

BENIGN PROSTATIC HYPERPLASIA

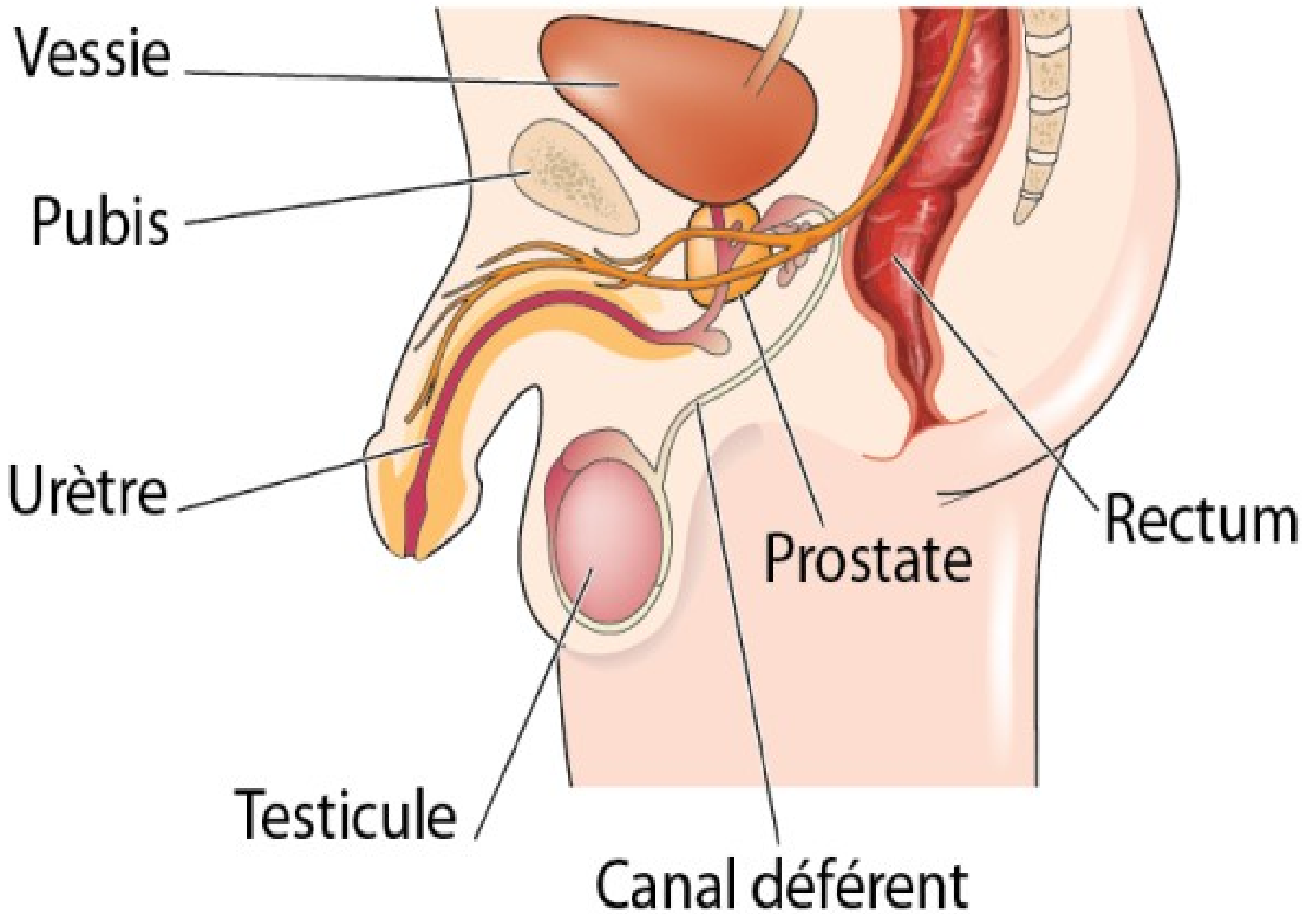
