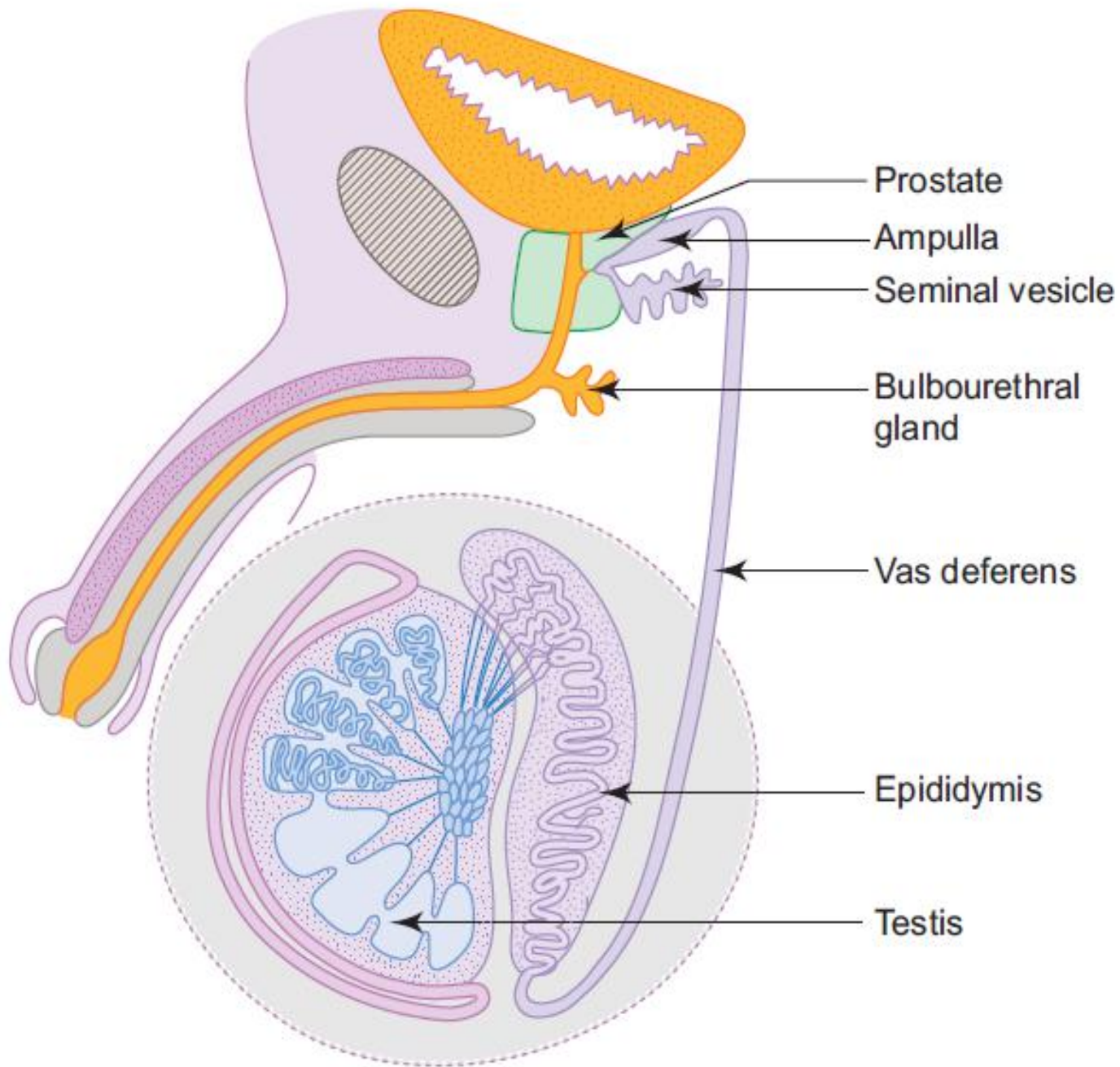
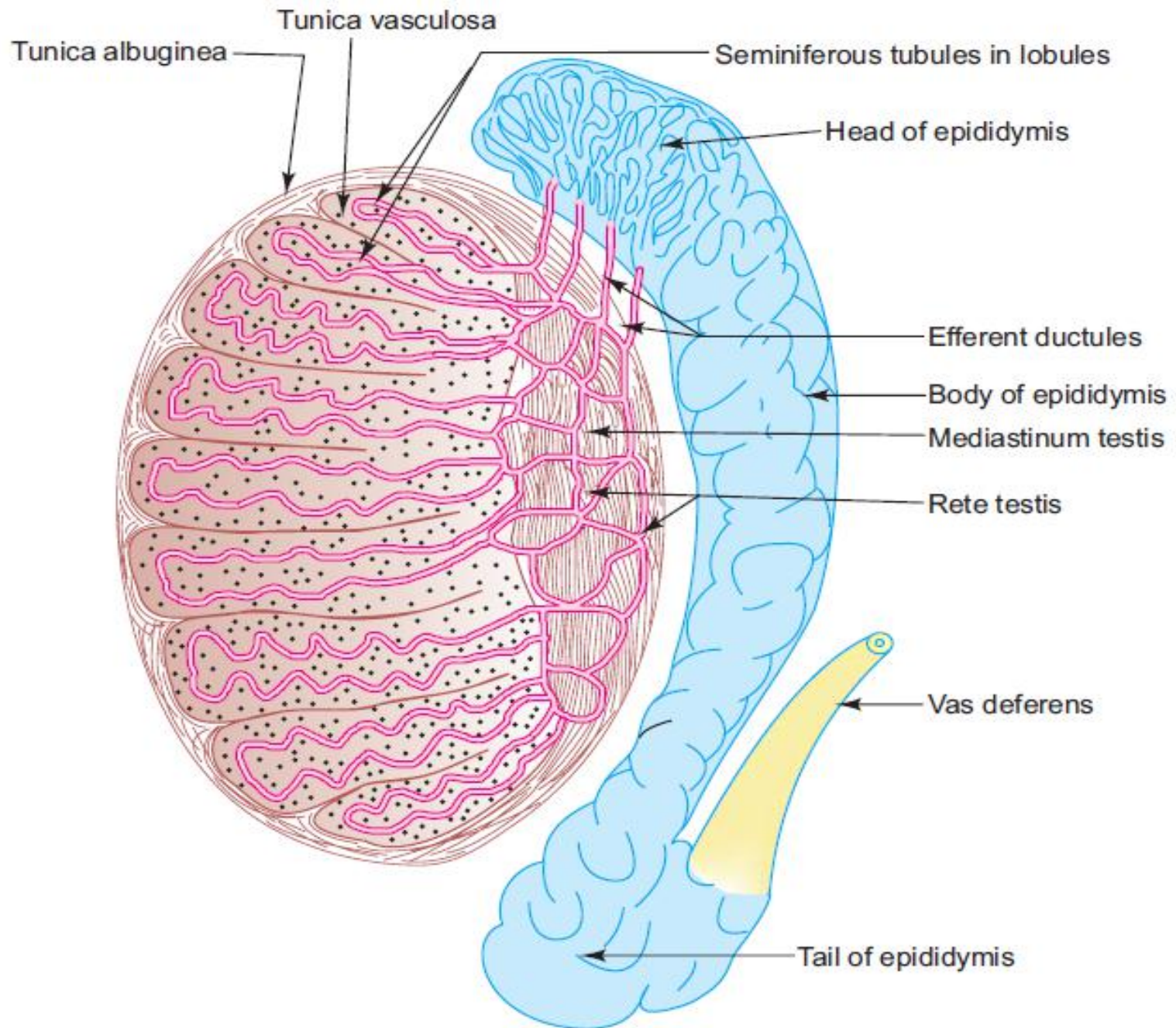


