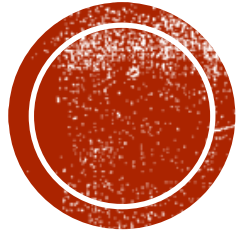




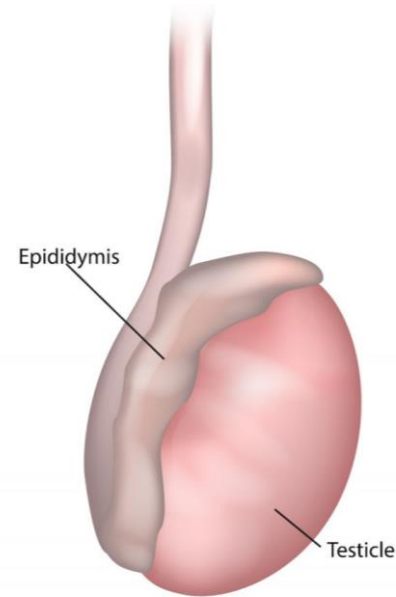
PATHOLOGY OF MALE REPRODUCTIVE SYSTEM, LAB3

Dr. Manar Rizik Al-Sayyed, M.D, Jordanian board



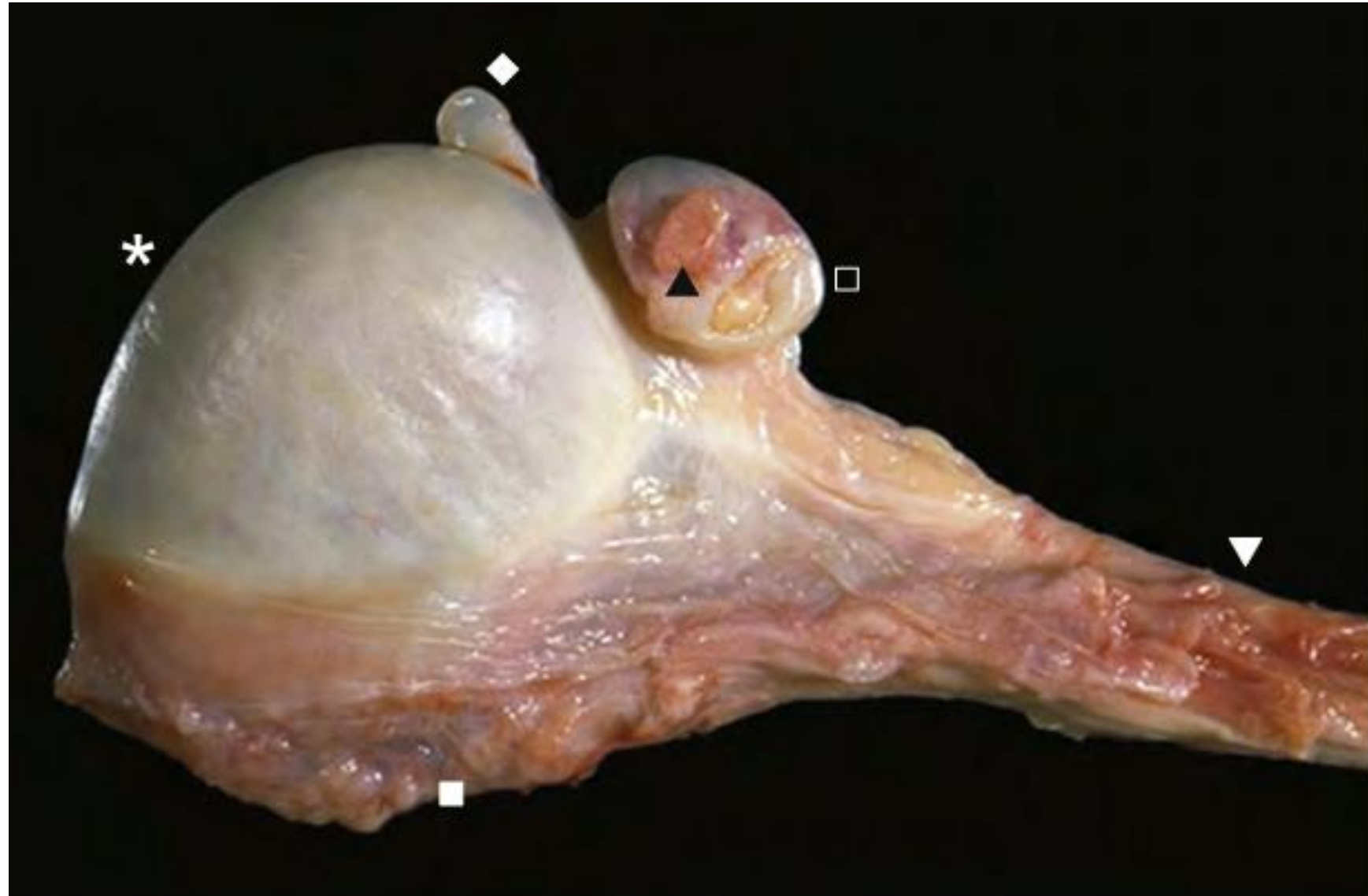


TESTES



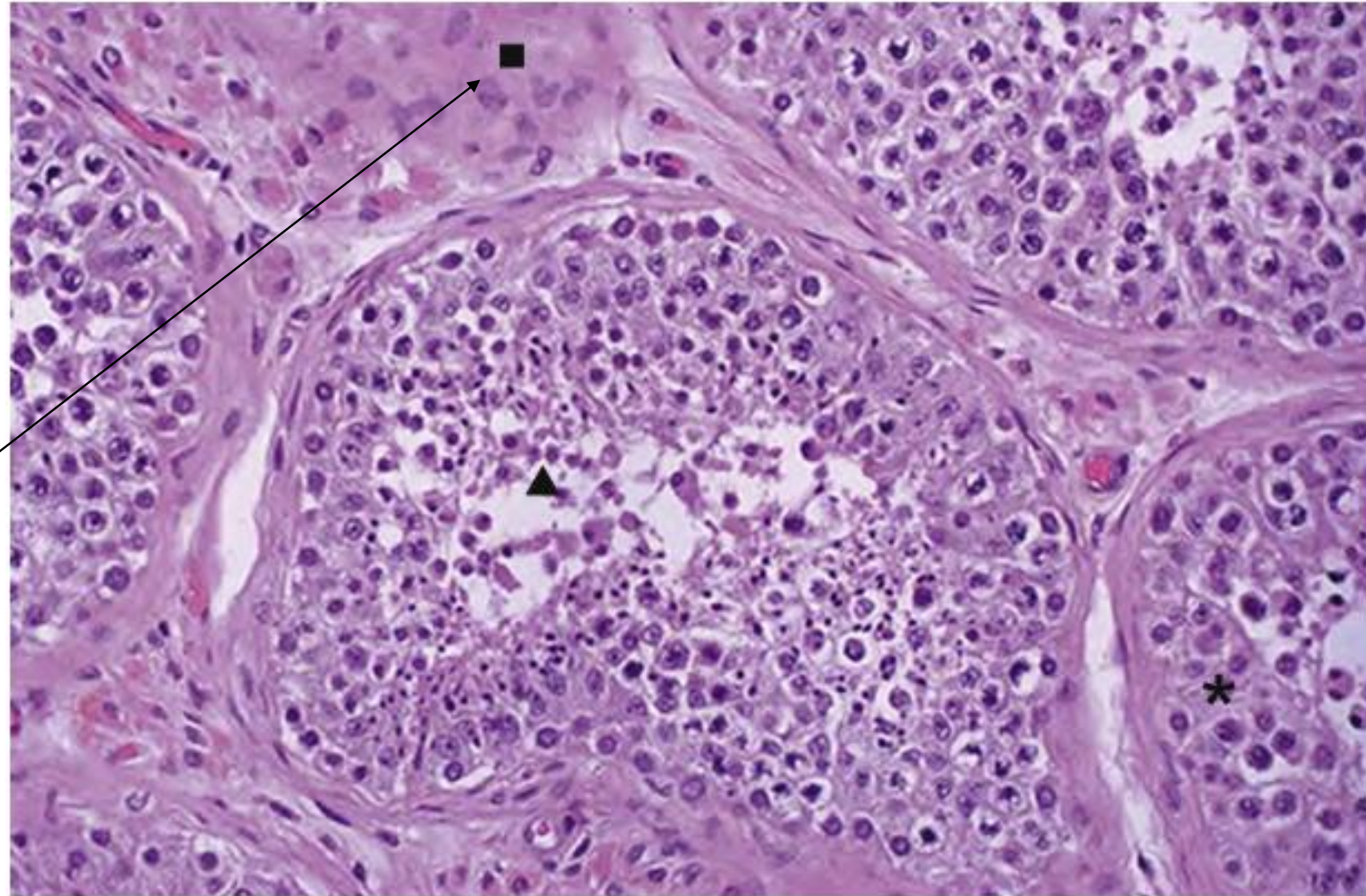
NORMAL TESTES, GROSS

- Here is a normal testis and adjacent structures, including the body of the testis *, epididymis, and spermatic cord.
- Note the presence of two vestigial structures, the appendix testis and the appendix epididymis. The pampiniform plexus of veins lies posterior to the body of the testis.



NORMAL TESTES, MICROSCOPIC

- These seminiferous tubules contain numerous germ cells*. Small dark oblong spermatozoa are visible in the center of the tubules.
- Small nodular collections of pink Leydig cells are present in the interstitium between the tubules, secreting testosterone.



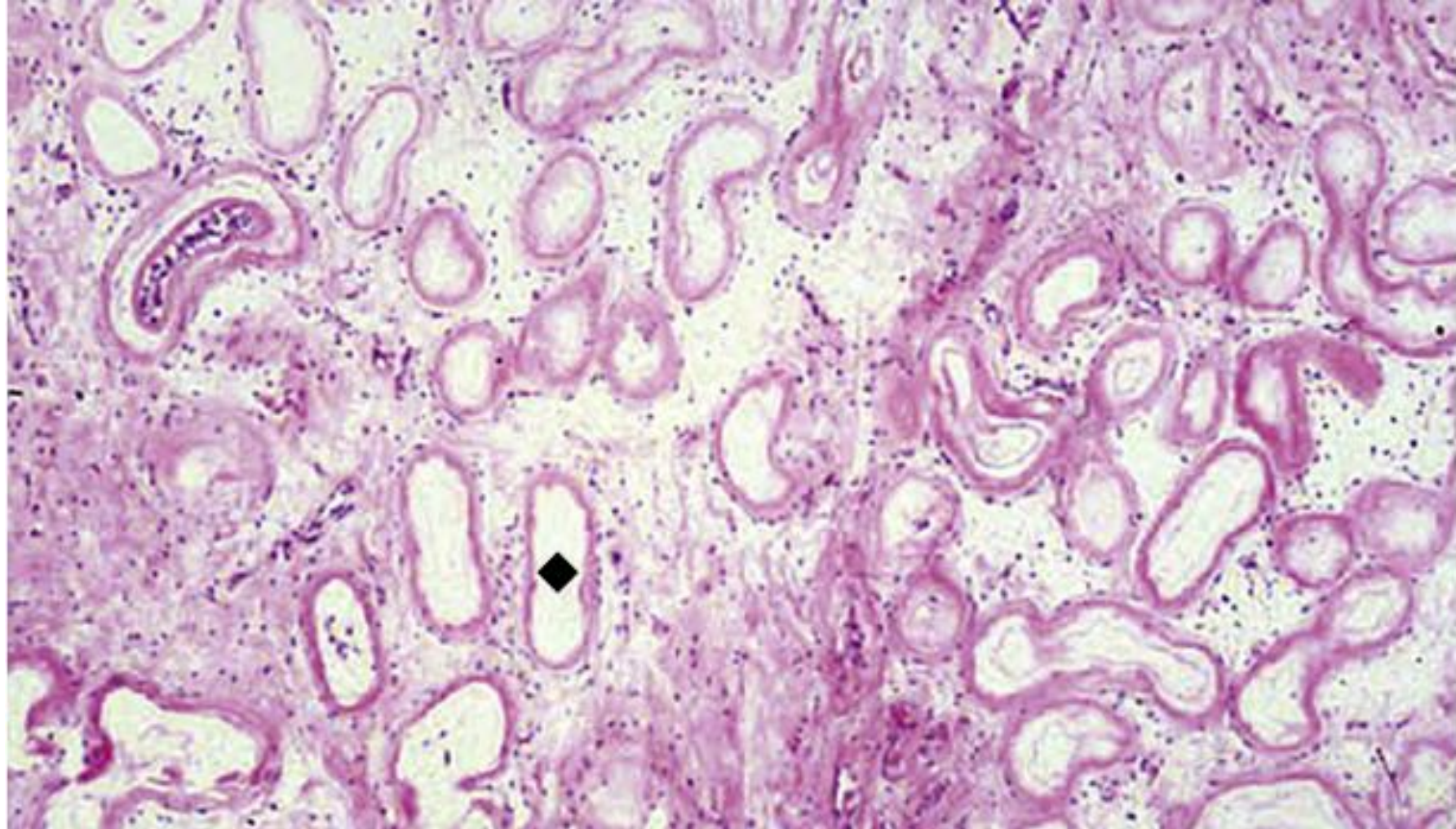
CRYPTORCHIDISM, GROSS

- The testis shown on the left is atrophic, appearing small and pale white, whereas the testis on the right appears normal.



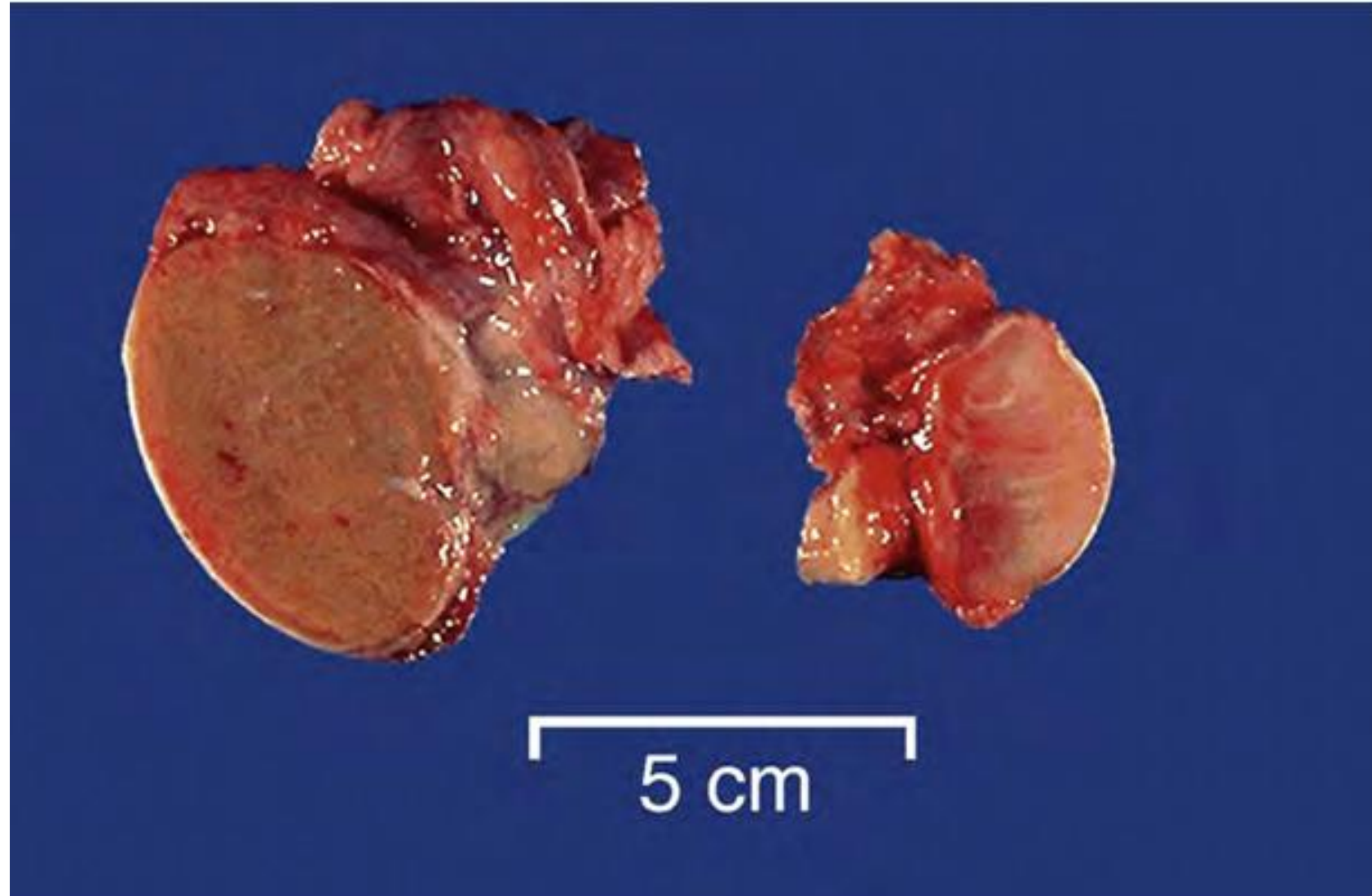
CRYPTORCHIDISM, MICROSCOPIC

- Note the atrophic, small residual tubules with no spermatogenesis, and pale surrounding stroma.