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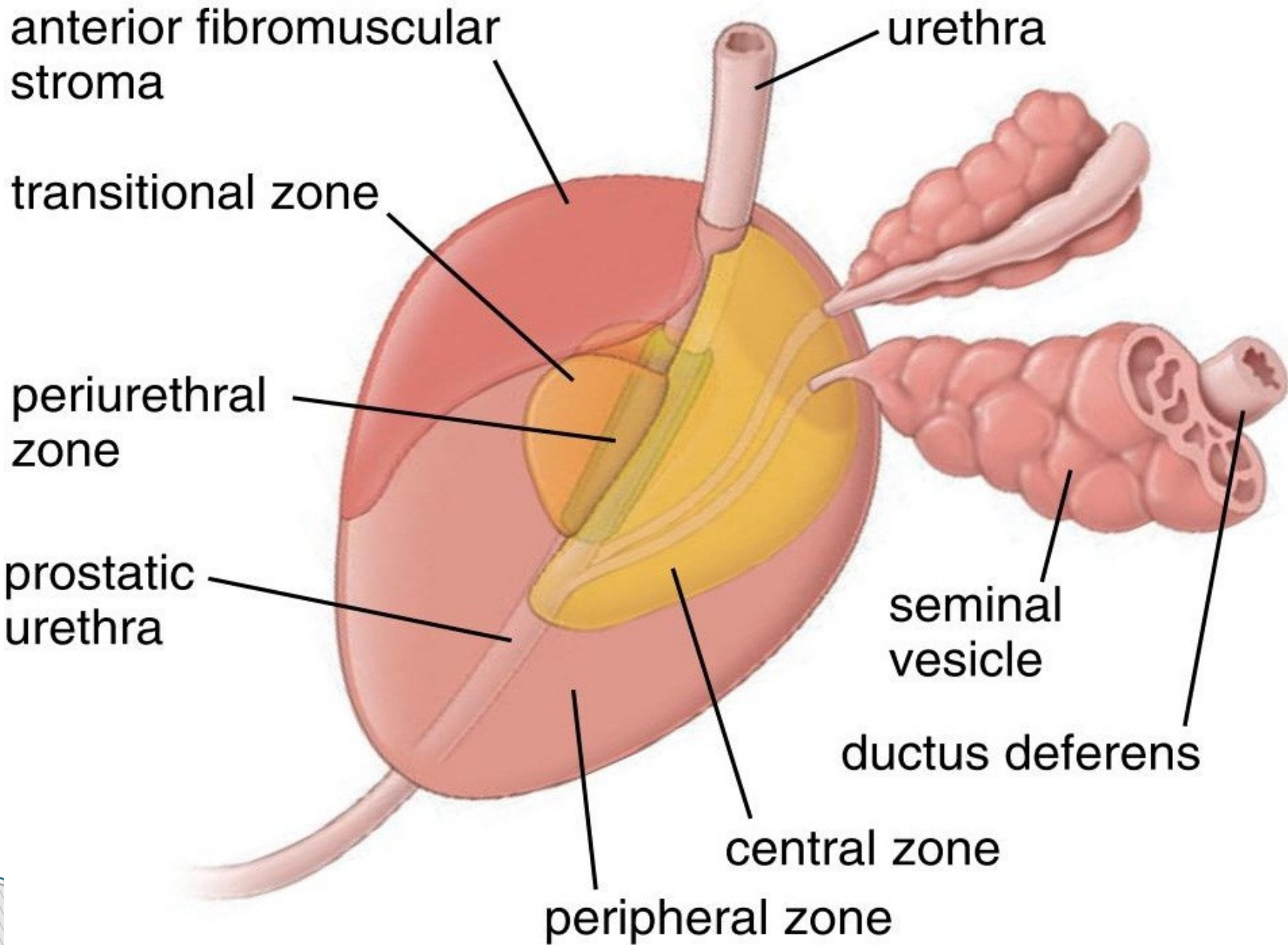


