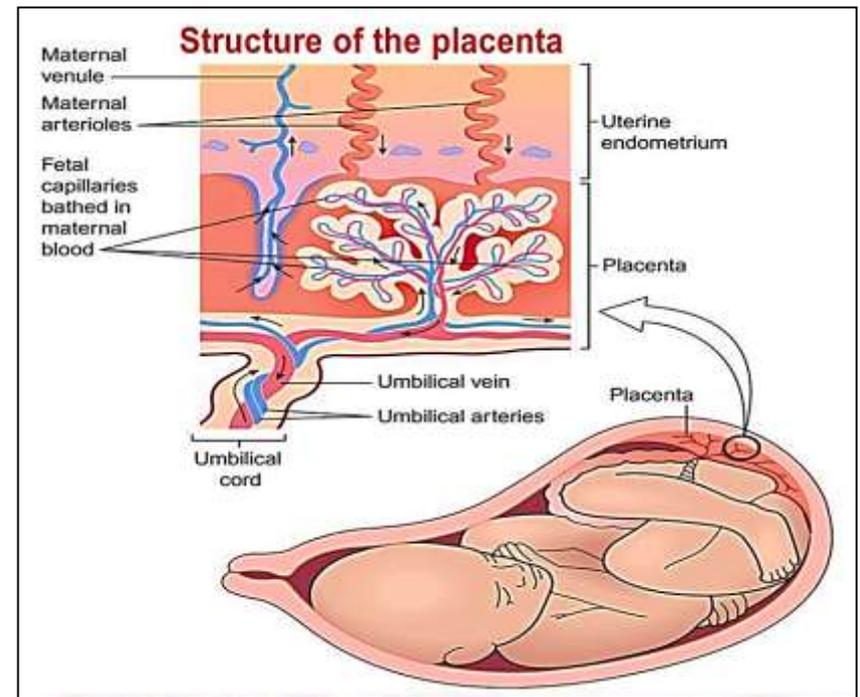
2- Trophoblast: epithelial

Covering formed of 2 layers:

- **cytotrophoblast**: inner layer (Arrow heads)
- **Syncytiotrophoblast**: outer layer

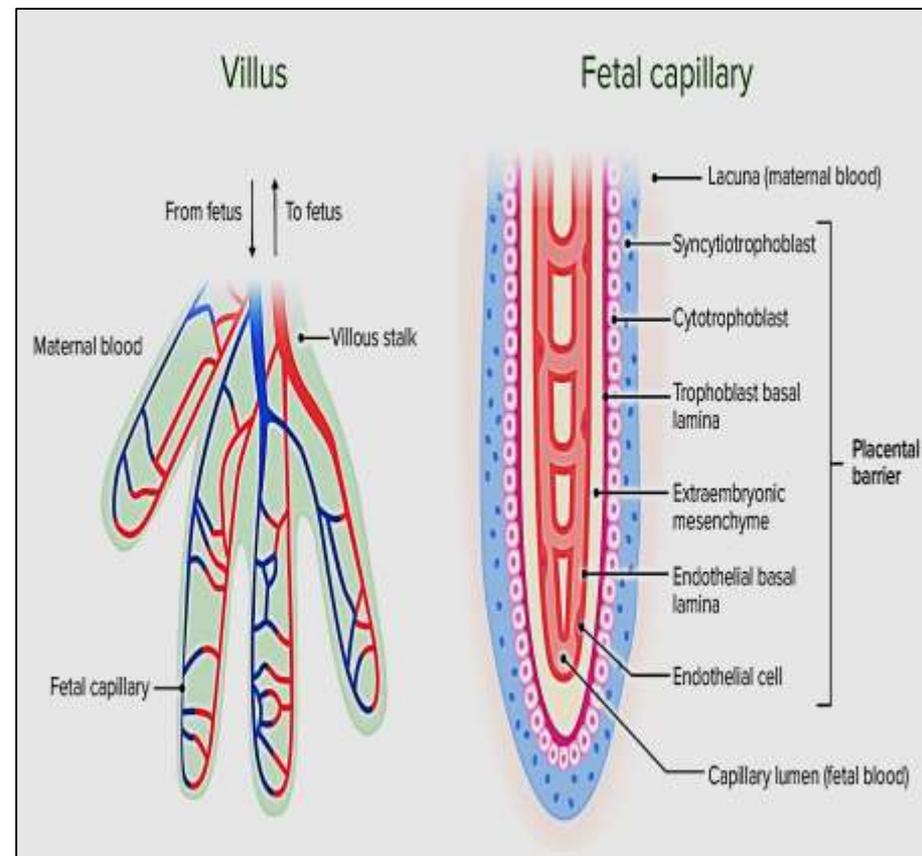
Fetal capillaries

Extra embryonic mesenchyme



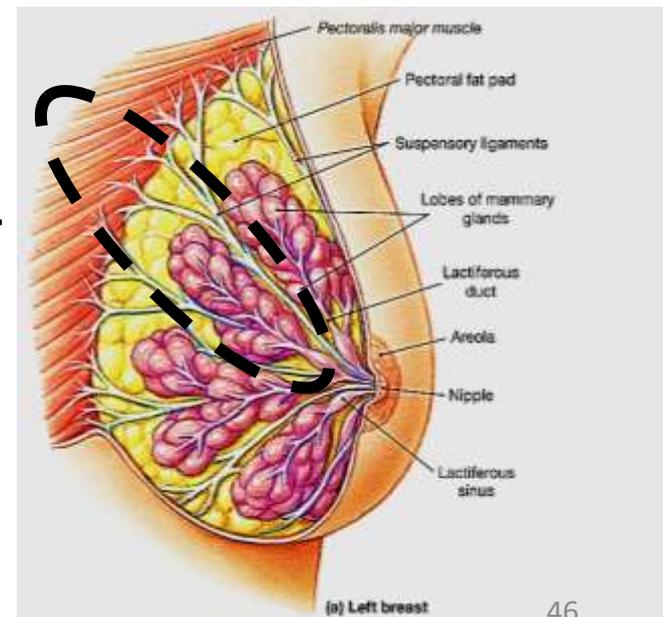
The placental barrier:

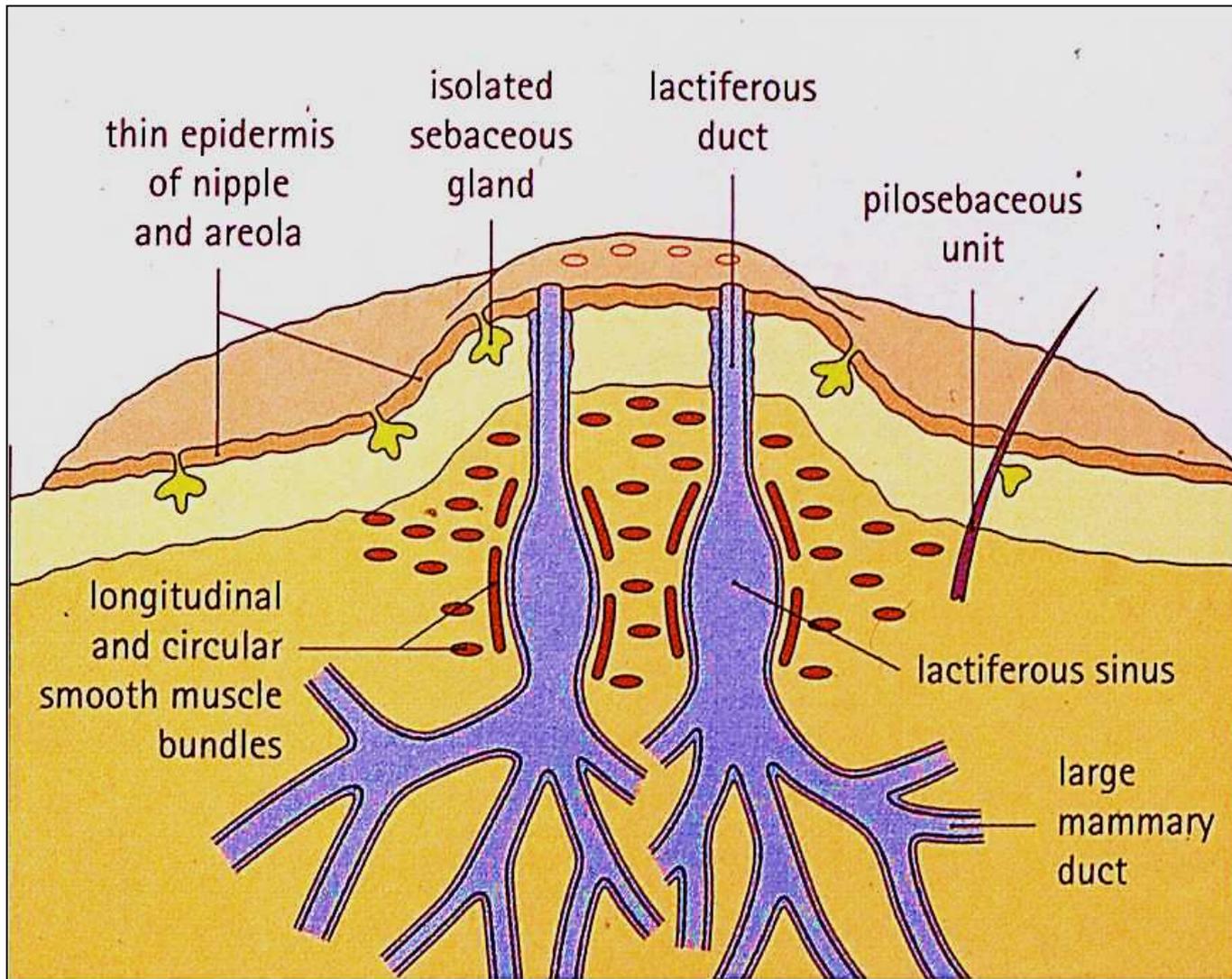
- Barrier that separate blood in the fetal circulation from blood in maternal circulation
- Is composed of:
 1. Endothelium of fetal capillaries
 2. Basal lamina of fetal capillary endothelium
 3. Basal lamina of cytotrophoblast
 4. Cells of Cytotrophoblast
 5. Cells of Syncytiotrophoblast



The mammary gland

- An exocrine, compound tubulo-alveolar gland
- Each mammary gland consists of 15- 25 lobes separated by CT rich in fat cells
- Each lobe has a main lactiferous duct that open separately into nipple
- breast structure differs to whether
 - Resting (non-pregnant)
 - Lactating





Lactiferous ducts

A- resting state:

- Each lobe consists of several **branching ducts**, embedded in abundant, thick loose CT
- No secretory units

B- lactating state:

- Stimulated by several hormones
- Lobules contain **ducts & secretory acini** separated by thin CT septa
- The acini lined by simple columnar cells surrounded by myoepithelial cells