MALE REPRODUCTIVE SYSTEM



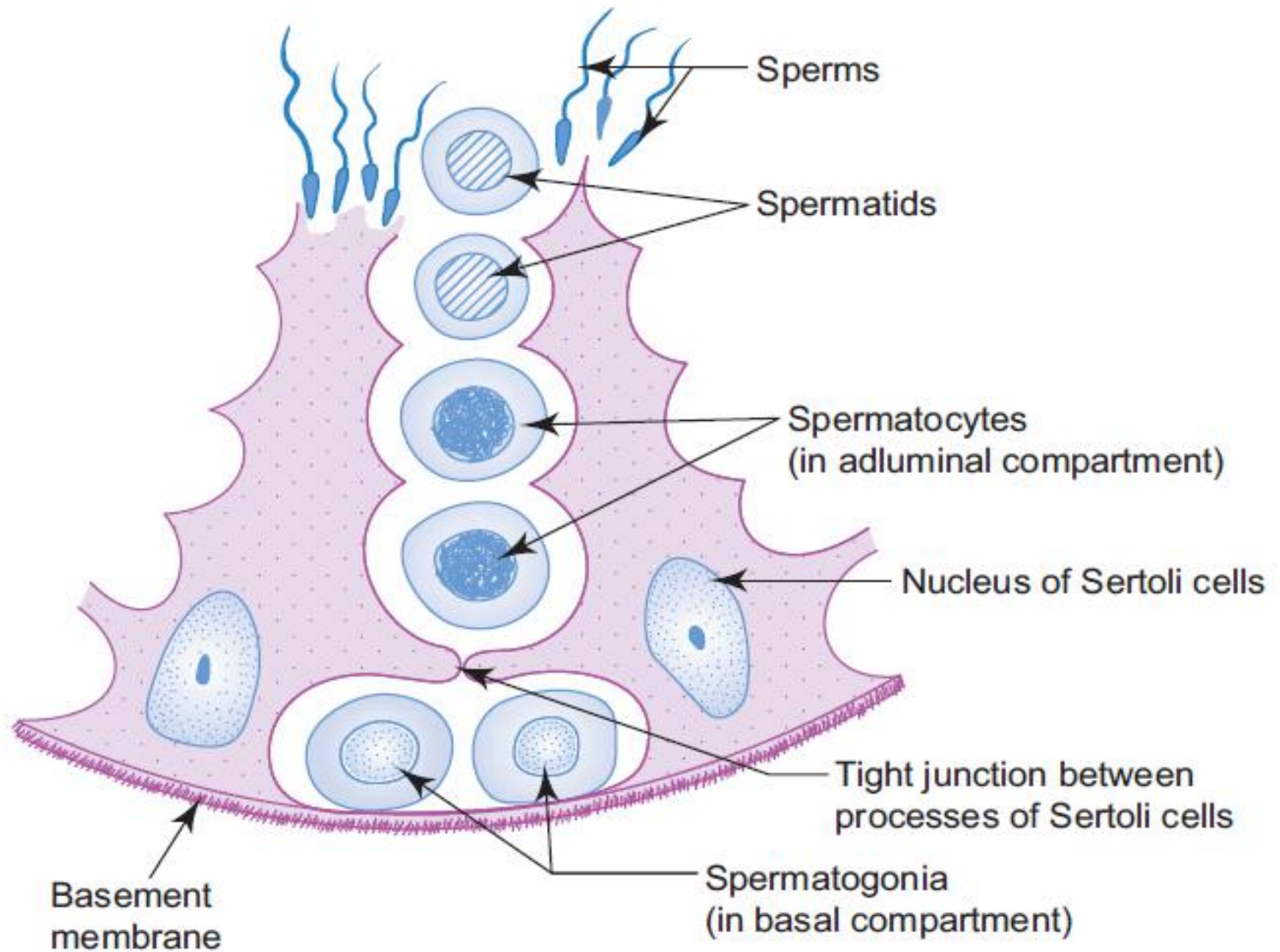
TESTIS

- Lies outside body cavity in the scrotum.
- **Shape**— **Ovoid**, **length**— **5cm**, **diameter**— **2.5cm**
- **Weight** —**10-15gm**
- **Tunica albuginea**—white fibrous connective tissue capsule.
- **Tunica vasculosa**—highly vascularized connective tissue below tunica albuginea.