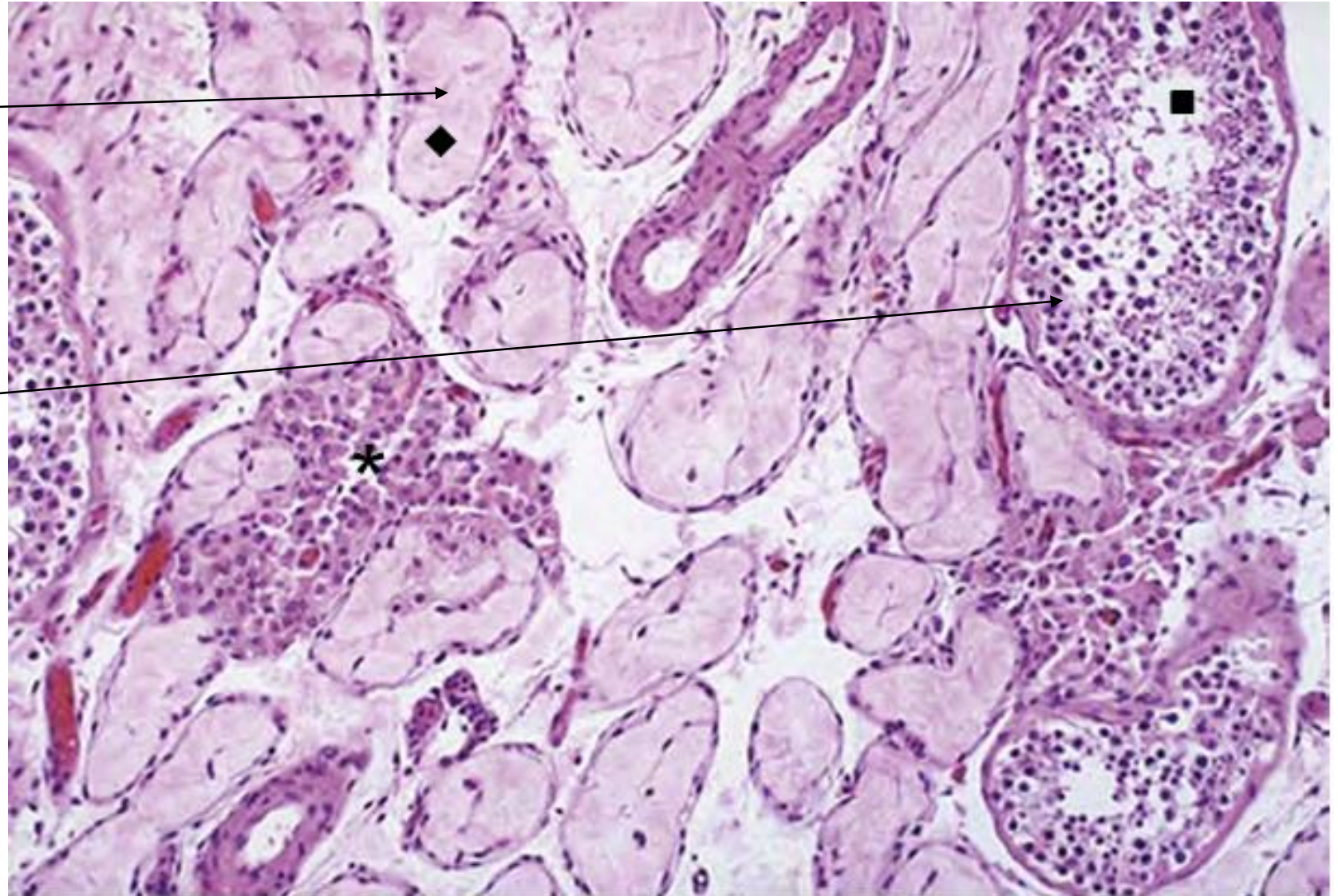
TESTICULAR ATROPHY, GROSS

- On the left is a normal testis, and the testis on the right has undergone atrophy.
- Causes:
hypopituitarism, inflammation, orchitis, mumps, and Klinefelter syndrome.



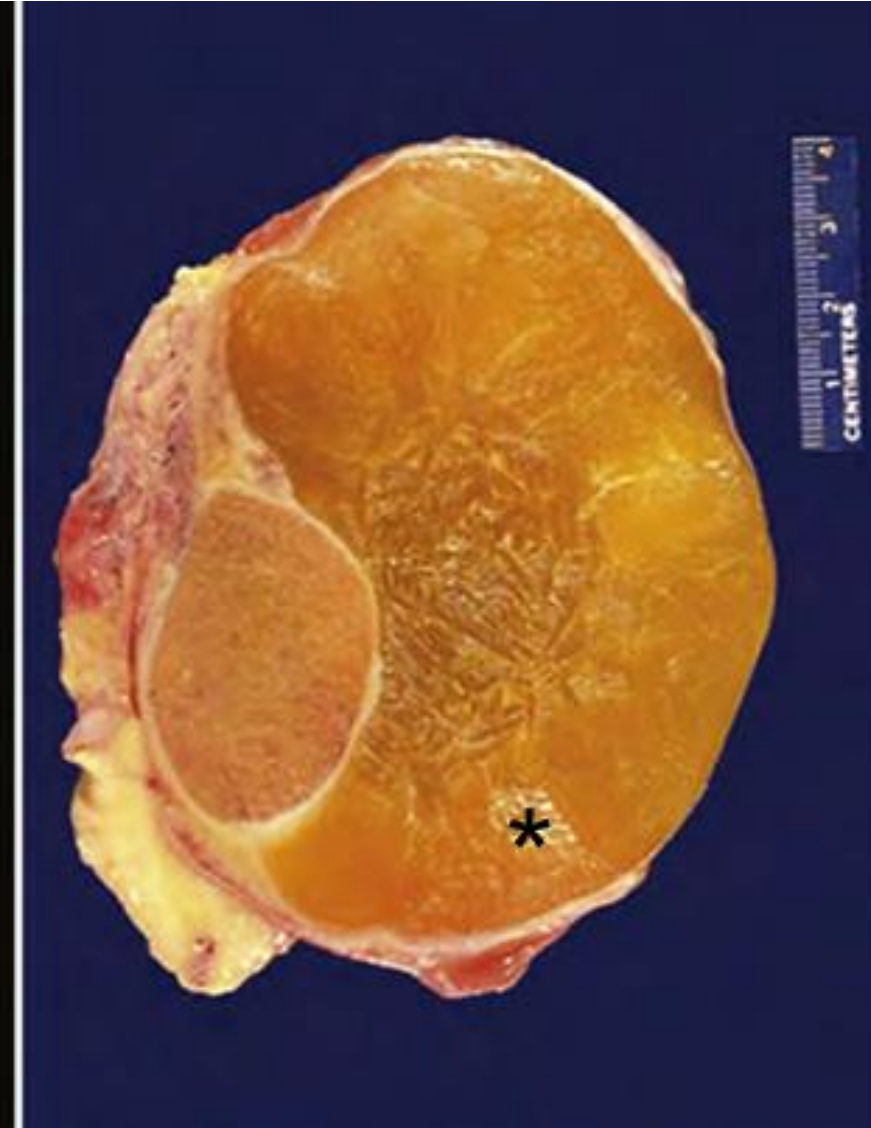
TESTICULAR ATROPHY, MICROSCOPIC

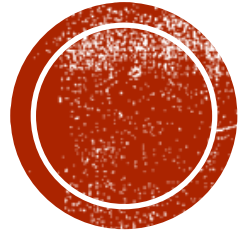
- Here is focal atrophy of seminiferous tubules along with normal Leydig cells * and residual normal tubules with active spermatogenesis.



HYDROCELE, GROSS

- Hydroceles are common accumulations of clear fluid within the sac of tunica vaginalis, which is lined by a serosa.