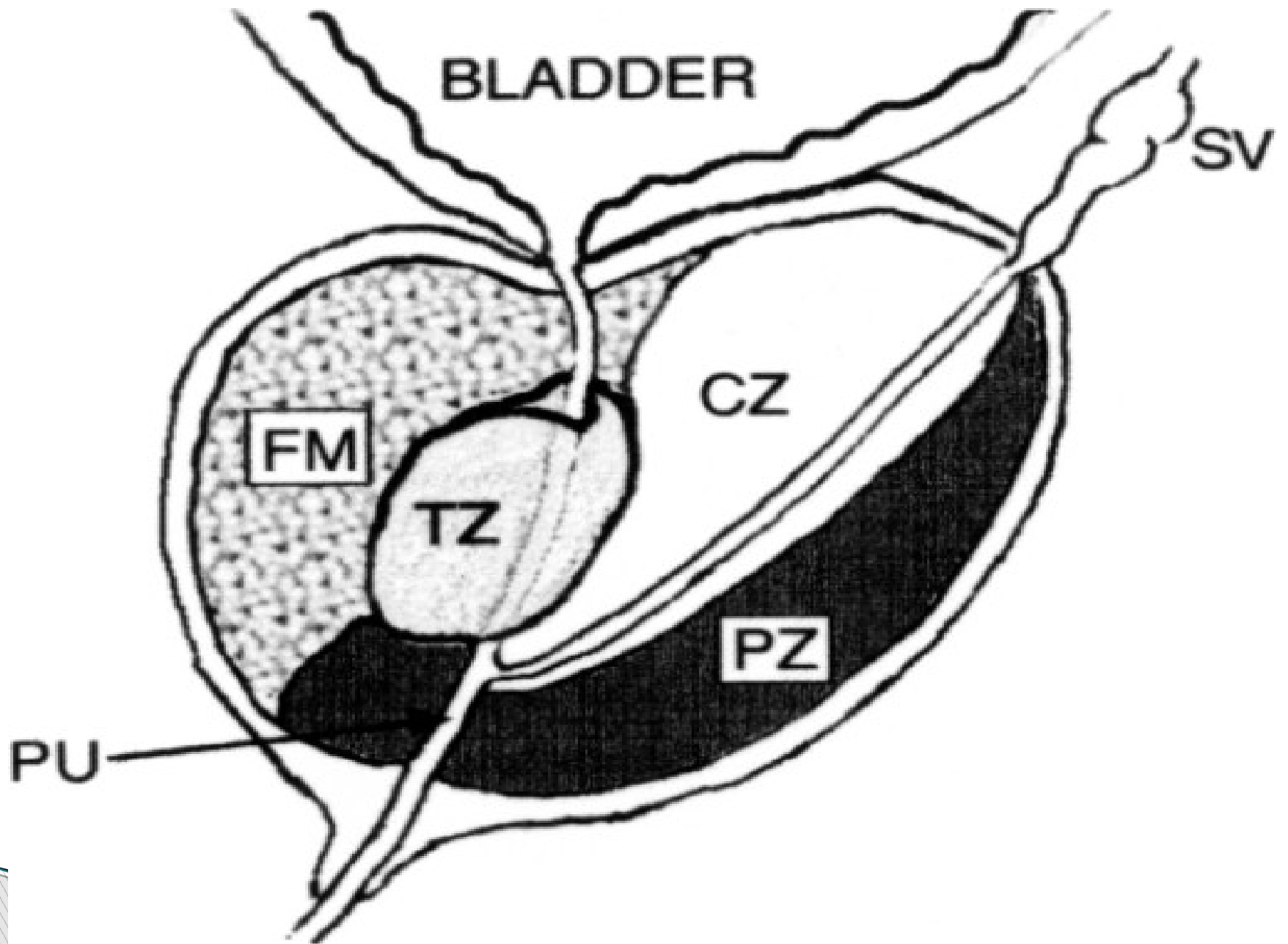
BENIGN PROSTATIC HYPERPLASIA

BPH

Benign prostatic hyperplasia is nonmalignant enlargement of the prostate gland, a common occurrence in older men.