- **Mediastinum of testis**—formed by dense connective tissue of tunica albuginea projection into interior of posterior border of testis.
- *Mediastinum of testis*—blood vessels, nerves and ducts of testis enter and leave.
- Connective tissue septa extend between mediastinum and tunica albuginea and divide it into **250 compartment** called as ***lobule***.

- ***Each lobule*** contains **2-3** ***seminiferous tubule***.
- **Seminiferous tubule—**
 - Lined with a stratified epithelium called the **germinal epithelium**
 - Contains two cell types→
 - **Spermatogenic cells** that produce sperm
 - **Sertoli cells** that support and nourish the developing sperm.

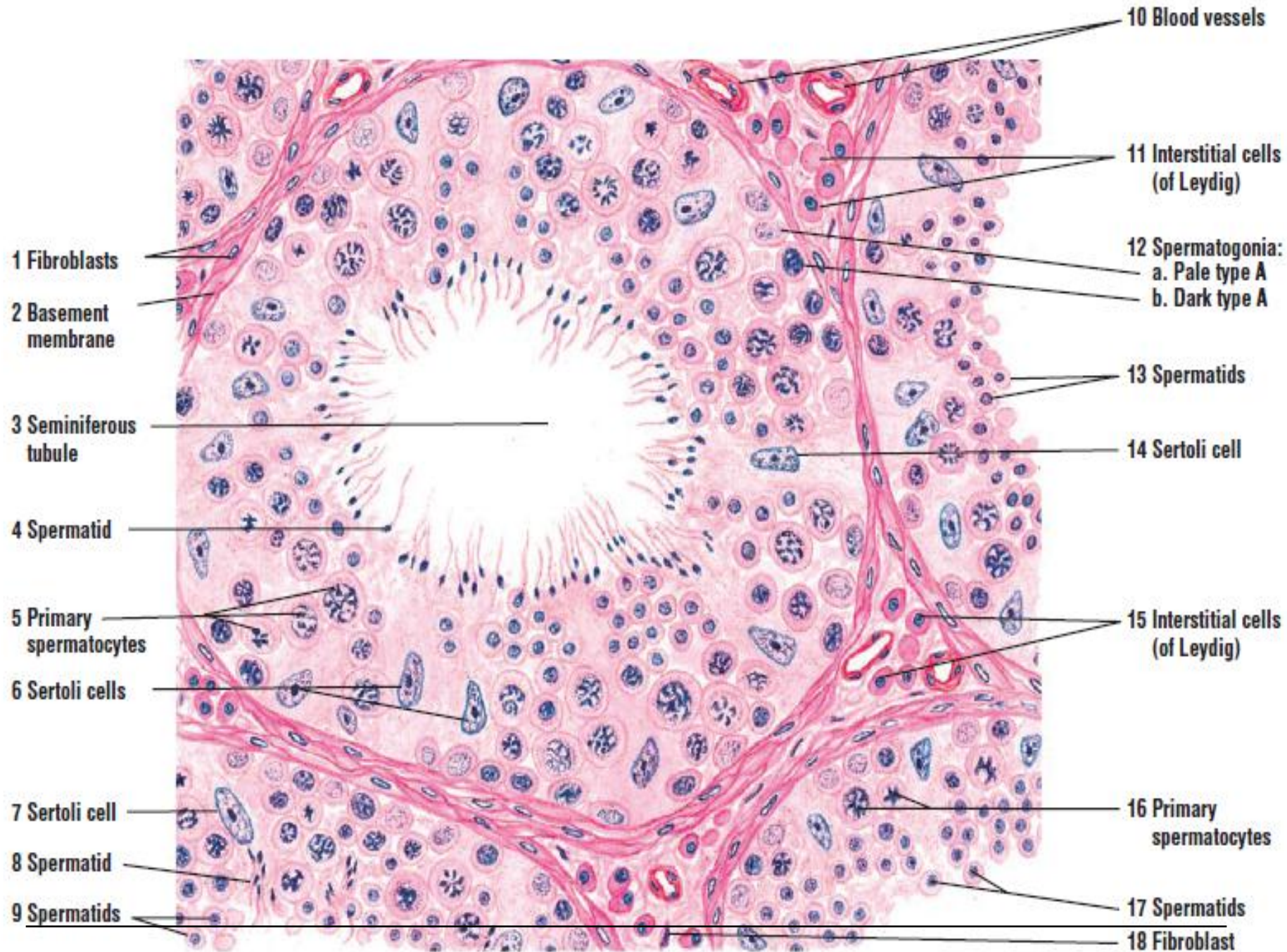


- Leydig cells →

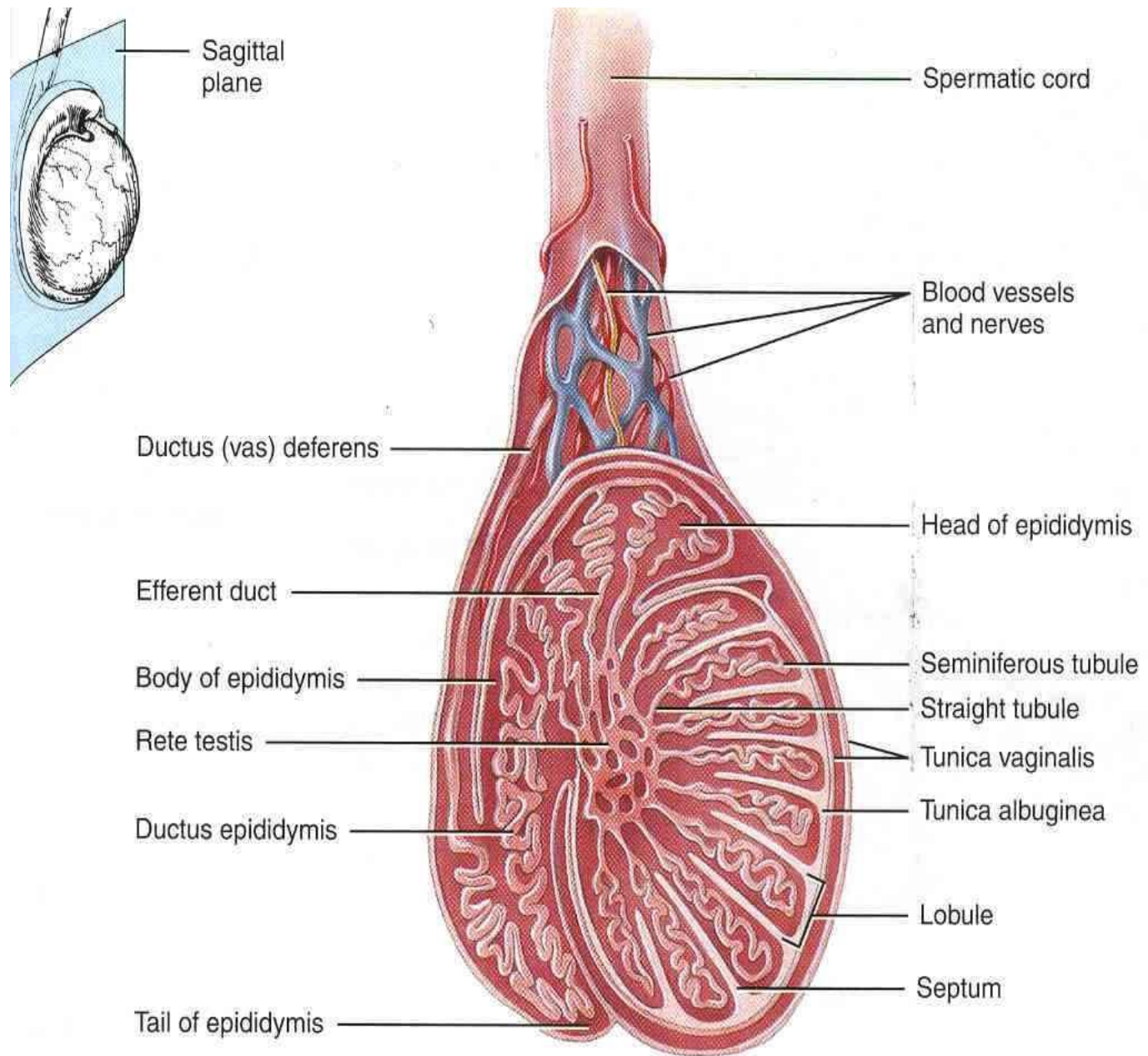
- Larger in size (15–20 μm)

- Polyhedral in shape

- Secrete hormone *testosterone*-- responsible for spermatogenesis and the development of male secondary sexual characters.

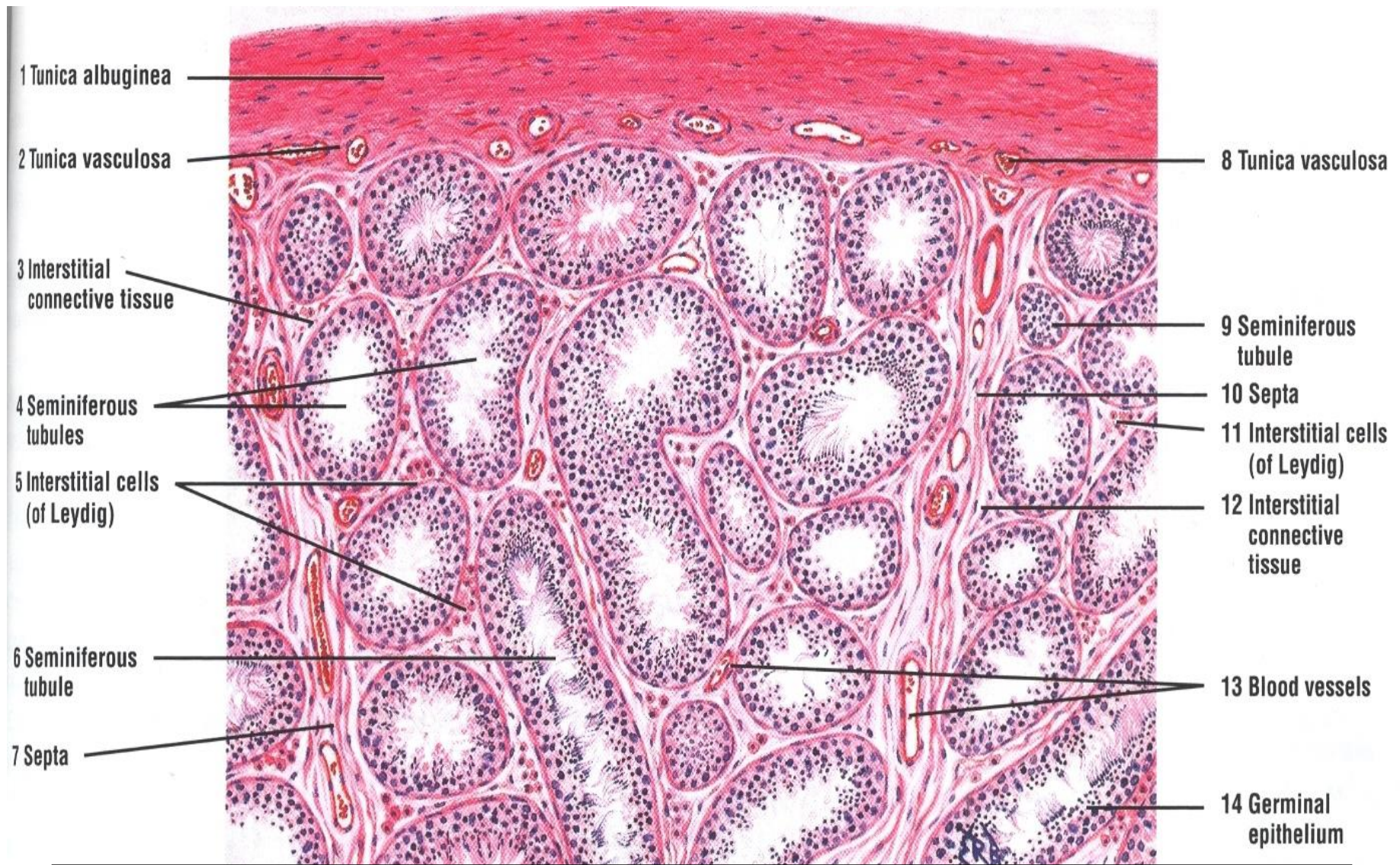


- **Straight tubule (Tubuli Recti)**—final portion of seminiferous tubule.
- **Rete Testis**—anastomosing channel in the mediastinum that drain straight tubule.
- **Efferent ducts**—they collect sperm from rete testis.
- Efferent ducts consists of 12-15 coiled tube that coalesce to form *head of epididymis*.