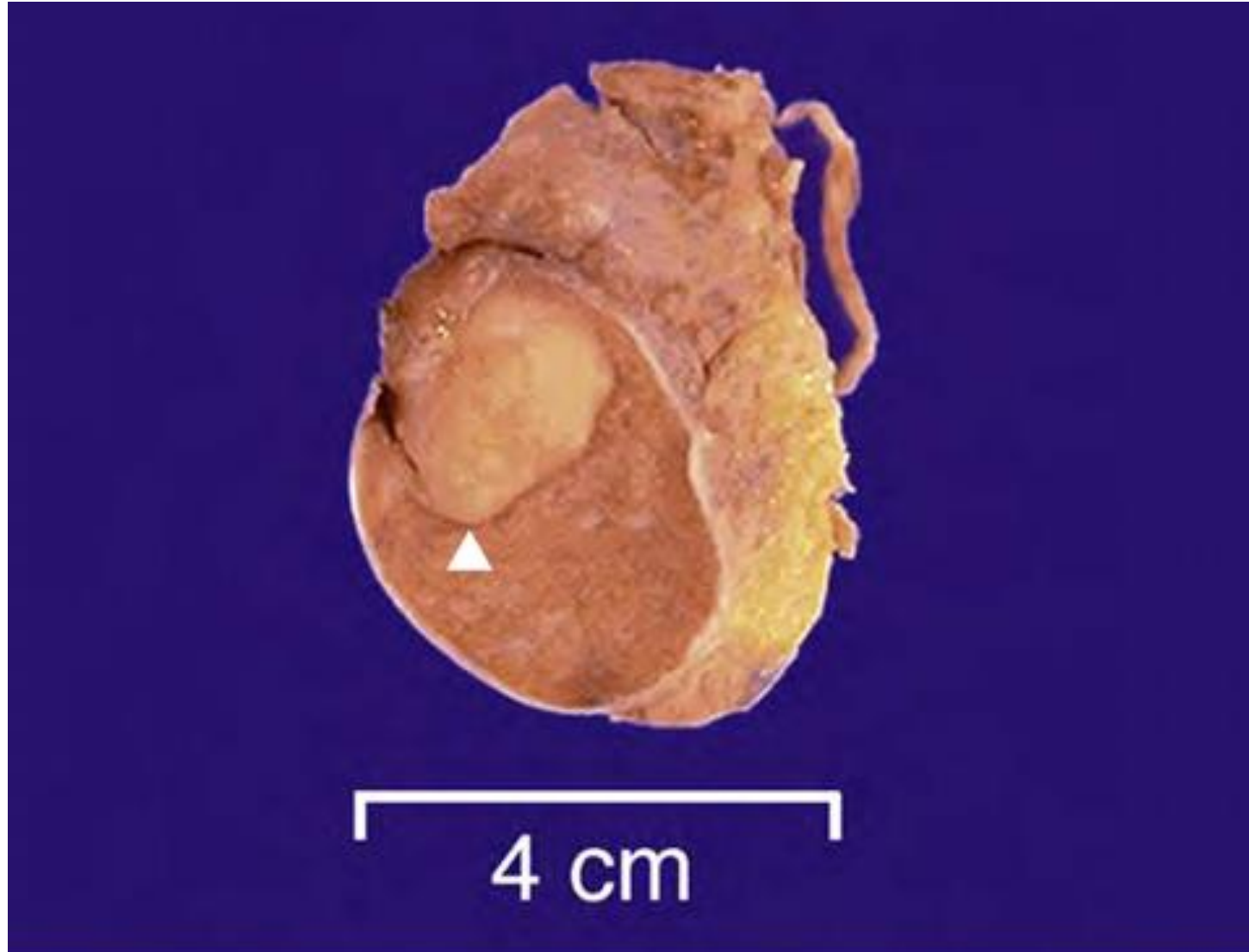




TESTICULAR TUMORS

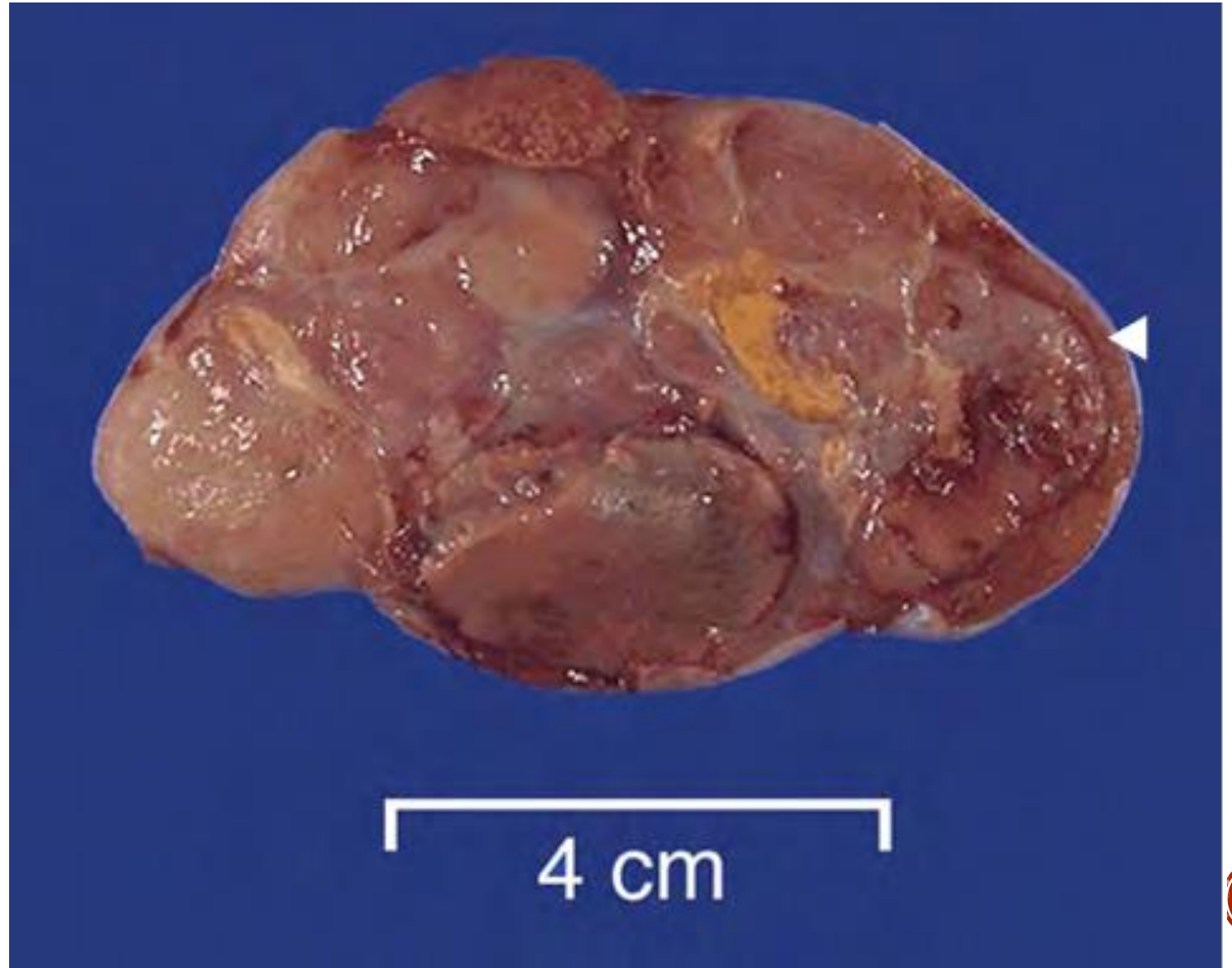


SEMINOMA, GROSS



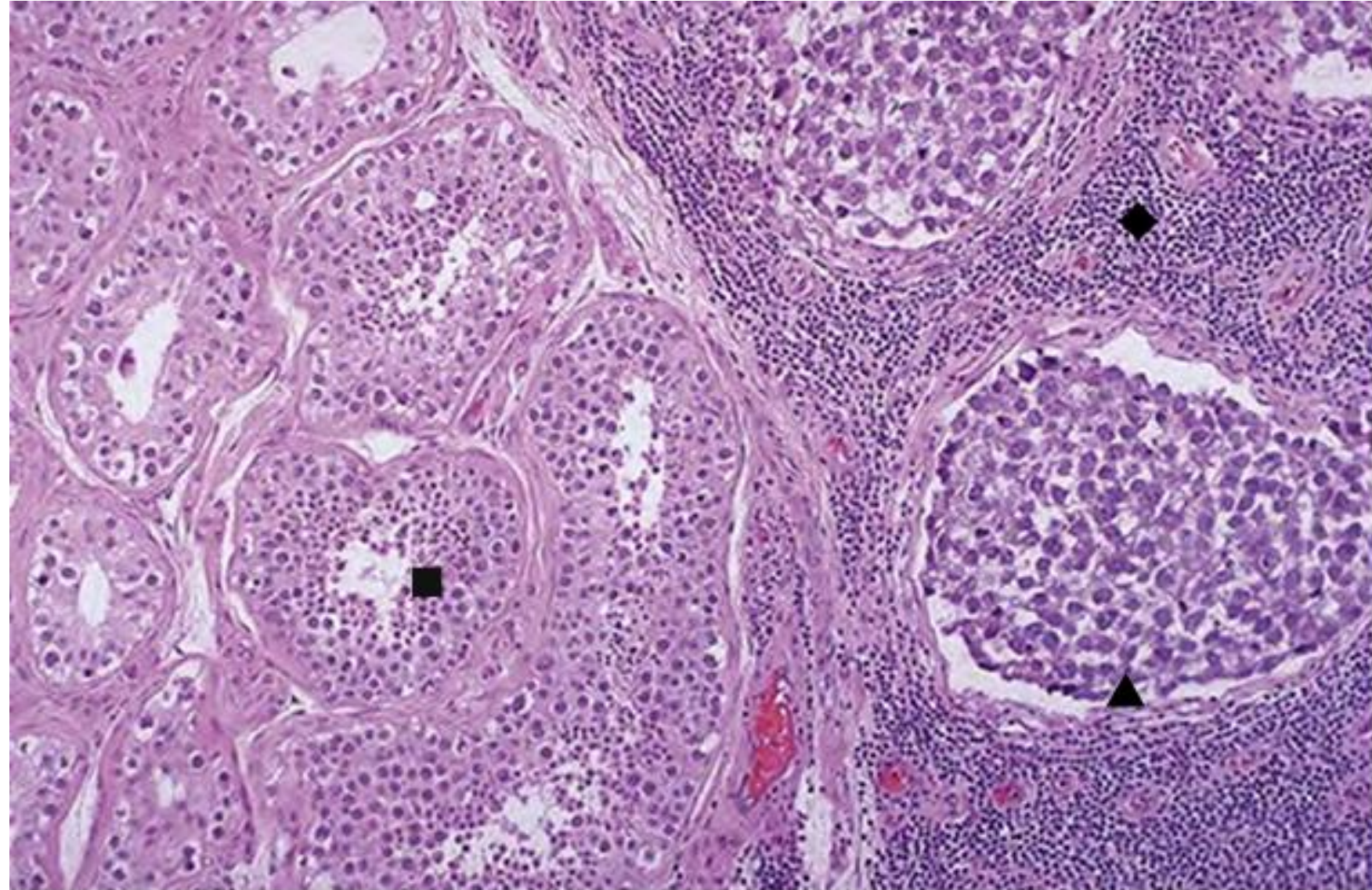
SEMINOMA, GROSS

- A small rim of remaining normal testis appears at the far right. This tumor is composed of lobulated, soft, tan-to-brown tissue.



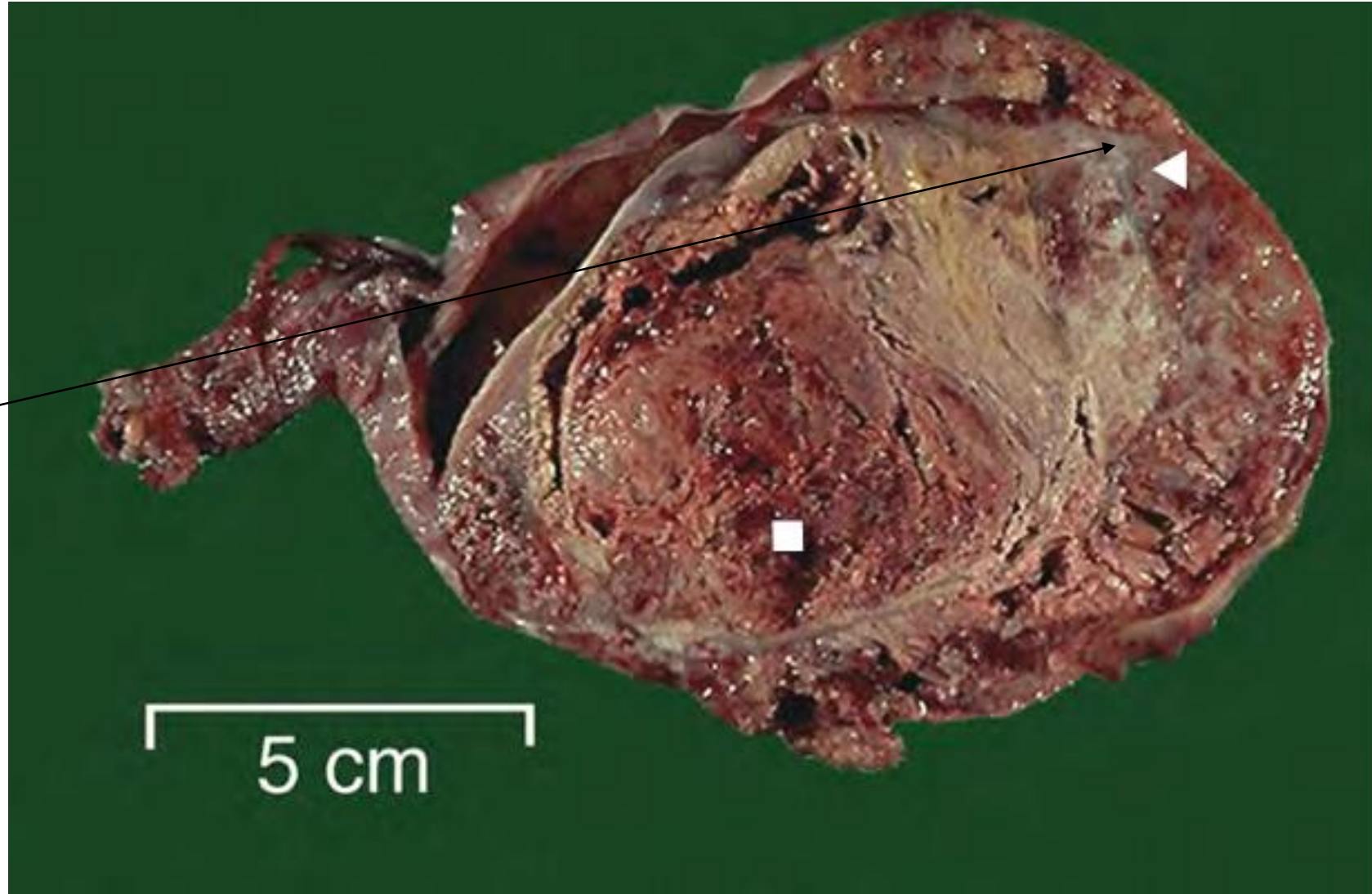
SEMINOMA, MICROSCOPIC

- Normal testis appears on the left, and seminoma is present on the right.
- The large seminoma cells have vesicular nuclei and pale watery cytoplasm. Lobules of neoplastic cells have an intervening stroma with characteristic T-cell lymphoid infiltrates.



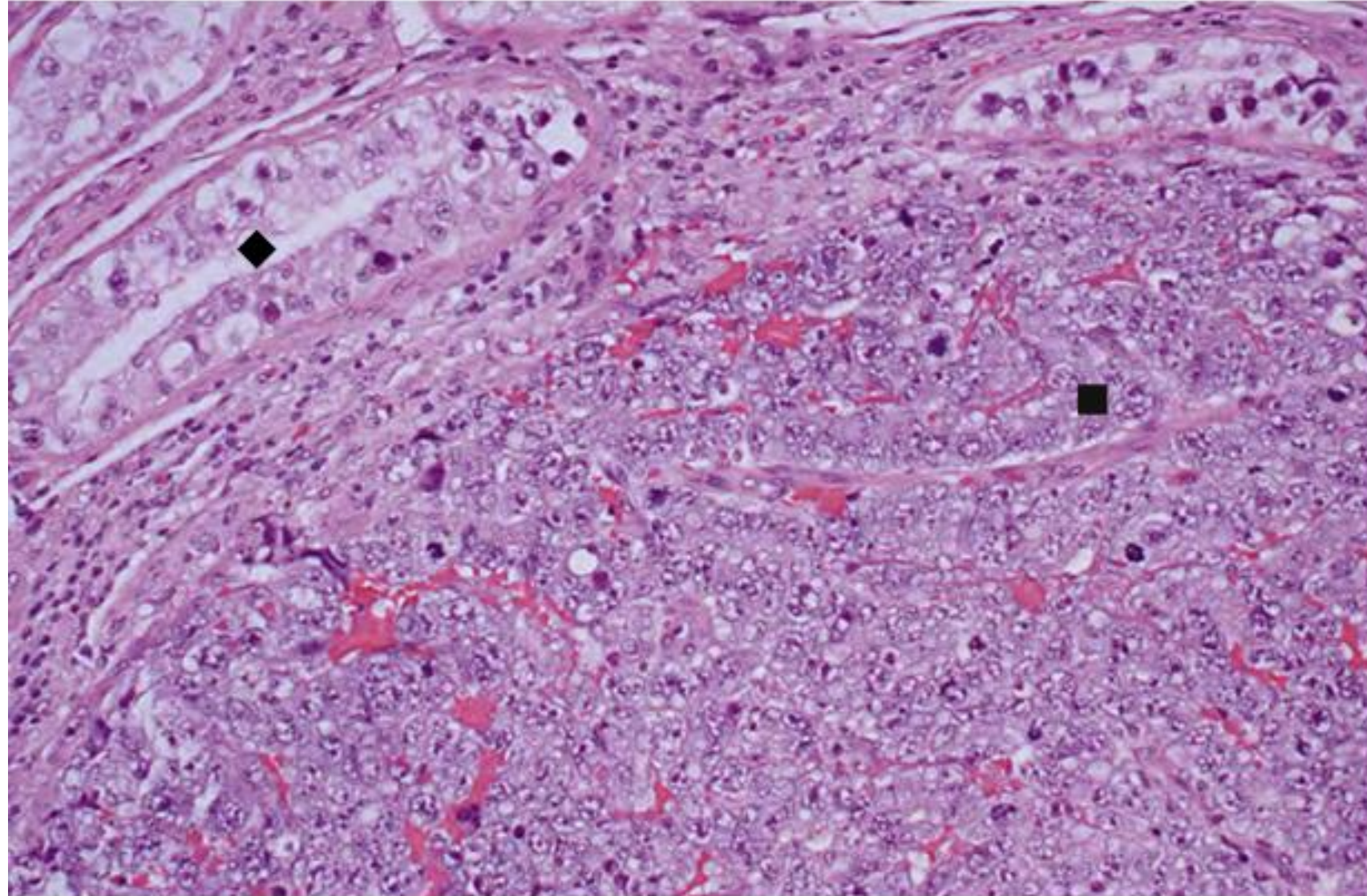
EMBRYONAL CARCINOMA, GROSS

- This large tumor mass is soft and much more variegated than the seminoma, with red, tan, and brown areas, including prominent foci of hemorrhage and necrosis.
- There are a few scattered firmer white areas that histologically proved to be teratoma. No normal testicular tissue can be seen here.
- This is mixed embryonal carcinoma plus teratoma or mixed germ cell tumor of the testis.



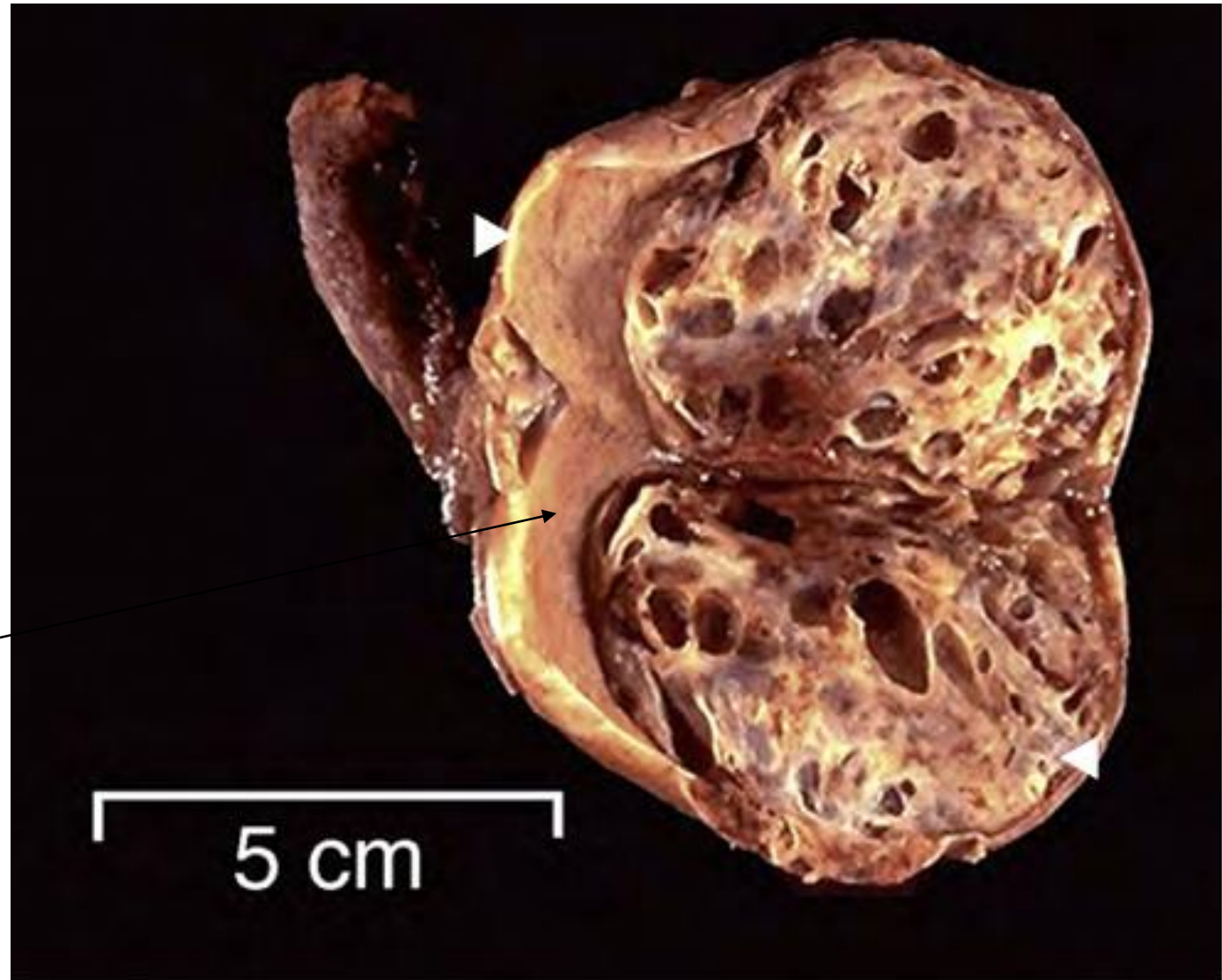
EMBRYONAL CARCINOMA, MICROSCOPIC

- The neoplastic cells, compared with the residual seminiferous tubule at the upper left, appear more primitive than seminoma.
- Sheets of large pale blue cells with indistinct borders are trying to form primitive tubules.