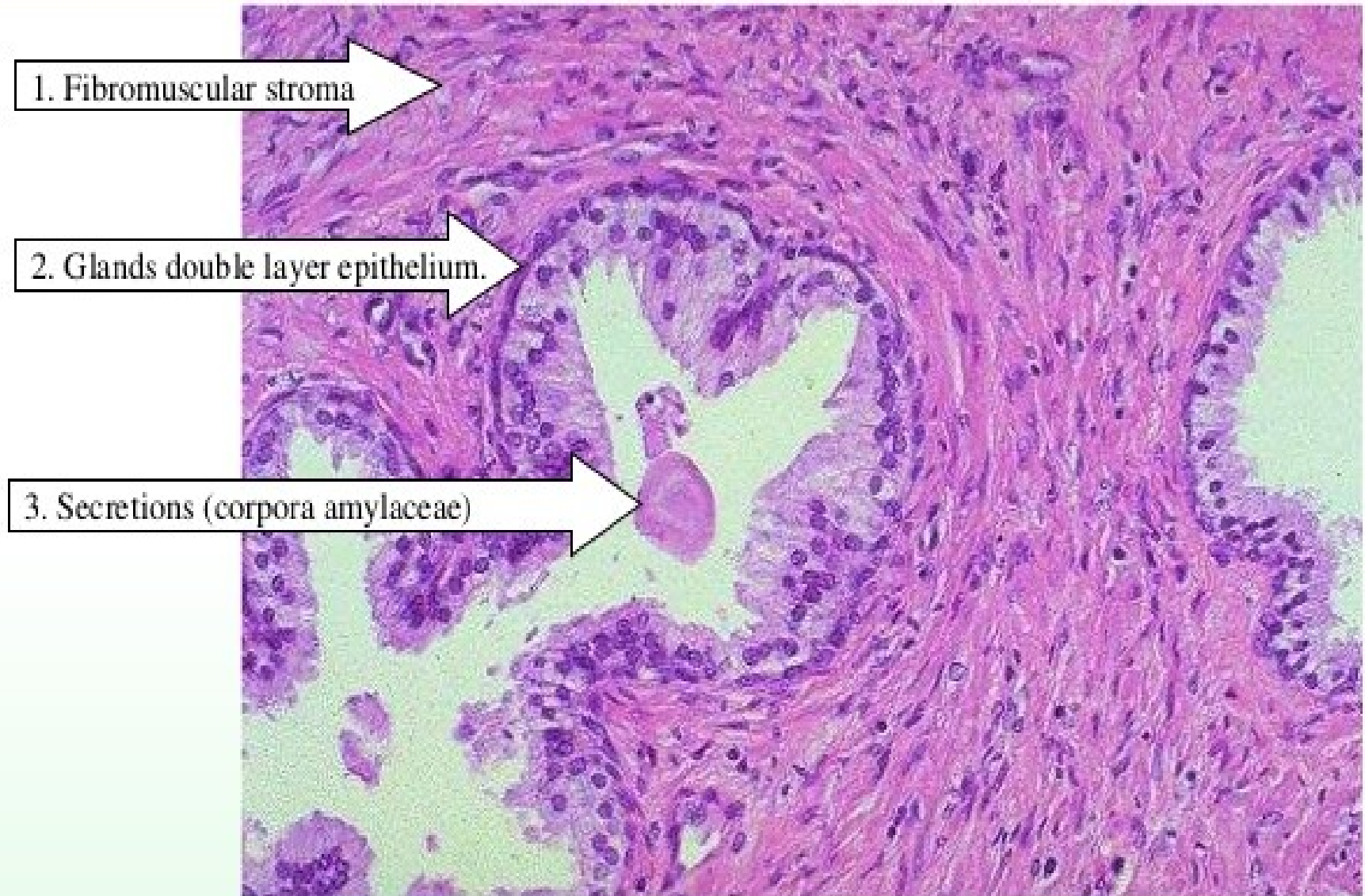
PROSTATE

- ▶ The role of the Prostate is to accumulate and eject small volumes of fluid, which forms a component of semen necessary for normal reproductive function of the male.
- ▶ The normal human Prostate is a composite organ that includes both ***Prostatic glands*** and a non-glandular ***Stroma***. These different tissues are tightly fused together and surrounded by a common capsule.

- ▶ The **glandular component** of prostate is composed of ducts and acini, which are morphologically identical.
 - ▶ The entire duct-acinar system is lined by a ***Pseudostratified columnar epithelium*** with secretory cells.
 - ▶ The size and structure of these glandular elements are distinctly different in the different zones of the prostate.
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- ▶ The **non-glandular components** of the prostate include the fibromuscular stroma, capsule and the supplying blood vessels and nerves.
- ▶ The specific fibromuscular stroma is composed of large compact bundles of ***smooth muscle cells*** that are arranged in a random orientation and often separated by bands of dense fibrous tissue.

Normal Prostate Histology: Fibromuscular gland.