(a) Sagittal section of a testis showing seminiferous tubules

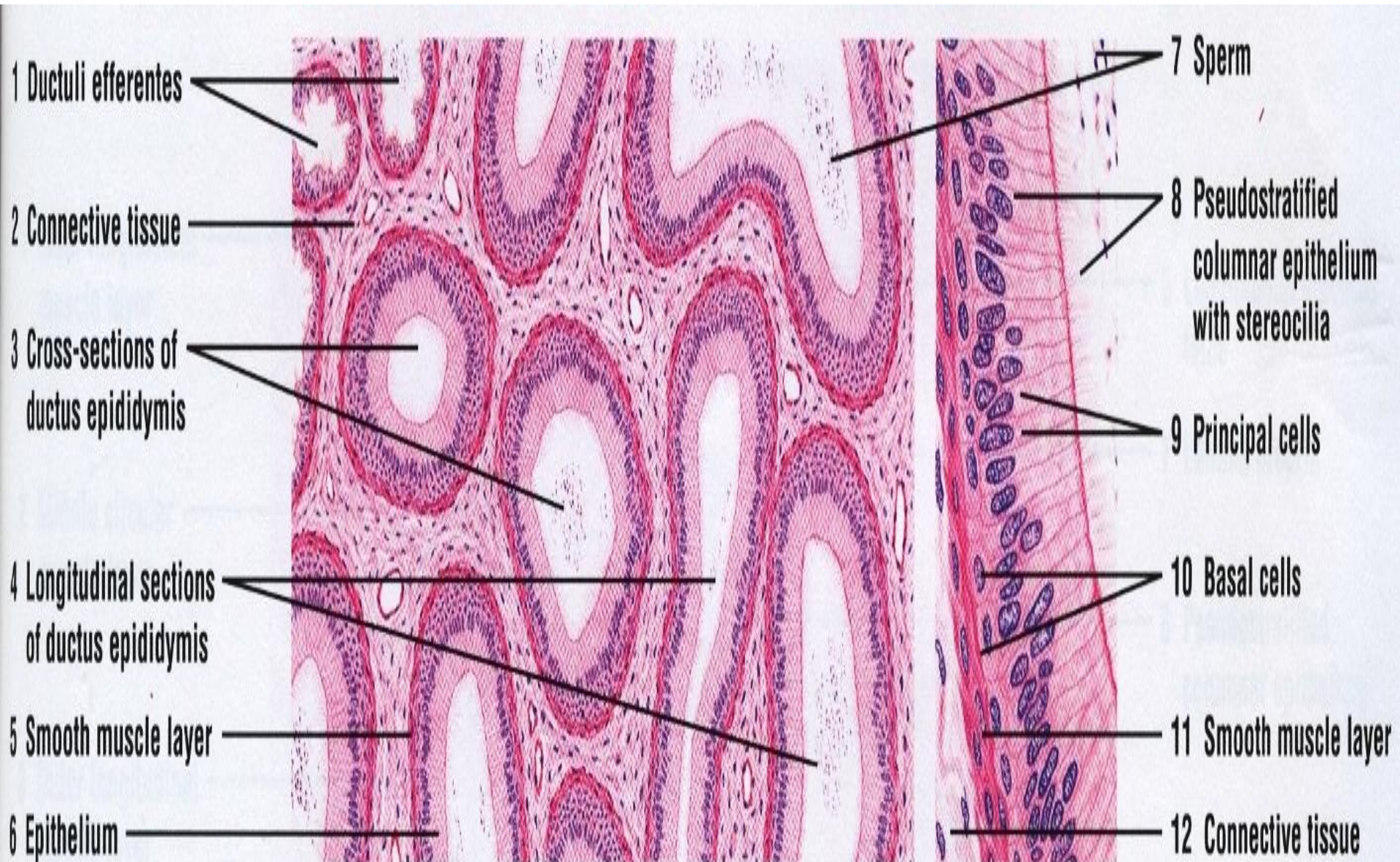
Histology of testis



- ***Epididymis—***

- Efferent ducts fuse to form this, highly coiled tube.
- Parts—*Head, body and tail.*
- Lining epithelium— *Pseudostratified columnar.*
- Tail of epididymis continuous with *ductus deferens.*
- Function— *Storage and maturation of sperm.*