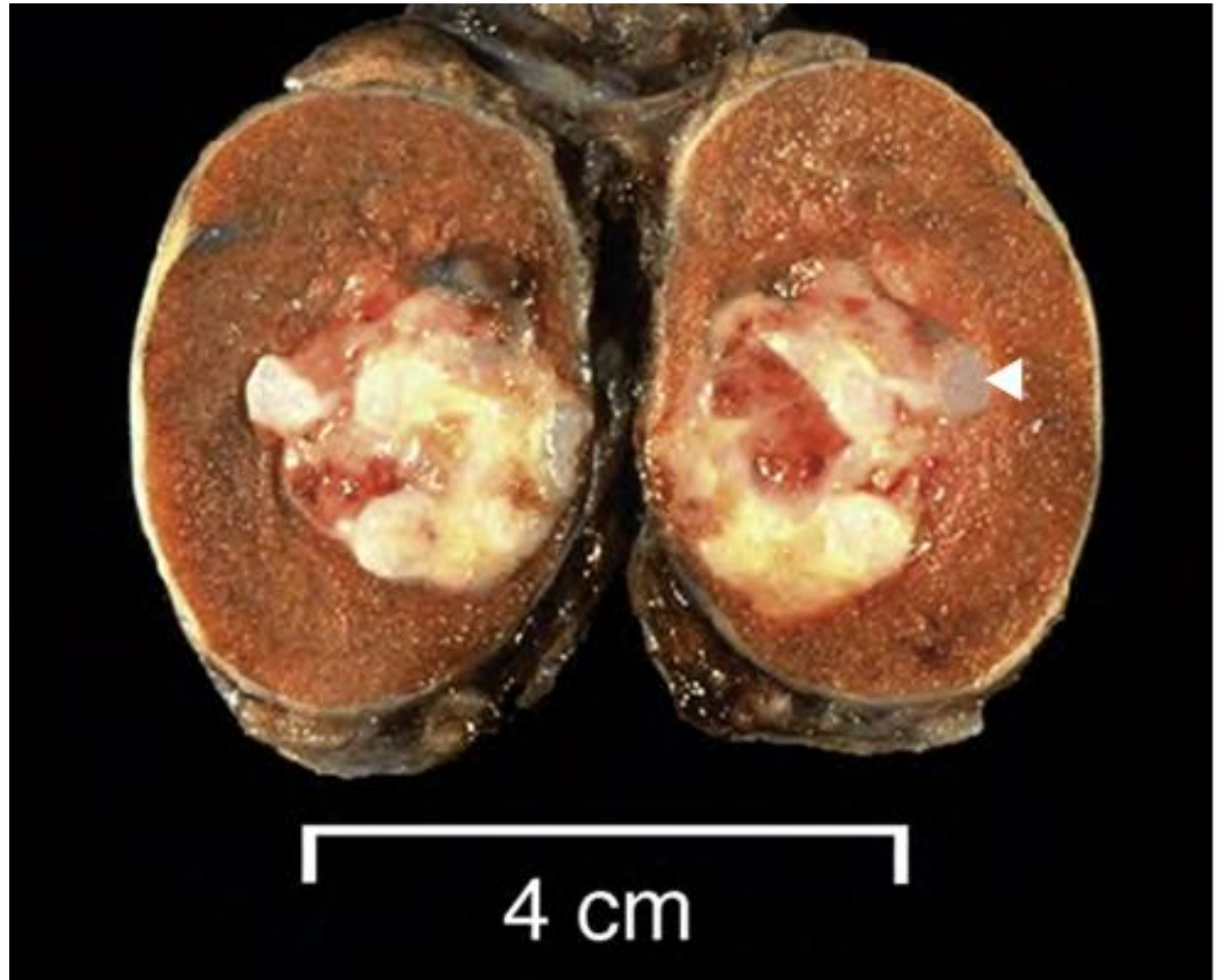
MIXED GERM CELL TUMOR, GROSS

- This is an embryonal carcinoma mixed with teratoma in which islands of bluish white cartilage from the teratoma component are present.
- A rim of normal pale brown testis appears at the left of the tumor.



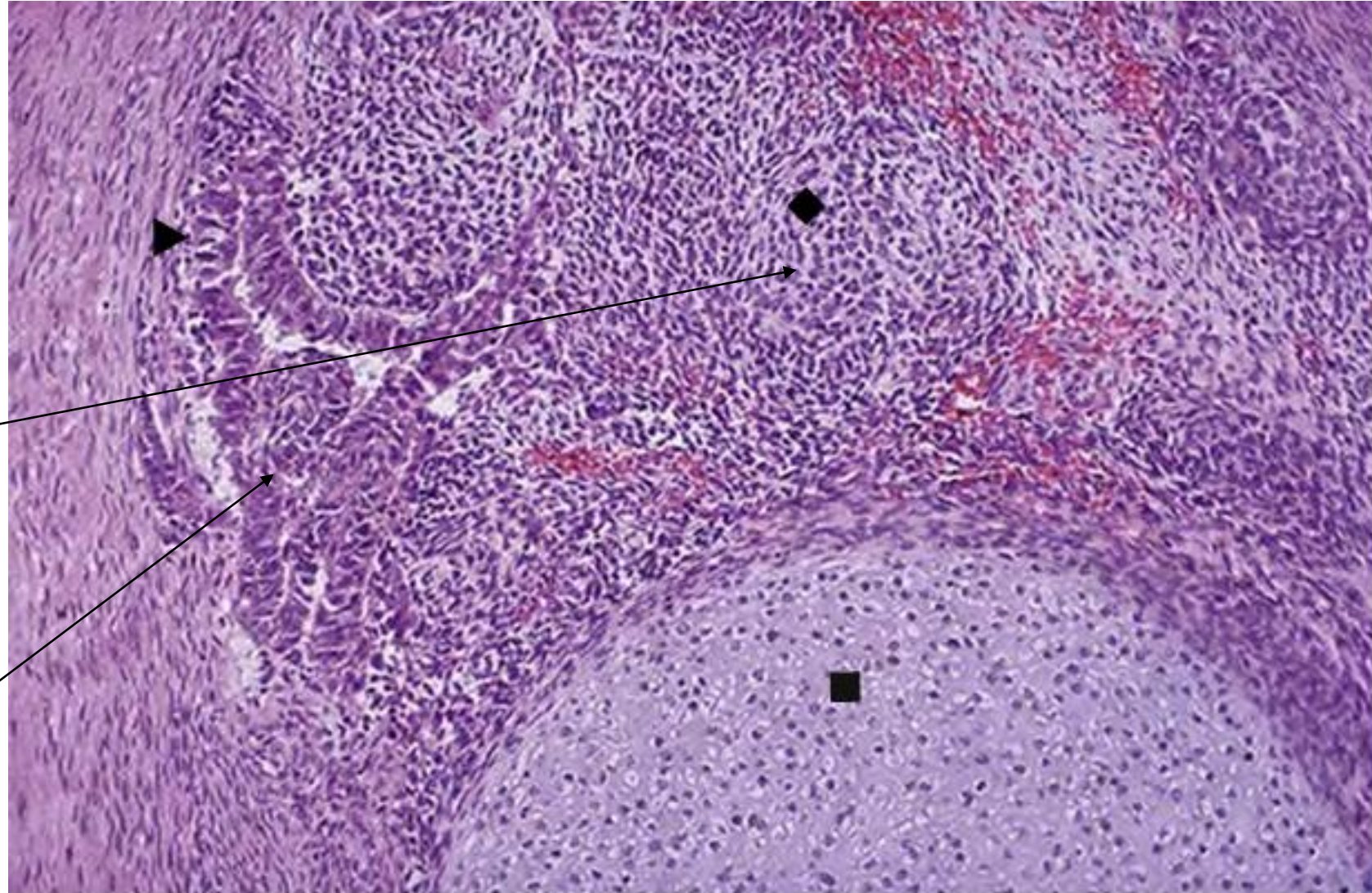
TERATOMA, GROSS

- This small testicular neoplasm has a mixture of bluish cartilage admixed with red and white tumor tissue.



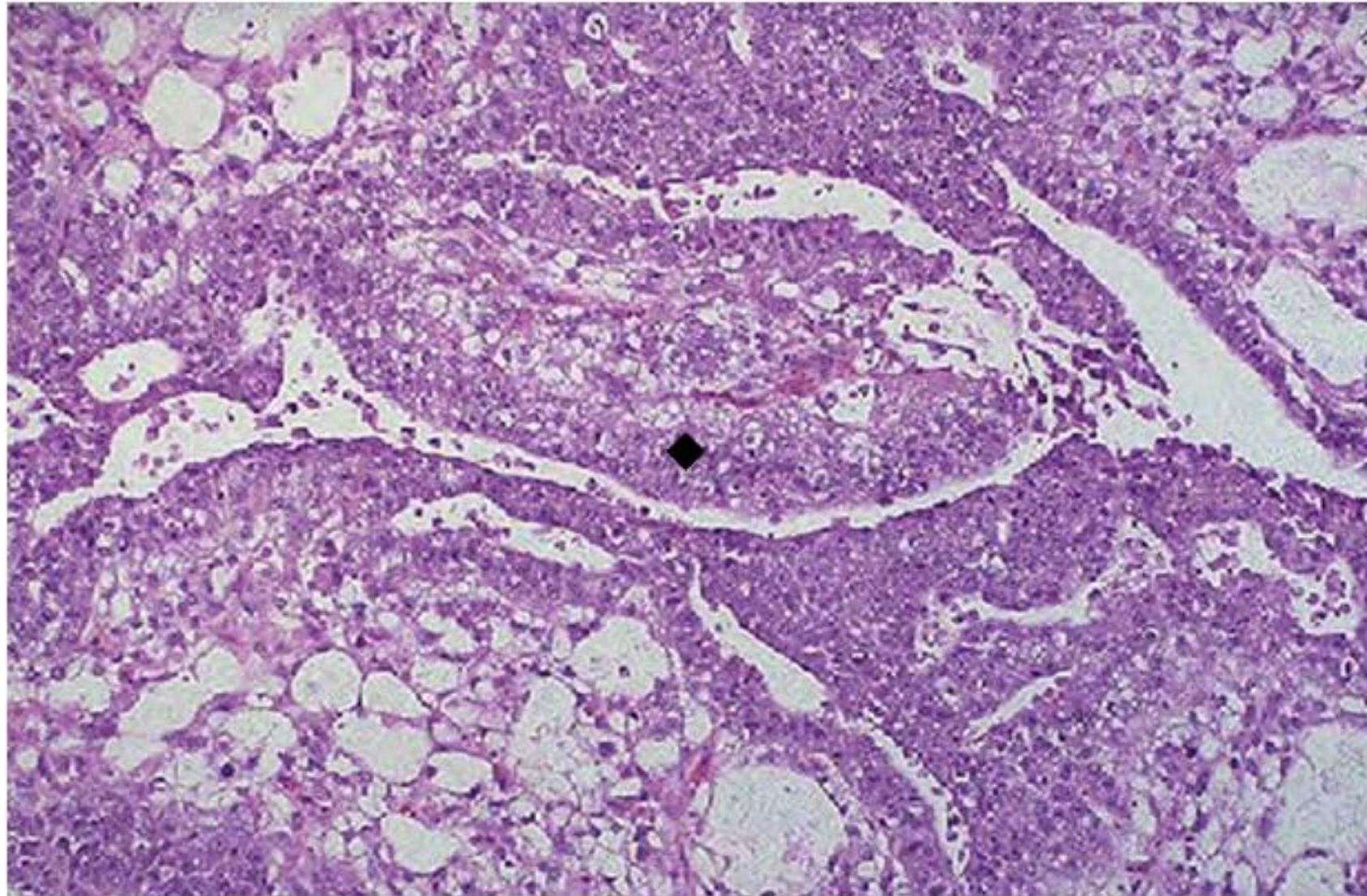
MIXED GERM CELL TUMOR, MICROSCOPIC

- At the bottom is a focus of primitive but benign appearing cartilage, representing a **teratoma** component.
- Above this is a primitive mesenchymal stroma,
- And to the left is a focus of primitive cells most characteristic of embryonal carcinoma.

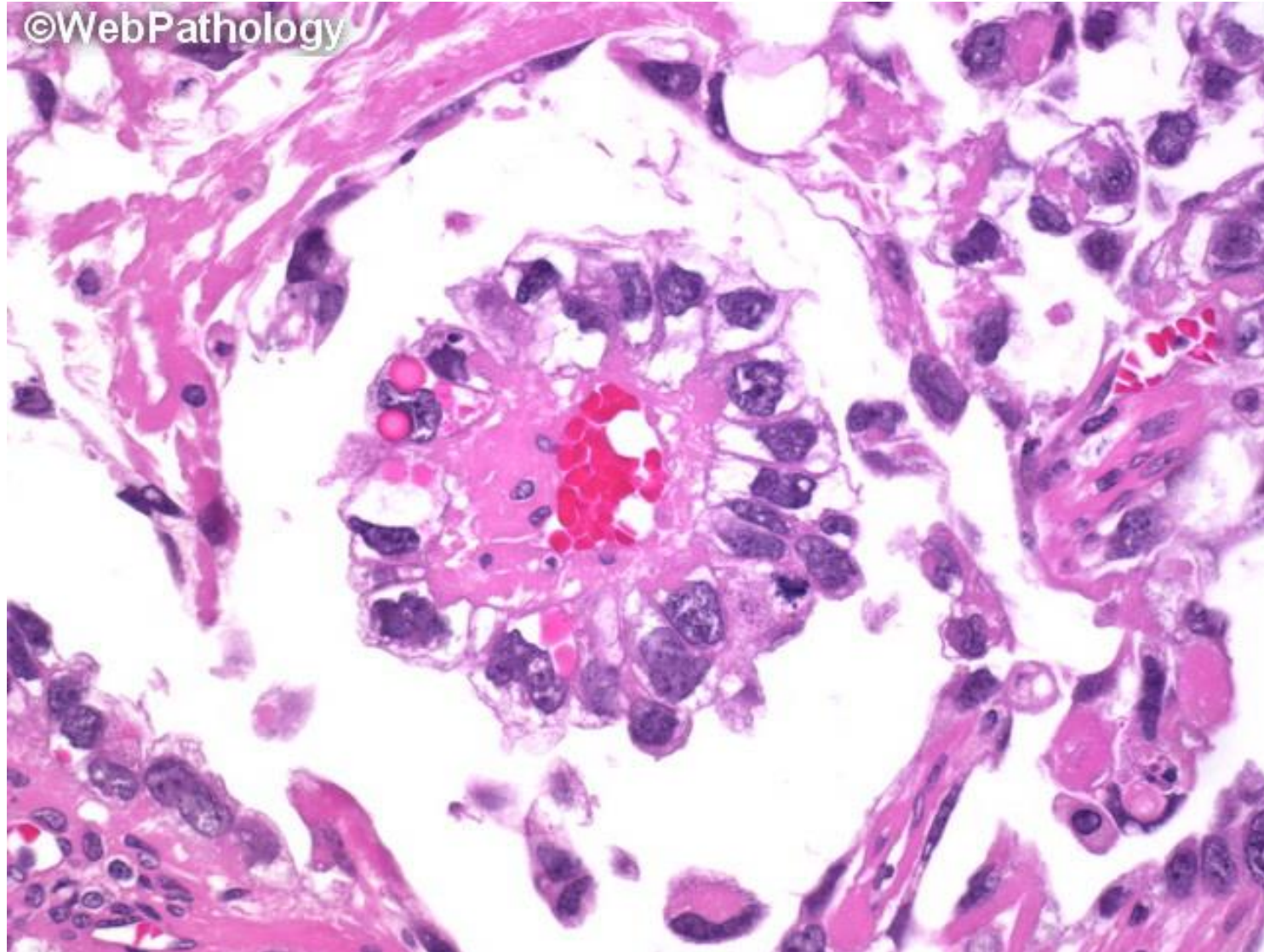


YOLK SAC TUMOR, MICROSCOPIC

- This **endodermal sinus tumor** of the testis is composed of primitive germ cells that form glomeruloid, or embryonal-like structures (**Schiller-Duval bodies**).