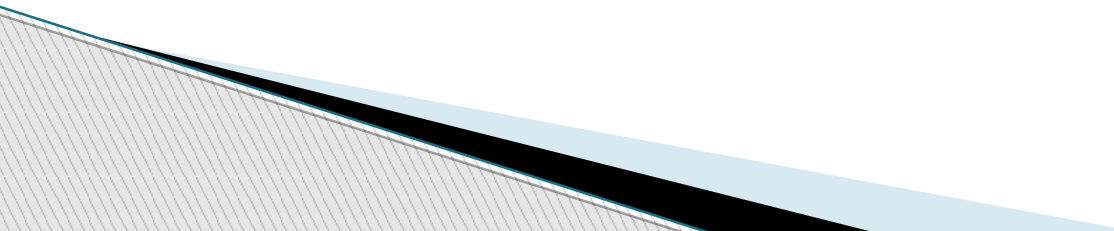


1. Fibromuscular stroma

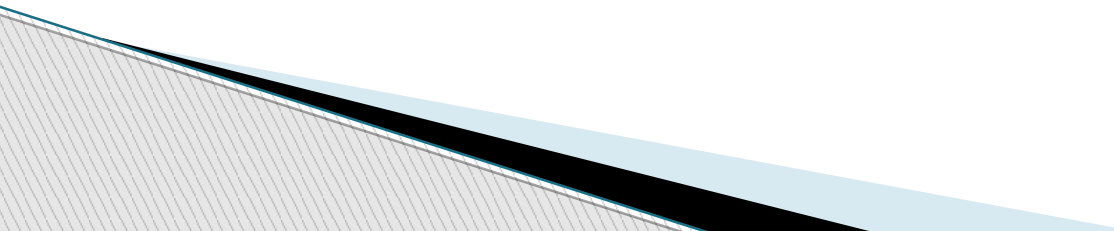
2. Glands double layer epithelium.

3. Secretions (corpora amylacea)

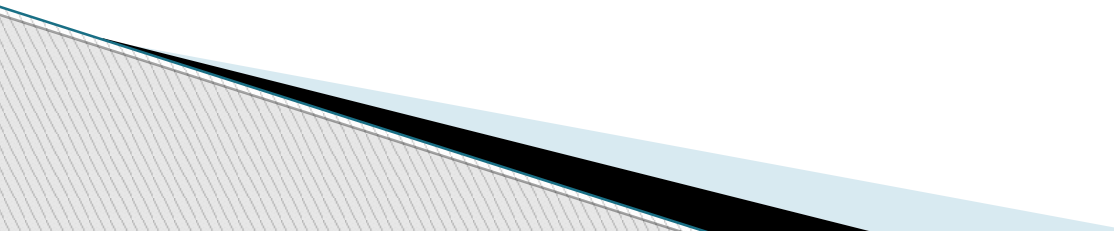
Pathophysiology

- ▶ Requires intact testes
 - ▶ Testosterone and dihydrotestosterone (DHT, 10x more potent than testosterone because it dissociates from receptor more slowly) bind nuclear androgen receptors in stromal and epithelial cells, causing growth factor activation
 - ▶ Stromal cells produce 5 alpha reductase (converts testosterone to DHT)
 - ▶ Estradiol, increased in aging men, may also increase androgen receptors
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Clinical Features