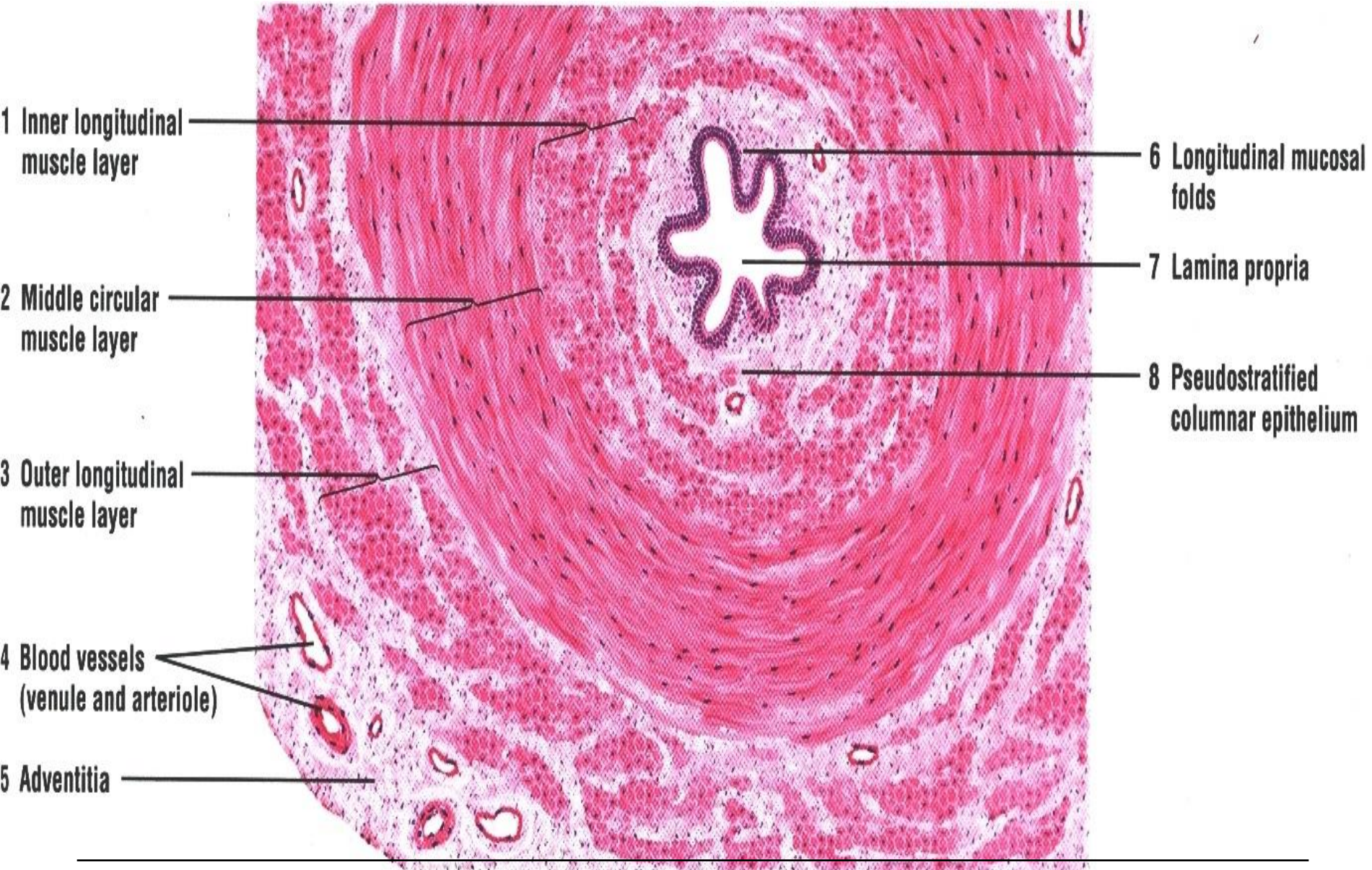
Epididymis



- ***Ductus (vas) deferens—***
- Thick muscular tube extending from tail of epididymis to prostatic part of urethra.
- ***Layers in vas deferens:--***
- **Mucosa—lining epithelium *pseudostratified columnar with stereocilia.***

- Muscle layer—
 - Outer— *longitudinal*
 - Middle— *circular*
 - Inner— *longitudinal*
-
- Adventitia— *loose areolar tissue*