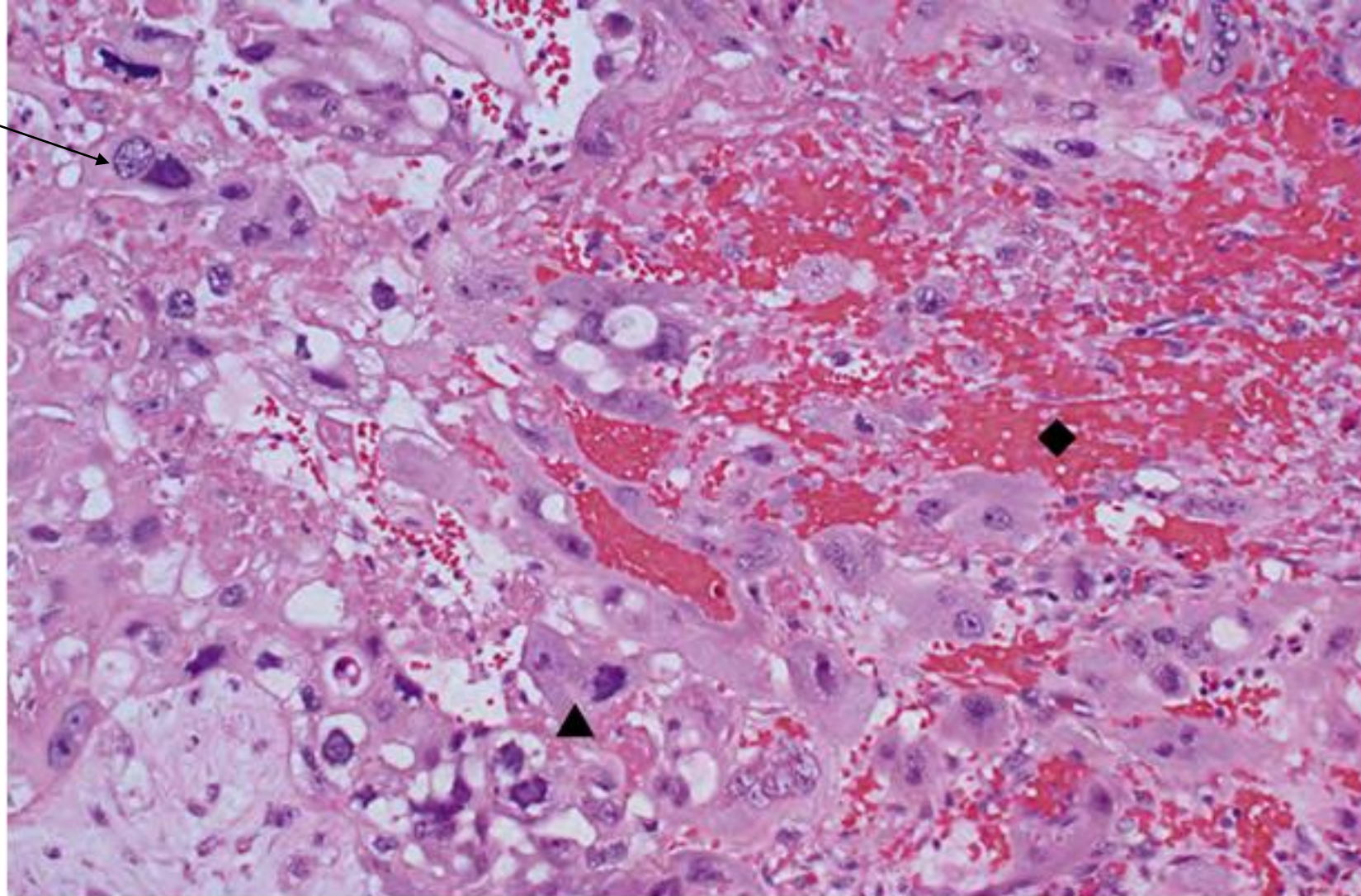


SCHILLER-DUVAL BODIES



CHORIOCARCINOMA, MICROSCOPIC

- Shown here are large syncytiotrophoblastic cells with abundant pink cytoplasm and a highly pleomorphic nuclei. Smaller cytotrophoblastic cells with clear cytoplasm are present.
- Some cases may exhibit “disappearing primary” tumor, in which the rapidly growing tumor outgrows its blood supply and infarcts with hemorrhage and necrosis.



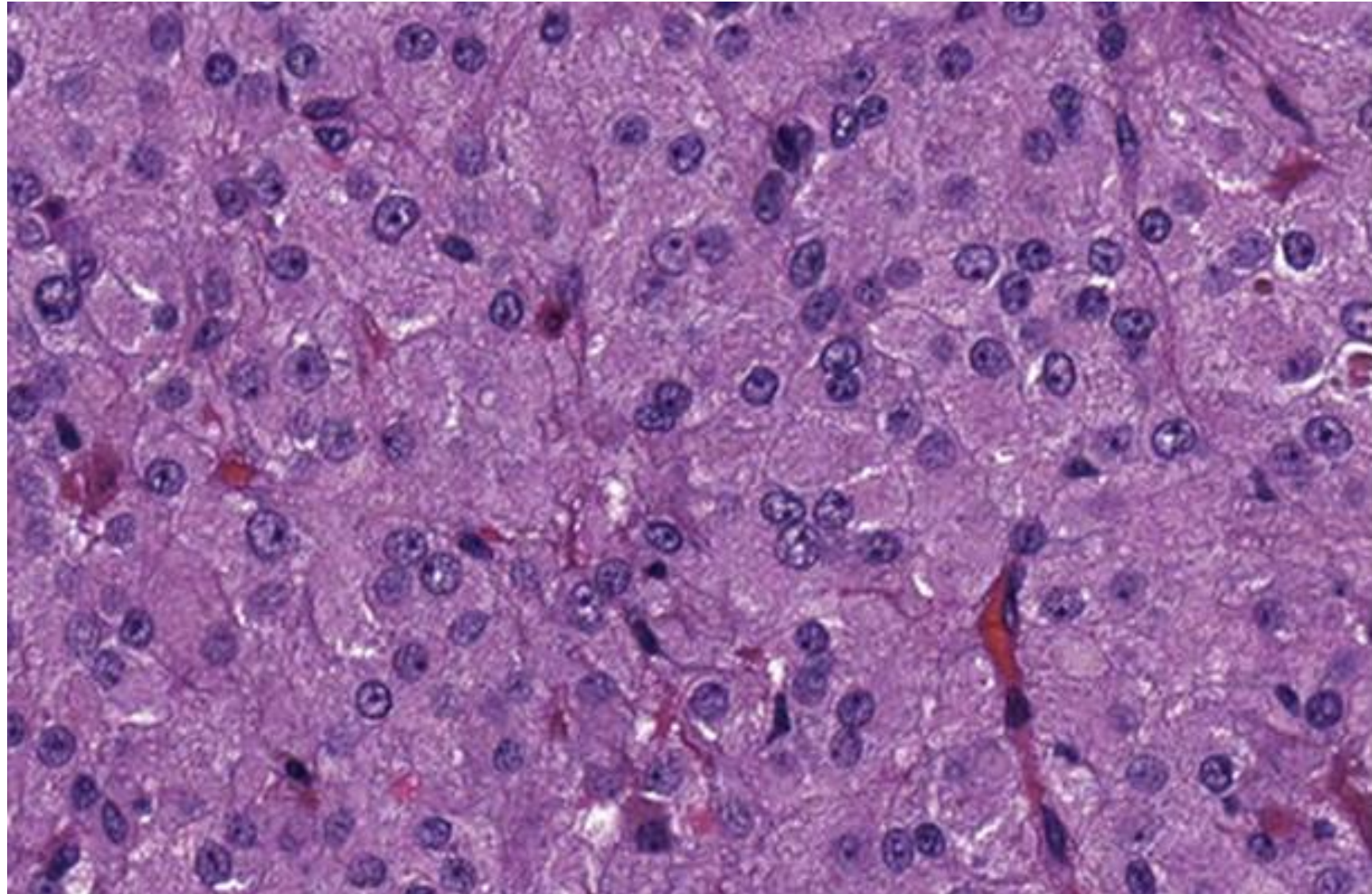
LEYDING CELL TUMOR, GROSS

- The cut surface of this normal-sized adult testis reveals a small discrete brown mass.



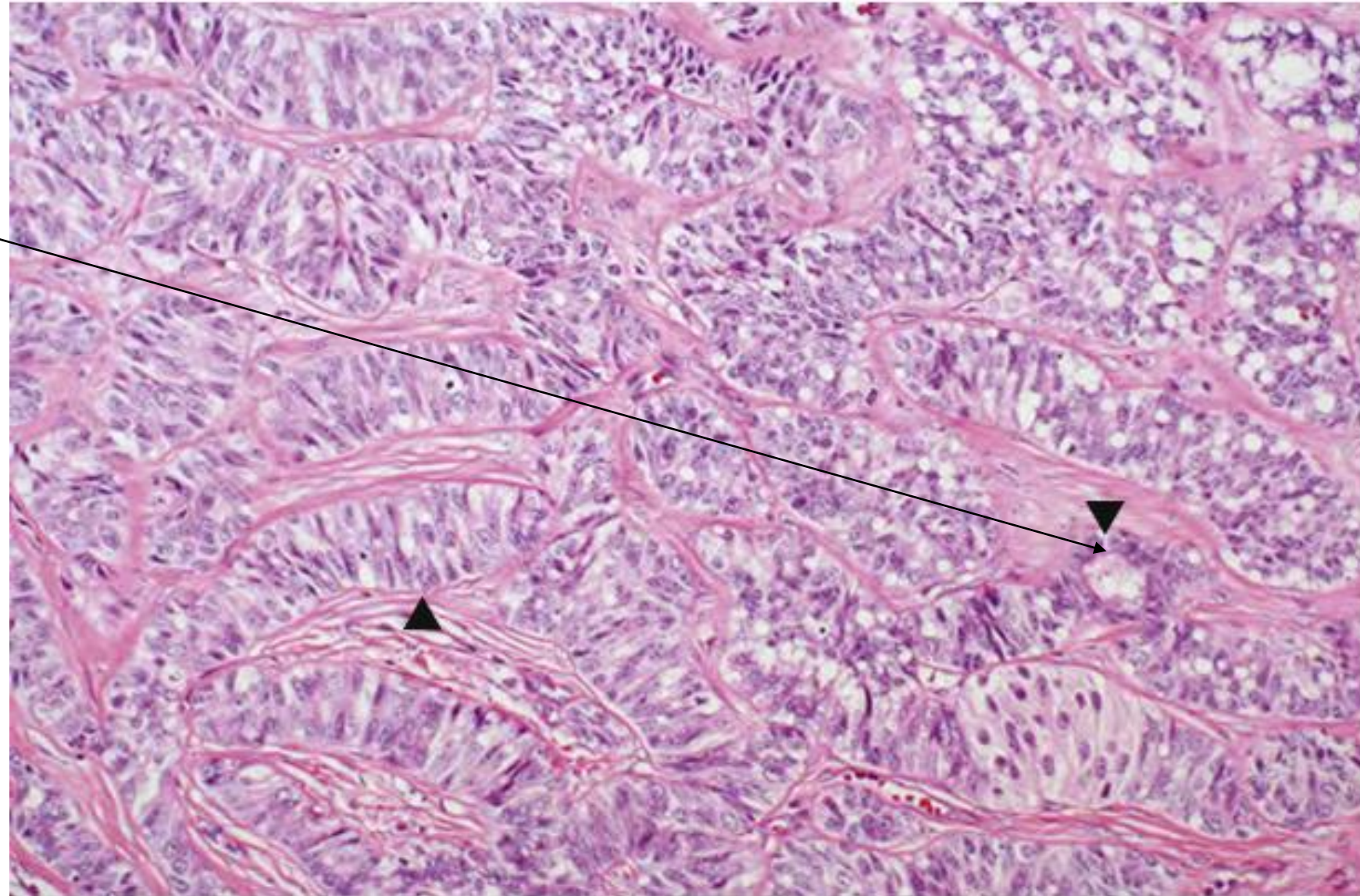
LEYDING CELL TUMOR, MICROSCOPIC

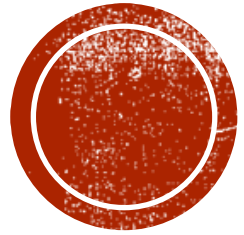
- The small round cells of this tumor are found in nests or clusters, and there are many intervening capillaries, typical of endocrine tissue.
- A distinctive electron microscopic feature is the cytoplasmic rod-shaped **crystalloid of Reinke**.



SERTOLI CELL TUMOR, MICROSCOPIC

- The neoplastic cells shown form cordlike structures and primitive tubular structures. They have the elongated shape of normal testicular Sertoli cells, that reside in seminiferous tubules and provide support for developing germ cells.
- These tumors often arise in the setting of gonadal dysgenesis.