- ▶ Frequent urge to urinate
 - ▶ Trouble starting to urinate
 - ▶ Weak stream
 - ▶ Inability to urinate
 - ▶ Loss of bladder control
 - ▶ Painful urination
 - ▶ Dribbling of urine
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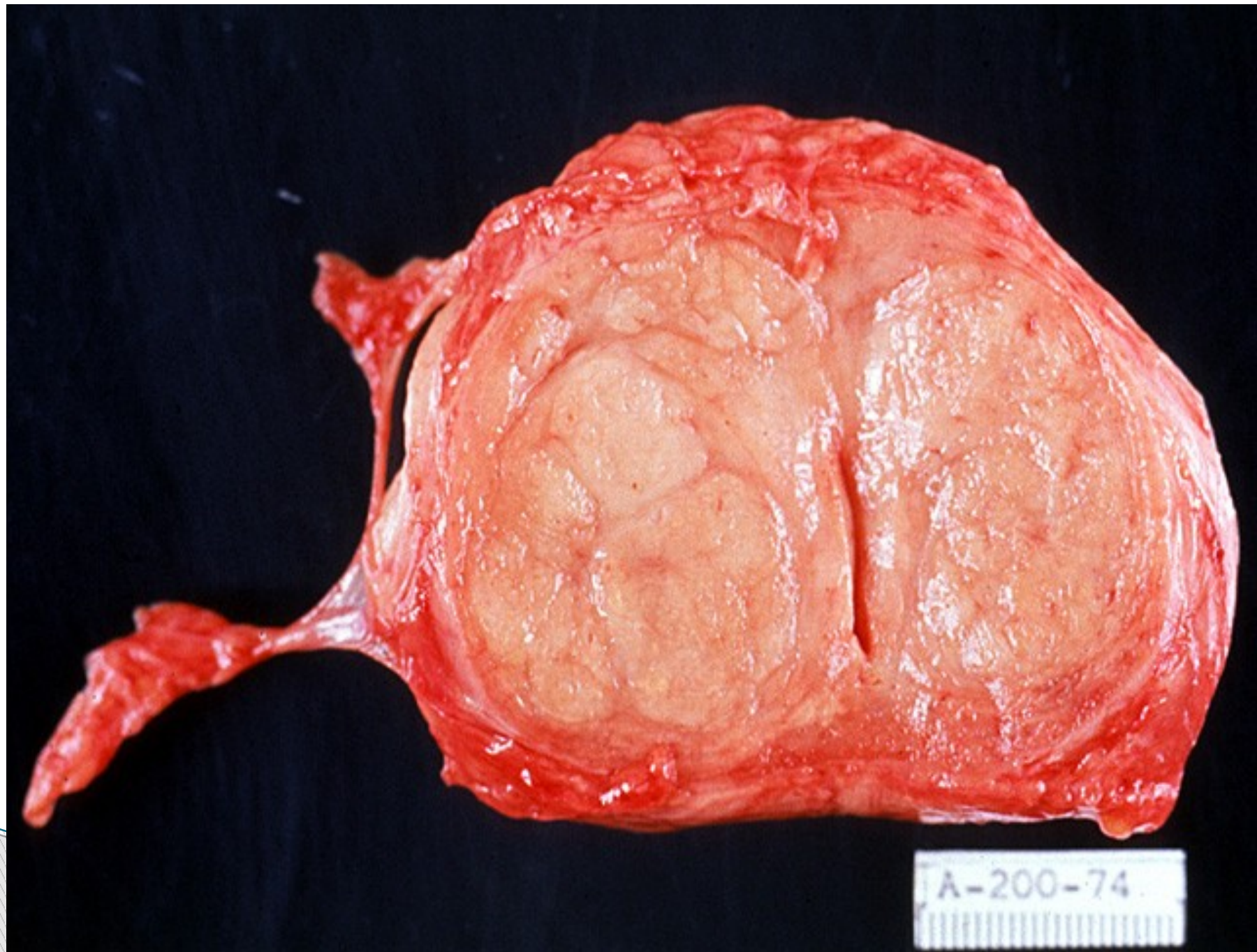
COMPLICATIONS

- ▶ Urinary tract infections
 - ▶ Bladder stones
 - ▶ Chronic kidney diseases
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Morphology

GROSS

- ▶ Gland is increase in size and weight, Urethra may be compressed
- ▶ In primary glandular hyperplasia Yellow, pink and soft nodules.
- ▶ In primary fibromuscular hyperplasia pale grey, tough fibrous nodules, no fluids



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MICROSCOPIC

- ▶ Usually glandular pattern predominates
- ▶ Small to large cystically dilated glands, lined by multiple layer of epithelium resting on intact basement membrane.
- ▶ Epithelium thrown into papillary buds and infolding
- ▶ Fibromuscular hyperplasia in form of solid spindle cells.
- ▶ The glandular lumina often contain inspissated, proteinaceous secretory material known as **corpora amylacea**.

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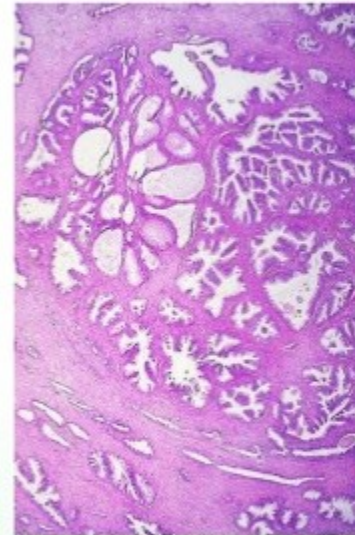
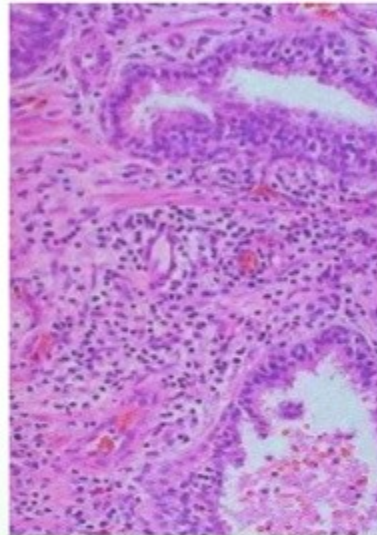
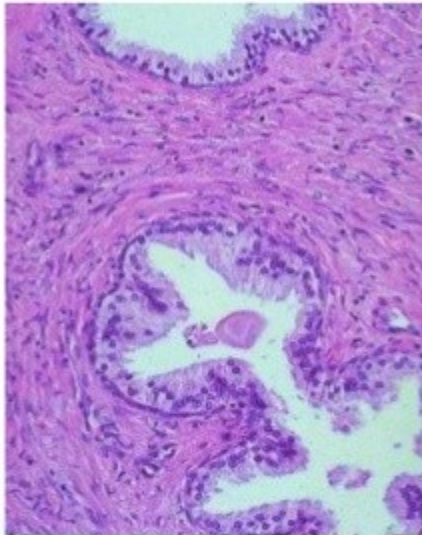
Normal