Histology of vas deferens

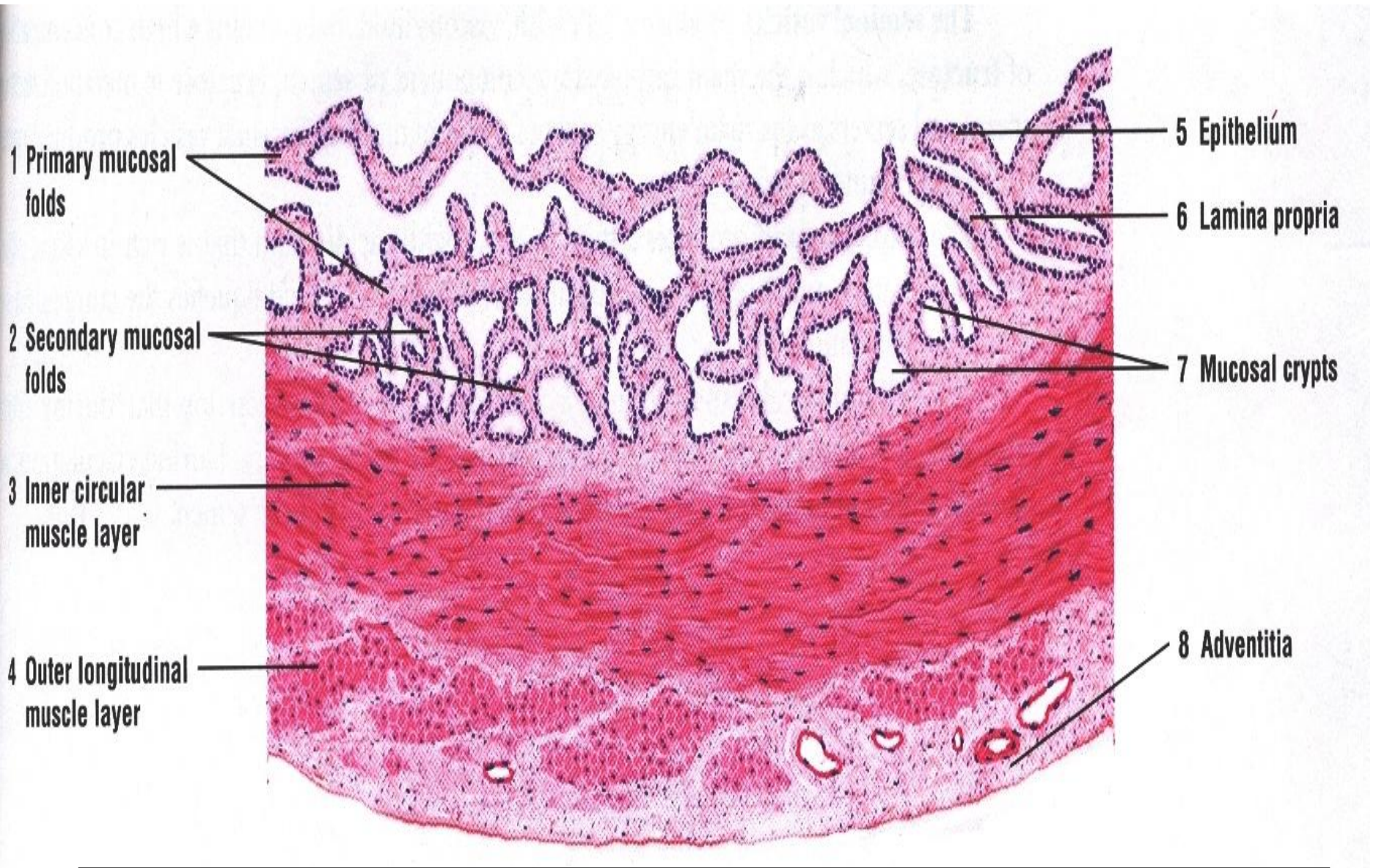


SEMINAL VESICLE

- Elongated sac like with highly convulated irregular lumen.
- It joins with ductus deferens form ***ejaculatory duct.***
- ***Layers of seminal vesicle:--***
- **Mucosa**— Thrown into highly complex folds.
- These folds ***join with each other*** to form many ***crypts and cavities.***

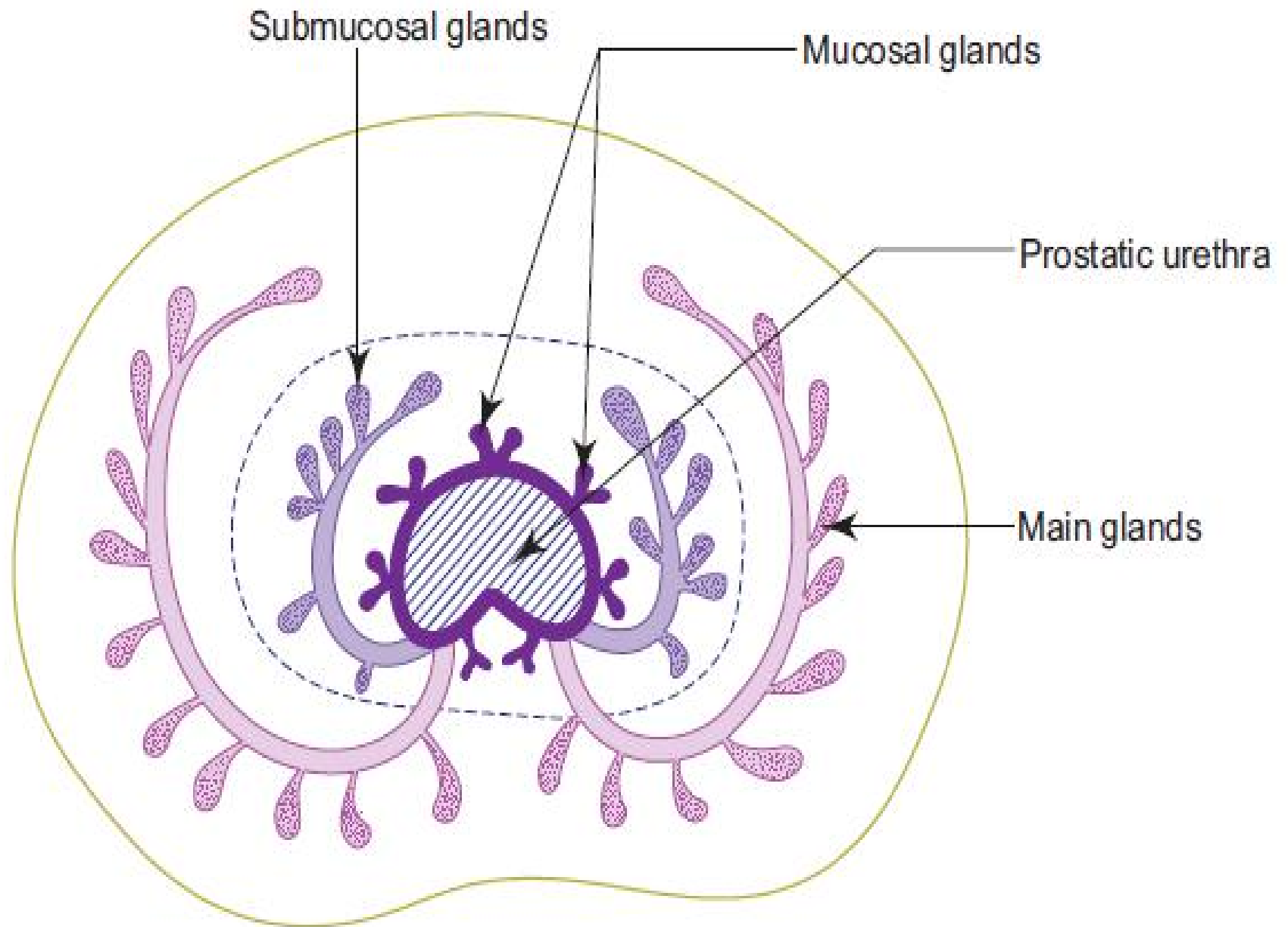
- Epithelium— *Pseudostratified columnar*
- Muscle layer—
- Inner— *Circular* ,
- Outer— *Longitudinal*
- Adventitia— *Loose connective tissue.*
- Secretes— *Seminal fluid* that contains *fructose* and *prostaglandin* and constitute about *70% of ejaculate.*

Histology of seminal vesicle



PROSTATE

- Composed of 20-50 compound *tubulo-alveolar glands*.
- Embedded in a framework of fibromuscular tissue.
- Arranged in 3 groups→
 - i)Mucosal
 - ii)Submucosal
 - iii)Peripheral zone.