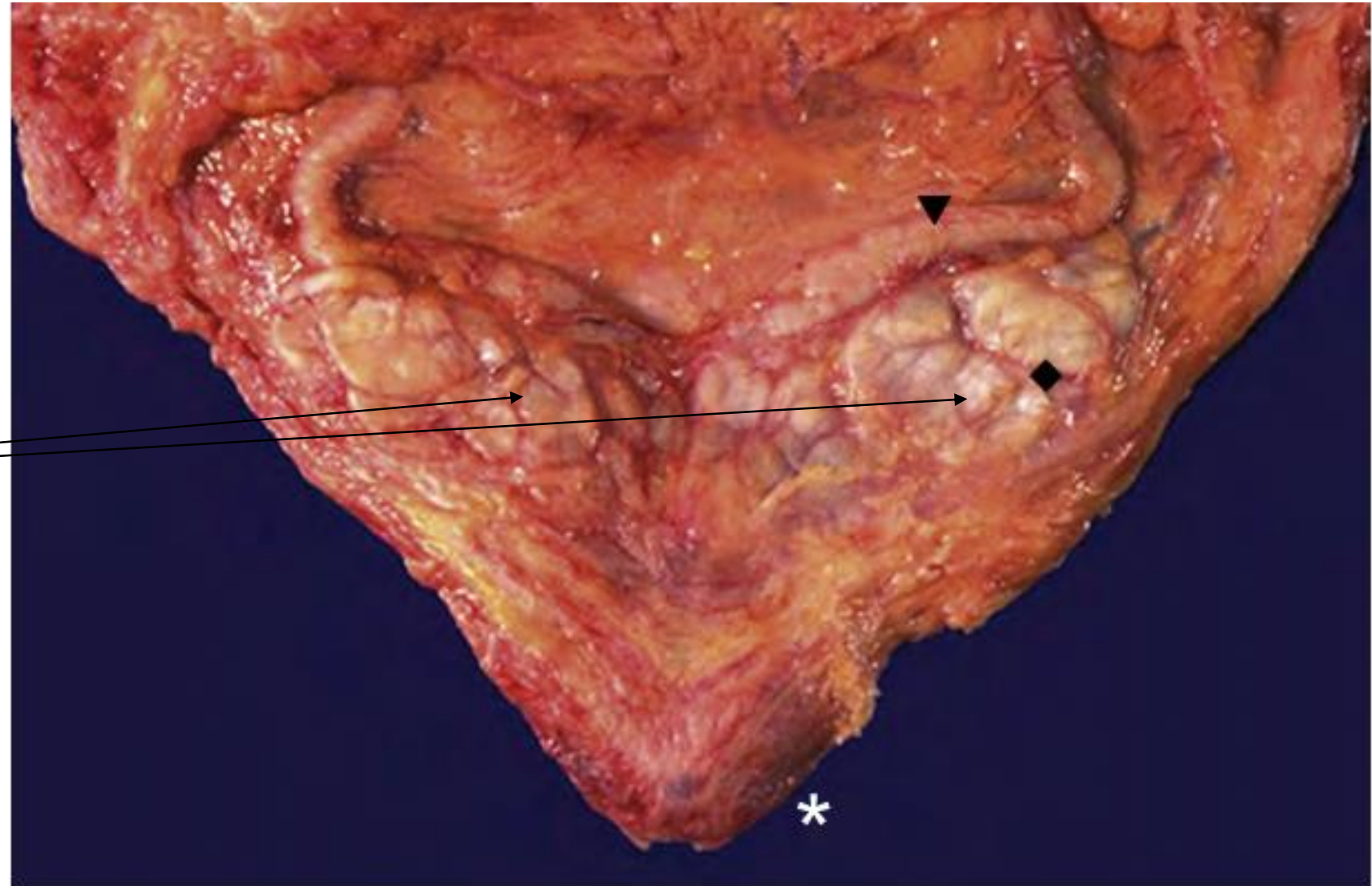


PROSTATE



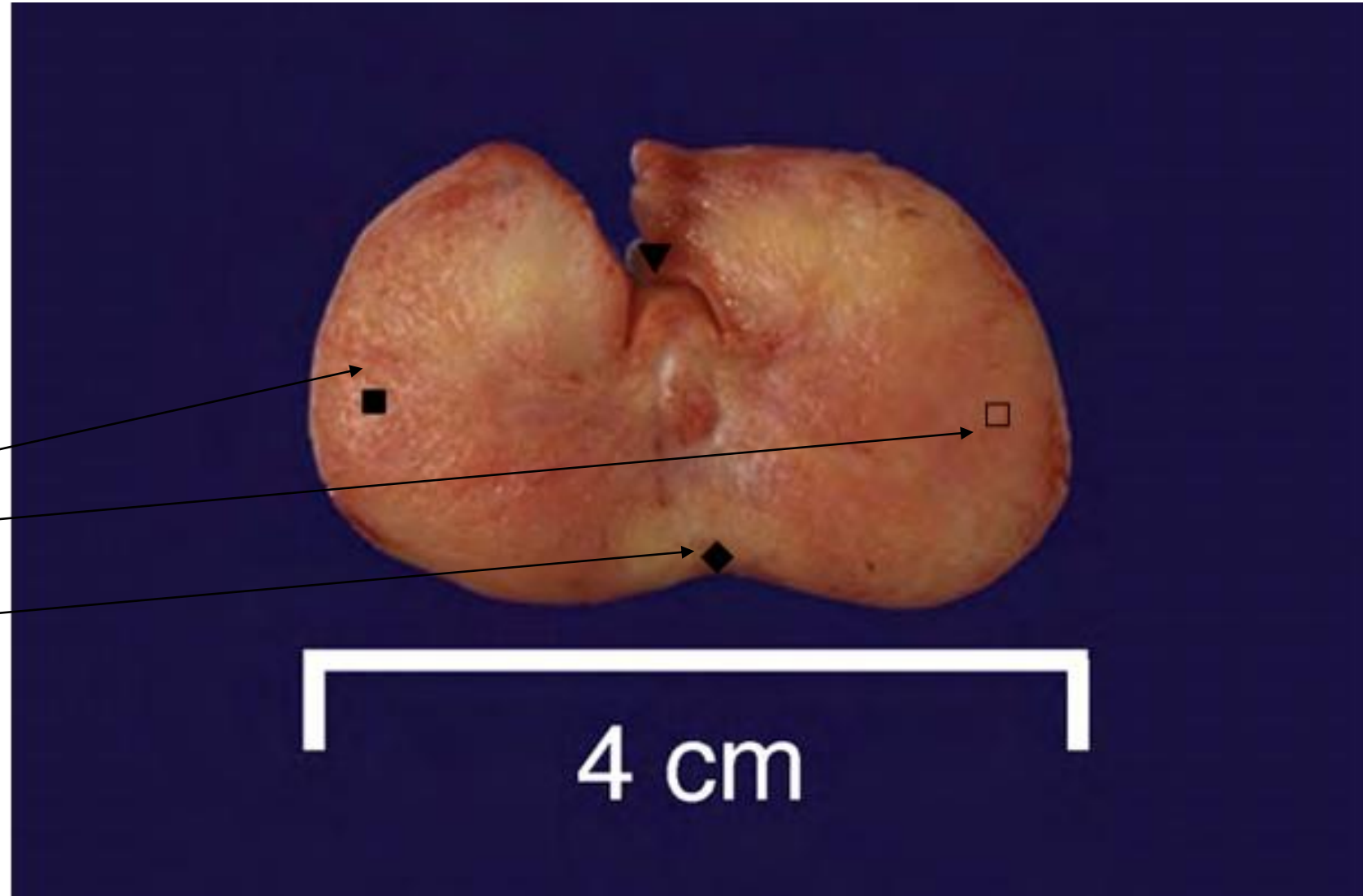
NORMAL PROSTATE, GROSS

- The normal prostate is shown here from a posterior view.
- Anterior to the rectum and posterior and superior to the prostate are the paired seminal vesicles.
- The vas deferens from each testis is shown to extend to the prostate as well.



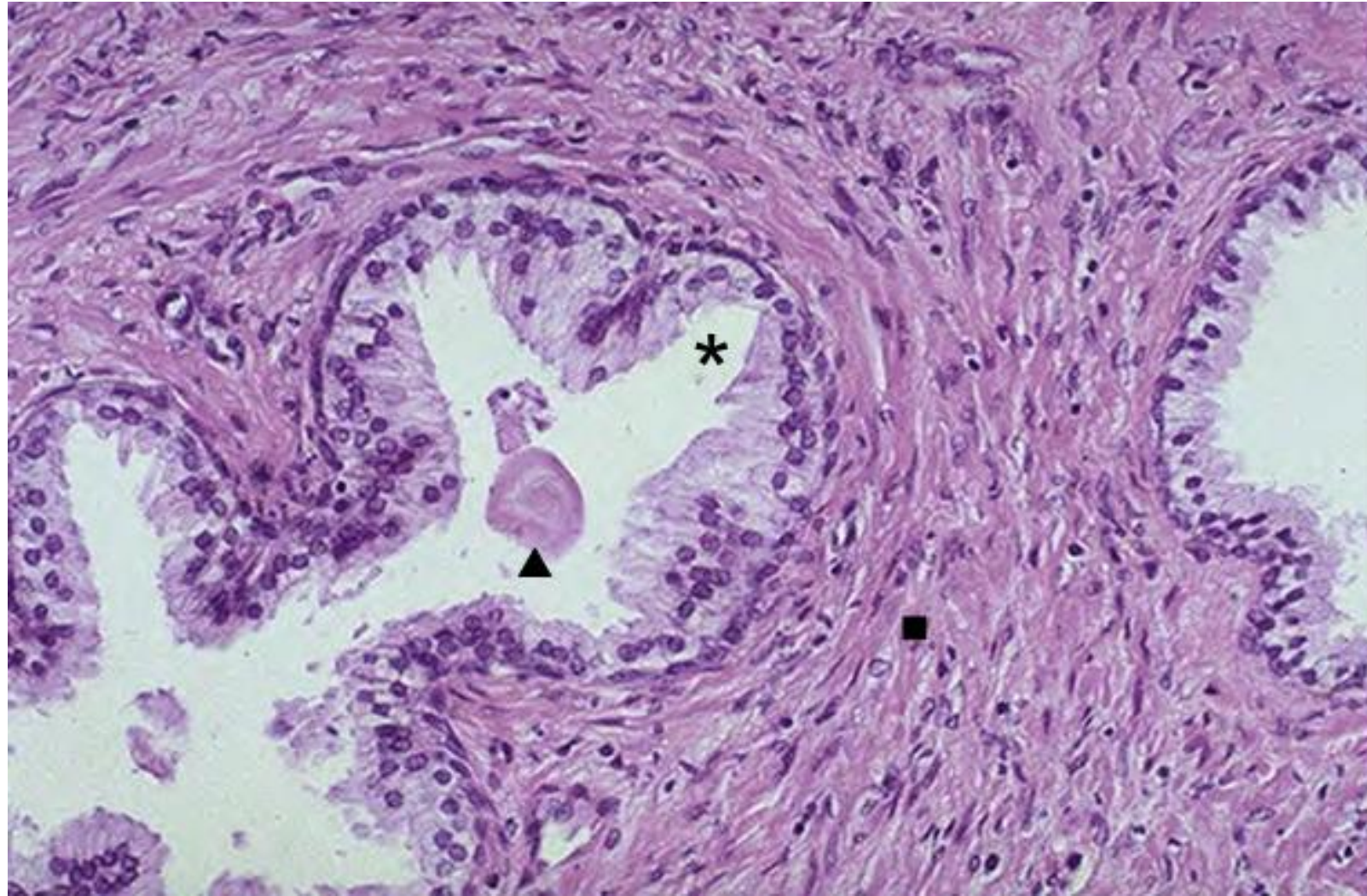
NORMAL PROSTATE, GROSS

- This is a transverse (axial) section through a normal prostate.
- There is a central urethra at the depth of the cut made to open this prostate anteriorly at autopsy, with the left lateral lobe, the right lateral lobe, and the posterior lobe.
- The consistency is uniform, without nodularity.



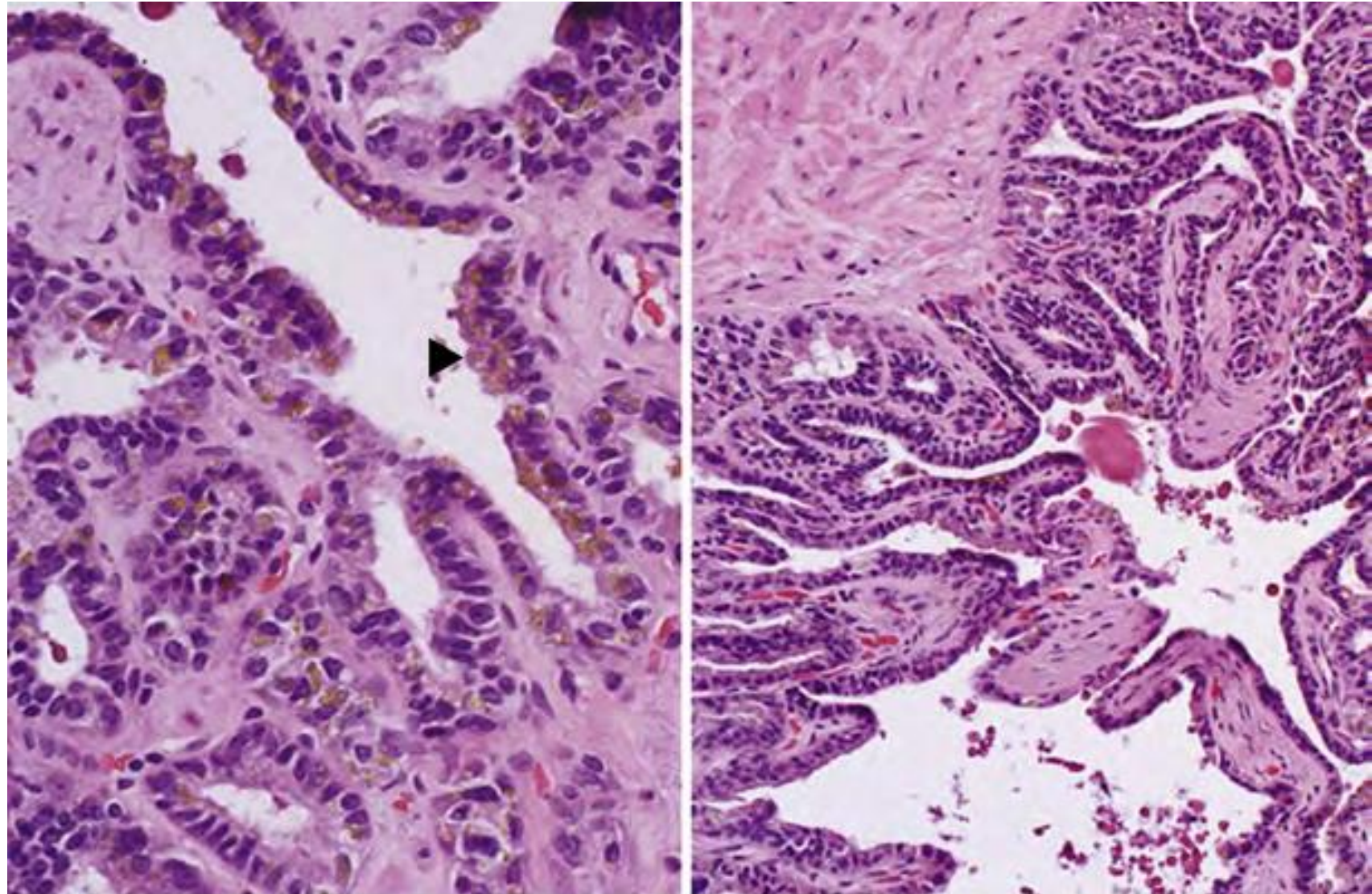
NORMAL PROSTATE, MICROSCOPIC

- The normal histologic appearance of prostate glands and surrounding fibromuscular stroma is shown here.
- A small pink concretion (typical of the corpora amylacea seen in benign prostatic glands of older men) appears in the gland.
- Note the well-differentiated glands with a double layer of inner tall columnar epithelial lining cells and basal low cuboidal cells.
- These cells normally do not have prominent nucleoli.



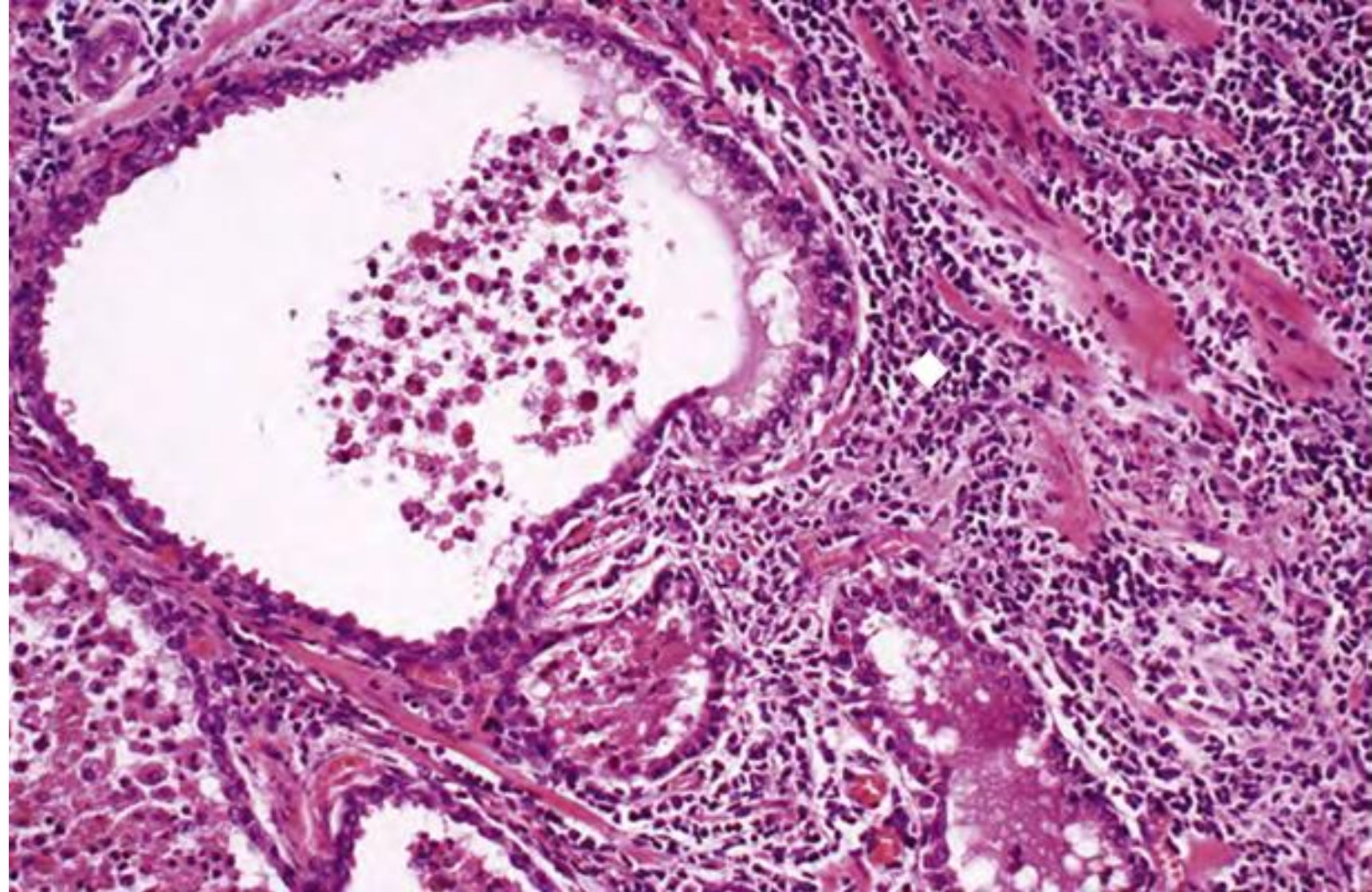
NORMAL SEMINAL VESICLE, MICROSCOPIC

- The normal mucosa is extensively folded with a mazelike appearance that is multichanneled on cross-section.
- Columnar to cuboidal mucosal cells on lamina propria are surrounded by inner circular and outer longitudinal smooth muscle layers.
- The epithelial cells contain **light brownish yellow cytoplasmic pigment** (▶)