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Prostatitis

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BPH

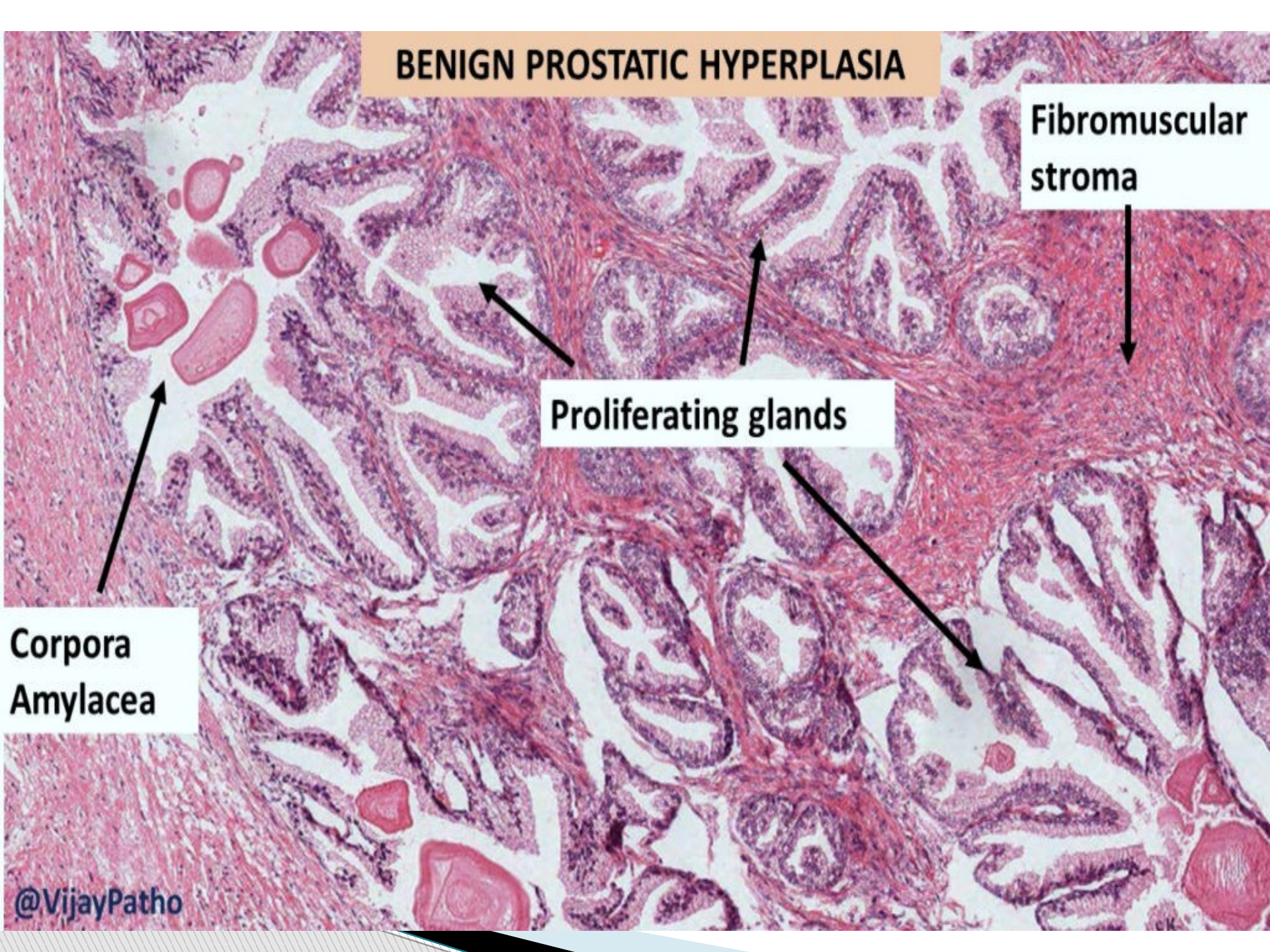


