

BLOOD TESTES BARRIER

It is a mechanical barrier that separates blood from seminiferous tubules of the testes. It is formed by tight junction b/w the adjacent Sertoli cells near the basal membrane of seminiferous tubule.

Function of BTB:

- Protection of seminiferous tubules: protect the seminiferous tubules and spermatogenic cells by preventing the entry of toxic substance from blood & fluid of surrounding tissue into the lumen of ST. only permit essential substance.

sub prevented are:

- ⇒ Large Molecule including proteins, polysaccharides & cytotoxic sub.
 - ⇒ Medium size molecule like galactose
- sub permitted are:

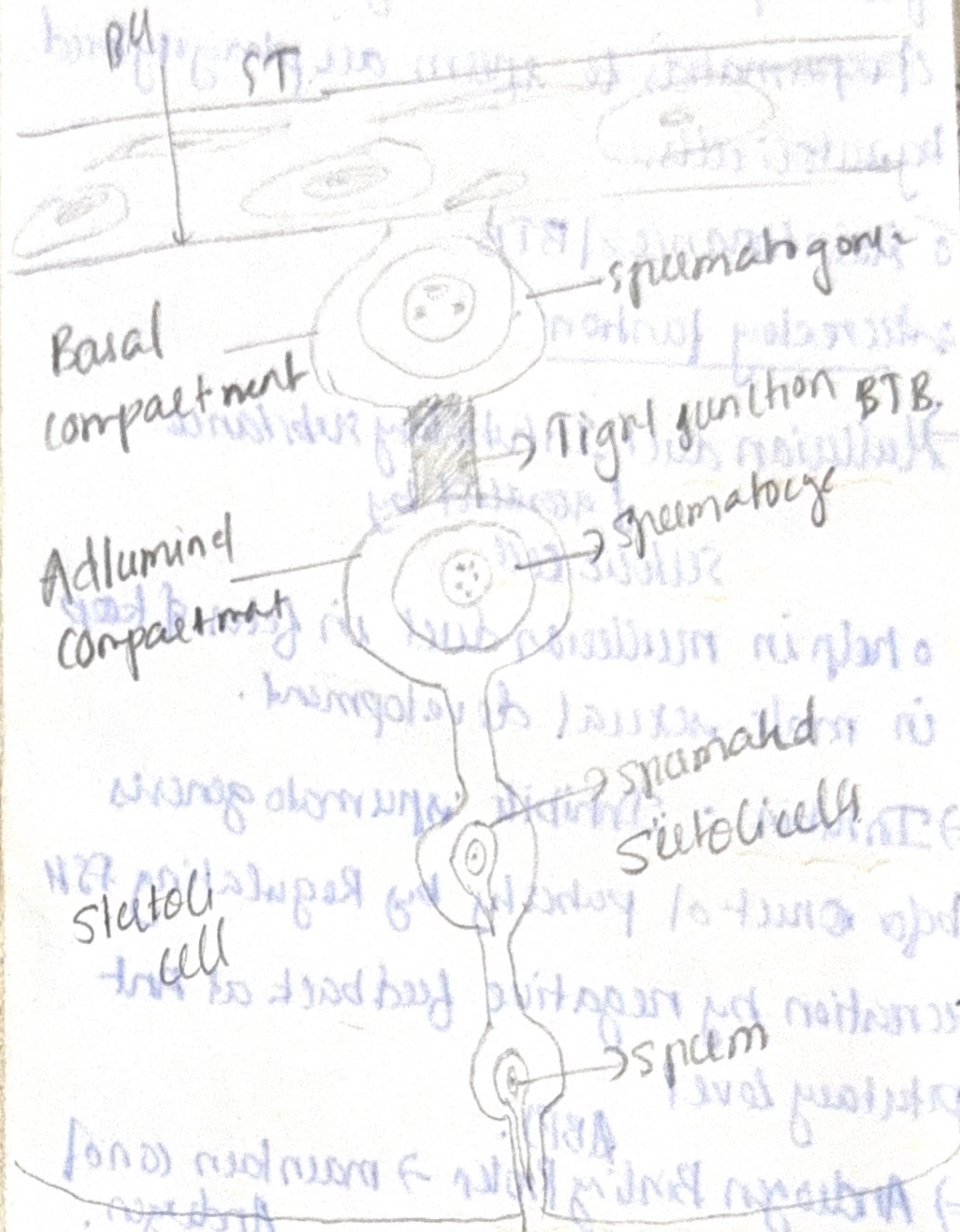
- ⇒ Nutrient substance
- ⇒ Hormones necessary for spermatogenesis
- ⇒ Water.

Prevention of Autoimmune disorders.
It prevent the development of Auto immune disorder by Inhibiting the movement of Antigenic product of Spermatogenesis from testes into blood.

Blood TB is commonly damaged by

by trauma or viral Infection like mumps. Whenever the BTB is damaged the sperm enter the blood. The immune system is activated Resulting in the production of Auto antibody Against sperm.

lead to consequent sterility



SERTOLI CELLS

They are sustentacular cells (supporting) cells in ST - which form major mass.

- ⇒ They are irregularly shaped cells that extended from the B.M into the lumen of S.T.

⇒ These cells are attached to each other by tight junctions.
 Basal - out cell.
 Adluminal cell → inner

FUNCTIONS OF SERTOLI CELLS:

extended from basal of seminiferous tubule
o physical support and nutrition to
maturing germ cell and also remove
waste product from the germ cell

o Cytoplasmic by products or Residues
from spermatozoa during the conversion
of spermatids to sperm are phagocytosed
by Sertoli cells.

o Maintenance of BTB

o decreasing function:

Mullerian duct Inhibitory substance
↓ secreted by
Sertoli cell

o help in Mullerian duct in fetus & keep
in male sexual development.

⇒ Inhibin: Inhibits spermatogenesis
before onset of puberty by regulating FSH
secretion by negative feedback at Ant
pituitary level

⇒ Androgen Binding Protein (ABP) → maintain conc of
Androgen.

⇒ Testogen - small Amount.
convert into enzyme enzyme
and steroid

⇒ FSH & testosterone sensitivity.
A Sertoli cell have receptors for FSH &
testosterone.

⇒ During puberty they increase.

⇒ FSH ↑ CAMP in Sertoli cell & Induces
production of ABP - They help in sperm
development.

CRYPTORCHIDISM

⇒ The failure of migration of testis from
Abdominal cavity into the scrotum
during fetal development is called
undescended testis or cryptorchidism.

- The clinical site of undescended testis
is Inguinal Rings.

⇒ Normally by 25th week of gestation →
descent of testis to scrotum occur.

⇒ High temp cause Irreversible damage to
ST → sterility.

TREATMENT: - Glandohopoc treatment or
surgery.

Complication - ↓ sperm production → high temp.

The incidence of malignant tumour.

CAPACITATION

When spermatozoa are ejaculated
into the female genital tract, they
undergo further maturation called
capacitation. This includes increase
in further motility of sperm and preparation
for acrosomal Rⁿ.