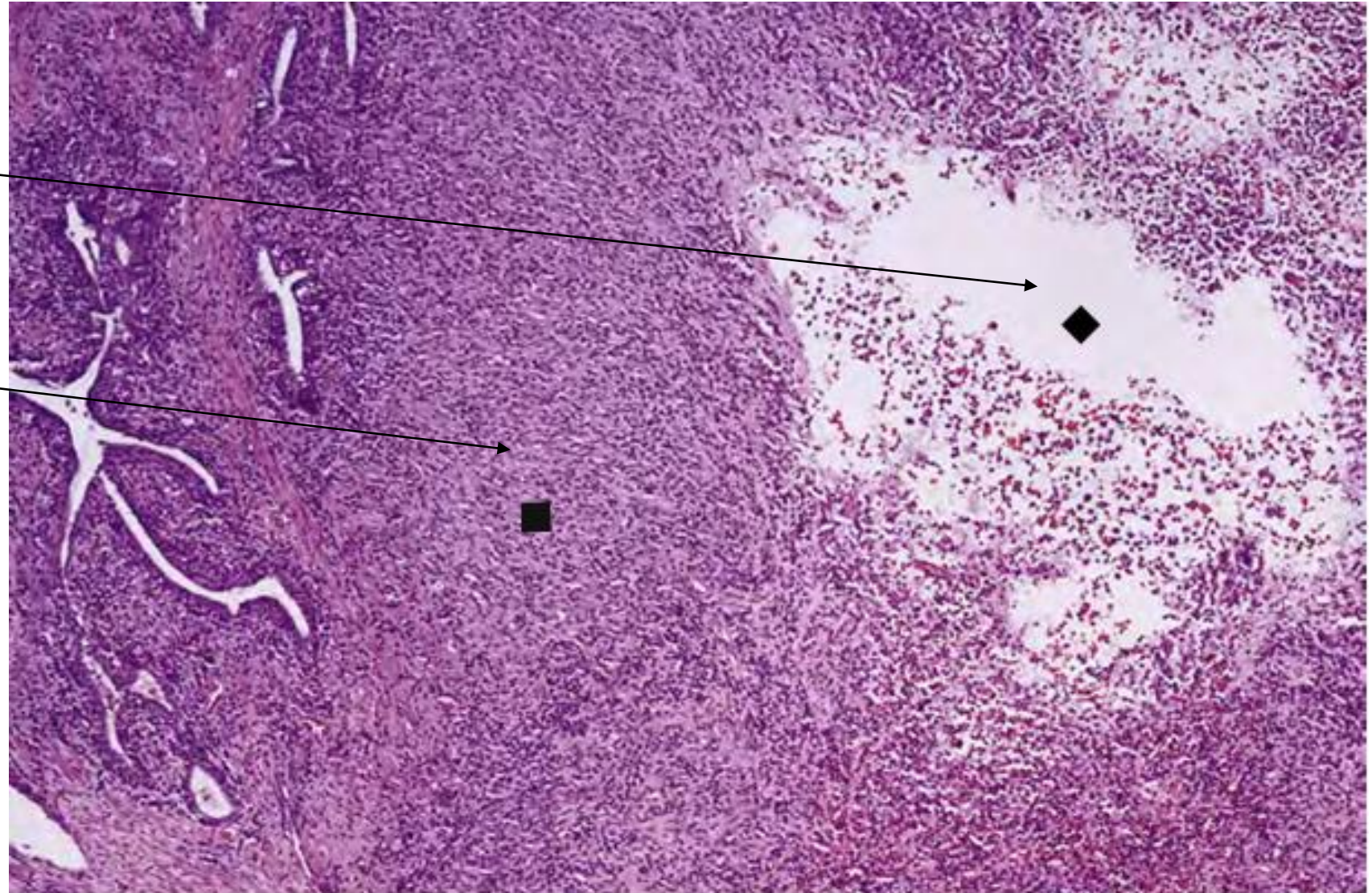
PROSTATITIS, MICROSCOPIC

- Numerous small, round, dark-blue lymphocytes are visible in the stroma between the glands.
- There may be a bacterial agent accompanying this inflammation, and urinary tract infection with cystitis or urethritis may be present.



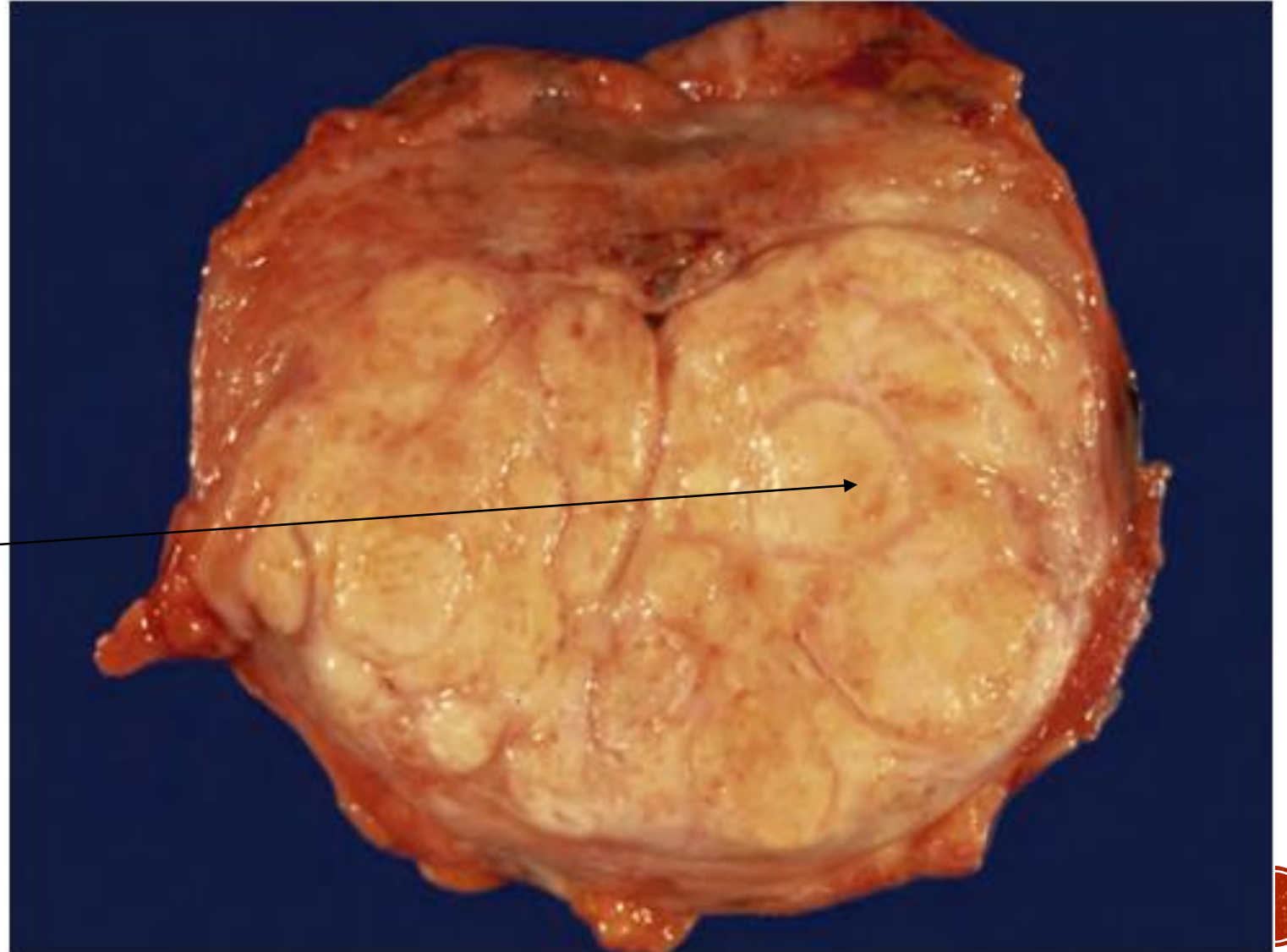
PROSTATIC ABSCESS, MICROSCOPIC

- Note the liquefied, clear center of the abscess at the right, surrounded by extensive inflammatory infiltrate, and prostatic glands at the left.



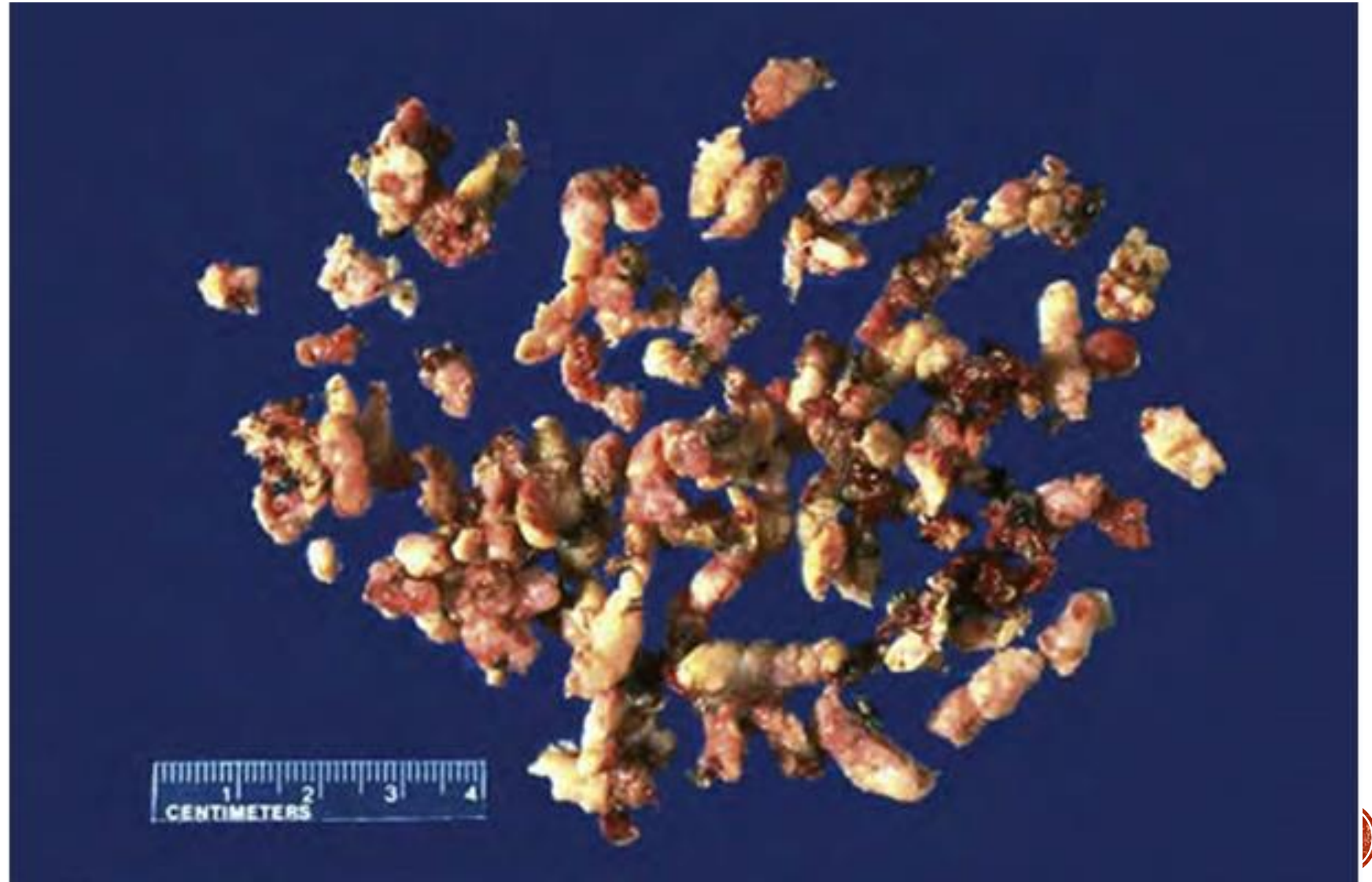
PROSTATIC HYPERPLASIA, GROSS

- This 5-cm diameter prostate is enlarged and **nodular** as a result of prostatic hyperplasia.
- The hyperplasia is most pronounced in the lateral lobes.



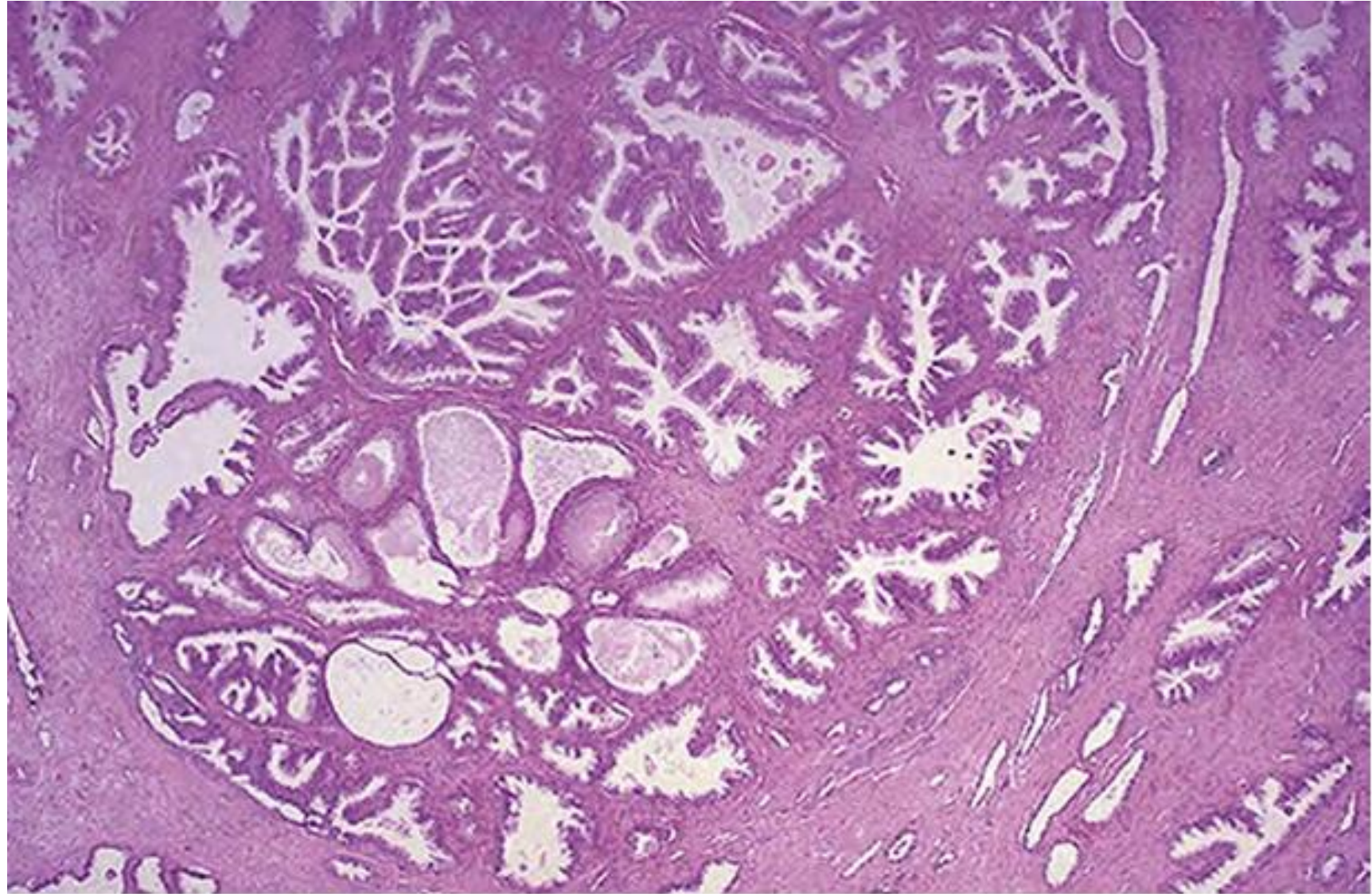
PROSTATIC HYPERPLASIA, TURP, GROSS

- A frequently performed operation for symptomatic nodular prostatic hyperplasia is a transurethral resection, which yields the small “chips” of rubbery prostatic tissue shown here.