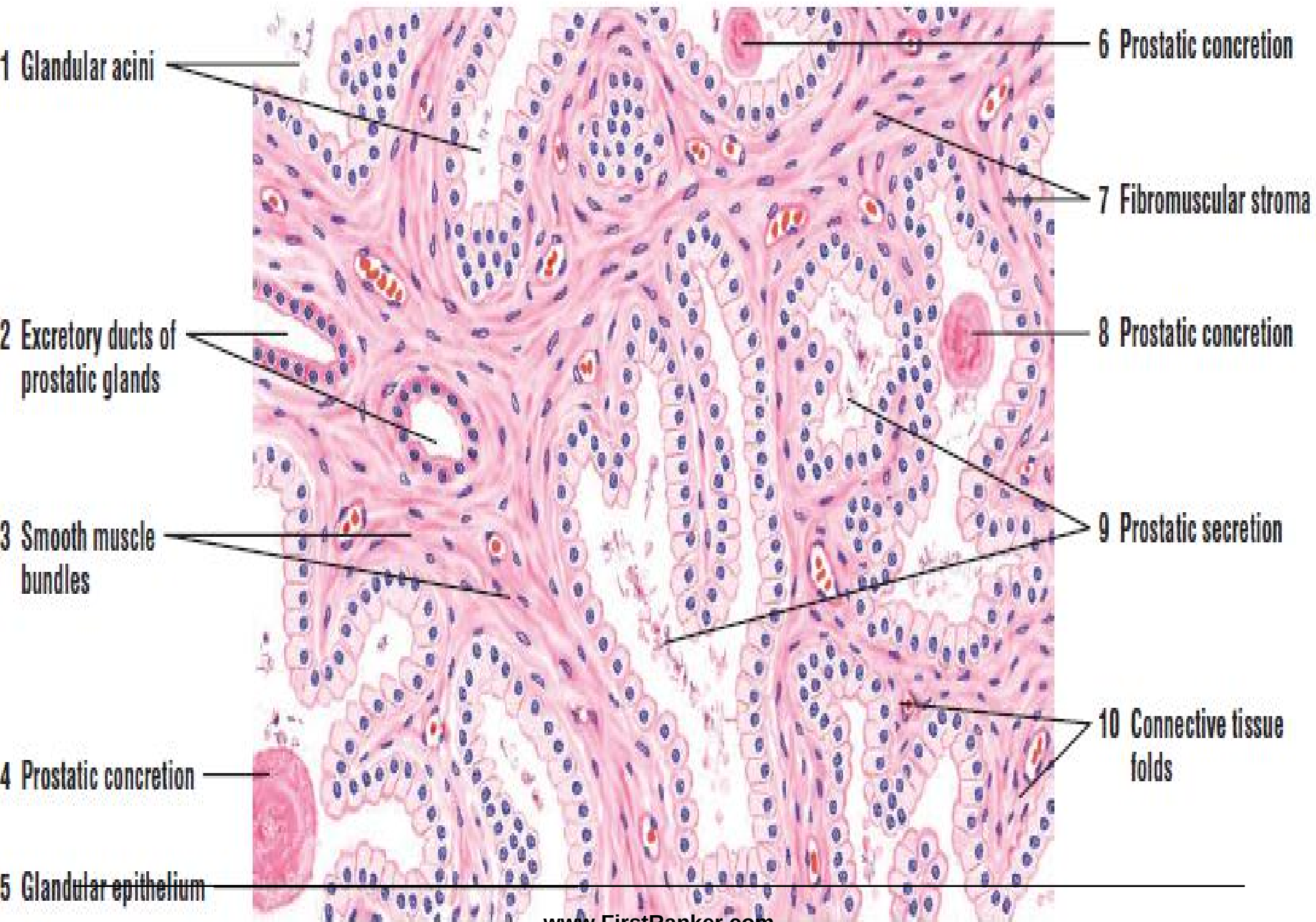
- Histologically the prostate is made of fibromuscular stroma and parenchyma.
- *1)Stroma (connective tissue framework)*
 - i) **Fibromuscular capsule**– Enclosing the whole gland and consist of collagen, elastic and smooth muscle fibres.
 - ii) **Fibromuscular septa**– Divide the gland into lobule.

- **2) Parenchyma (glandular tissue)**

- Consist of large number of branching tubules with dilated ends.

- They appears as follicles, and lined by *simple columnar epithelium*.

- The lumen may contain spherical prostatic concretions or *corpora amylacea*



- *Amyloid bodies (corpora amylacea)* →
- Present in lumen of some gland.
- Oval dense bodies of glycoproteins.
- Formed due to condensation of secretory products, which may become calcified.
- The number of *corpora amylacea* increase with age.

Changes in prostate with age

- ***In childhood →***
- Small and composed of mainly fibromuscular stroma and rudimentary ducts.
- ***At puberty →***
- Sudden increase in size of gland due to formation of many follicles.
- ***During 3rd decade →***
- Irregular epithelial infolding in the lumen of follicle.

- ***During 4th decade →***
 - Size remains constant.
 - Infolding disappear.
 - Amyloid bodies appear in follicle.
-
- ***During 5th decade →***
 - Undergo benign hypertrophy (submucosal gland)
 - Peripheral zone is prone to cancer.

SELF ASSESSMENT

MALE REPRODUCTIVE SYSTEM

1. The epithelium lining of epididymis is

- (a) Simple columnar
- (b) Transitional
- (c) Stratified columnar
- (d) Pseudostratified columnar

2.How many seminiferous tubules are found in each testis of an average man?

- a. 4-6
- b. 40-60
- c. 400-600
- d. 4000-6000

3. Which cells produce testosterone?

- a. Leydig cells
- b. Sertoli cells
- c. Sustentacular cells
- d. None

4.Storage and maturation of sperm occurs in

- a. Seminiferous tubule
- b. Straight tubule
- c. Epididymis
- d. Rete Testis

5. Corpora amylacea is seen in:

- a. Prostate
- b. Seminal vesicle
- c. Thymus
- d. Testis

6. How many layers of smooth muscle are in the vas deferens?

- a. 1
- b. 2
- c. 3
- d. 4

7. Pair structures are all except

- a) Testis
- b) Vas deferens
- c) Prostate
- d) Seminal vesicle

Answers

1. (d) Pseudostratified columnar
2. (c). 400-600
3. (b). Sertoli cells
4. (c). Epididymis
5. (a). Prostate
6. (c). 3
- 7.(c) Prostate