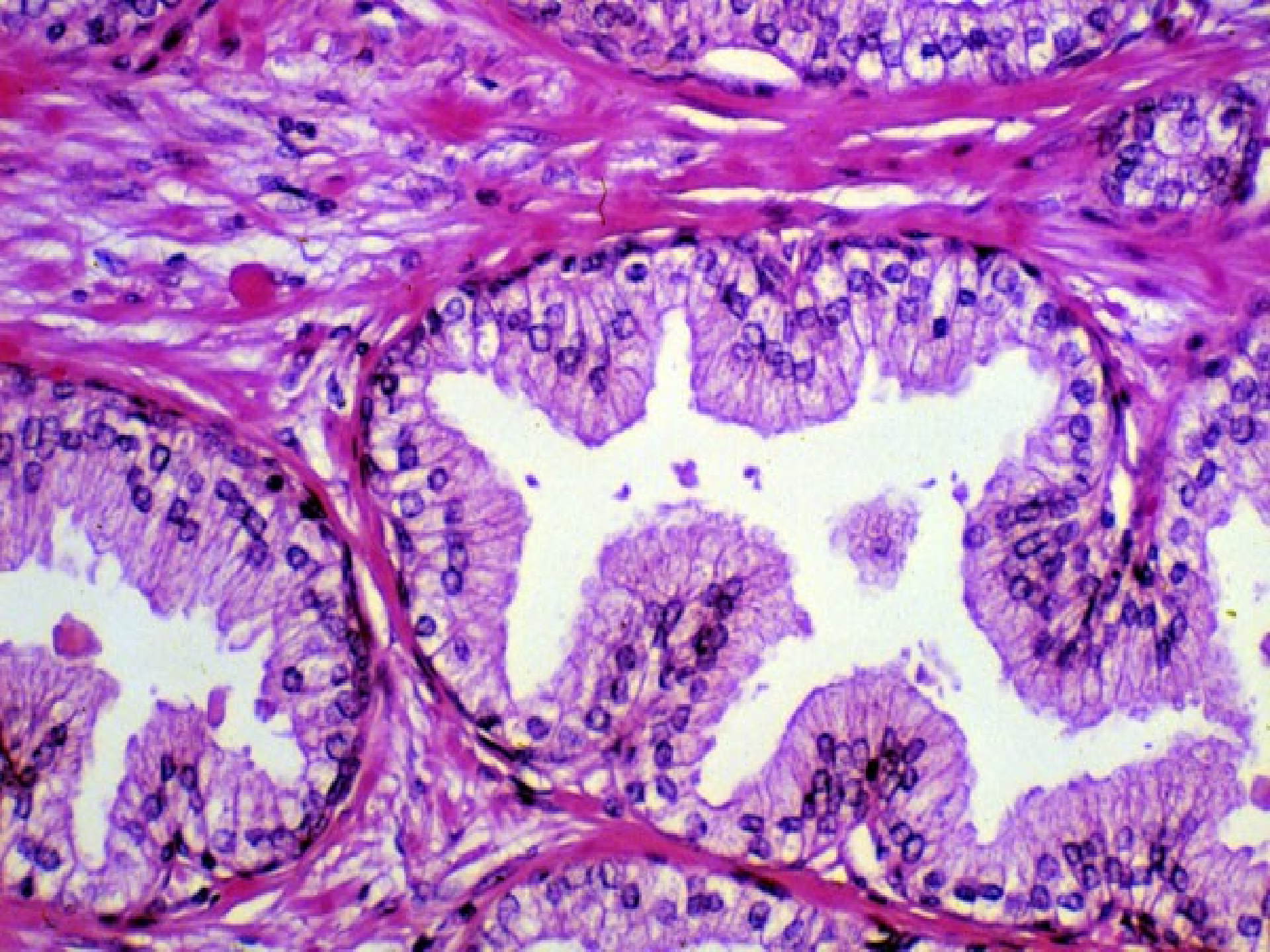
BENIGN PROSTATIC HYPERPLASIA

Fibromuscular stroma

Proliferating glands

Corpora Amylacea







Thank you!