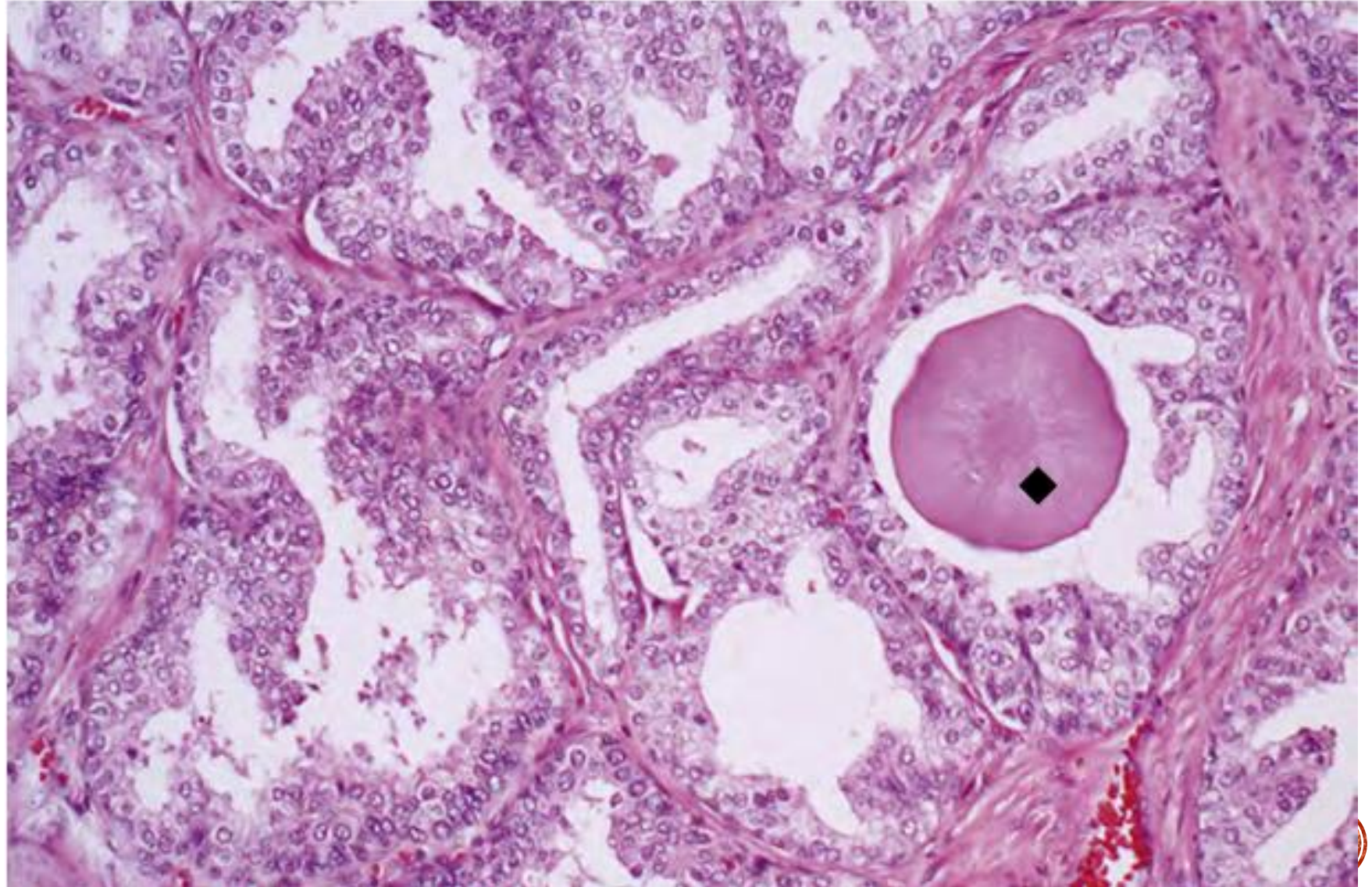
PROSTATIC HYPERPLASIA, MICROSCOPIC

- **Both** glands and stroma may be involved, although hyperplasia of the former is usually more prominent.
- A large hyperplastic nodule with numerous crowded glands is present here. There is still stroma between the glands.
- The glands are larger than normal, with more complex infoldings, but are still lined by a double layer that show no atypia.



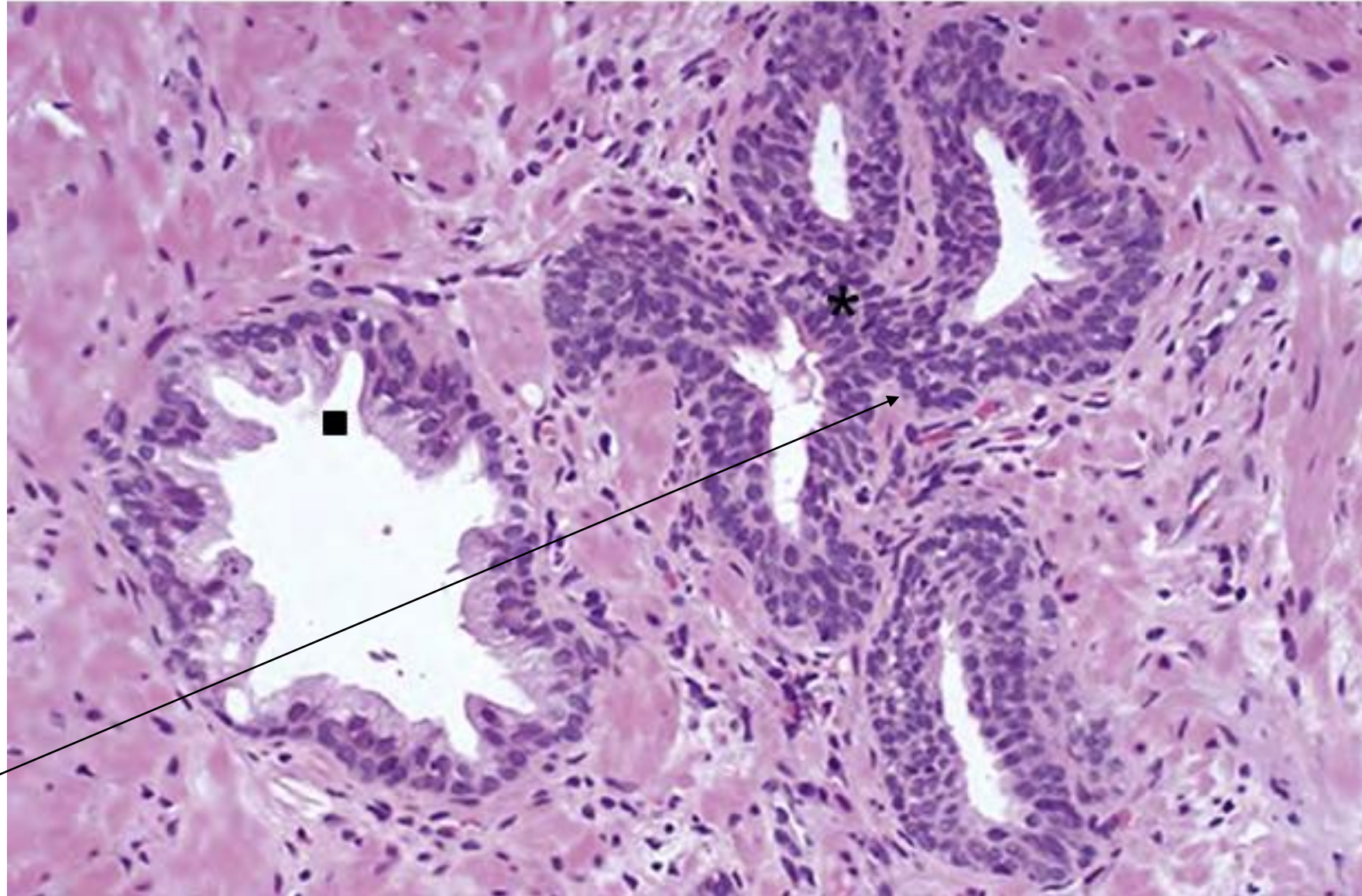
PROSTATIC HYPERPLASIA, MICROSCOPIC

- A nodule with crowded glands is shown.
- A rounded pink concretion, typical for **corpora amylacea** found in benign prostatic glands, is present.



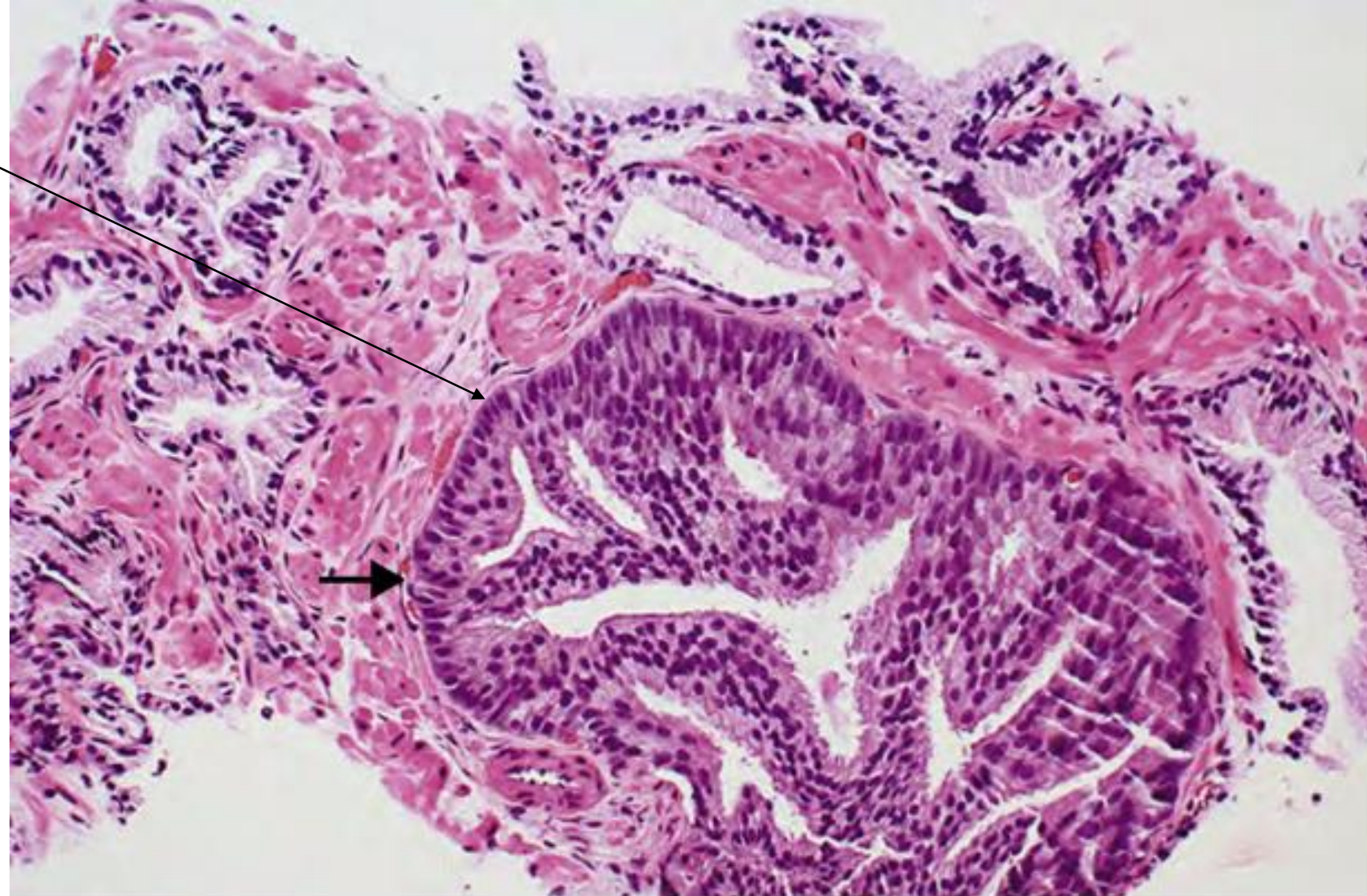
PROSTATIC INTRAEPITHELIAL NEOPLASIA (PIN), MICROSCOPIC

- PIN is a potentially precancerous cellular proliferation found in a single acinus or more commonly in a small group of prostatic acini.
- A normal prostatic gland is shown on the left for comparison, with the acini showing **high grade PIN** on the right *.



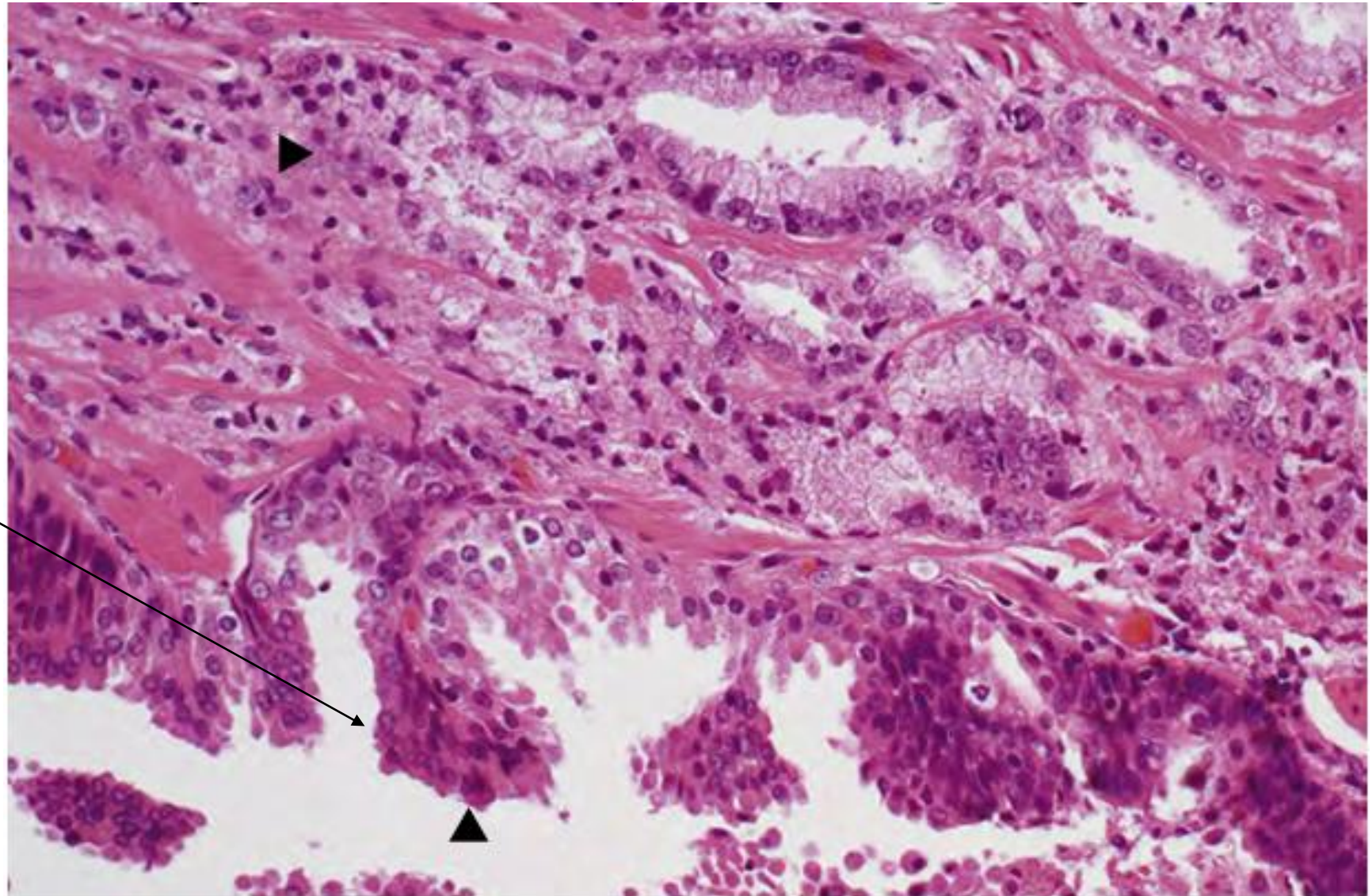
PIN, MICROSCOPIC

- The focus of high-grade PIN in a needle biopsy specimen shown here contrasts with surrounding benign prostate glands.
- **Basal cells** around the normal glands are **still present**, whereas they are absent in adenocarcinomas.



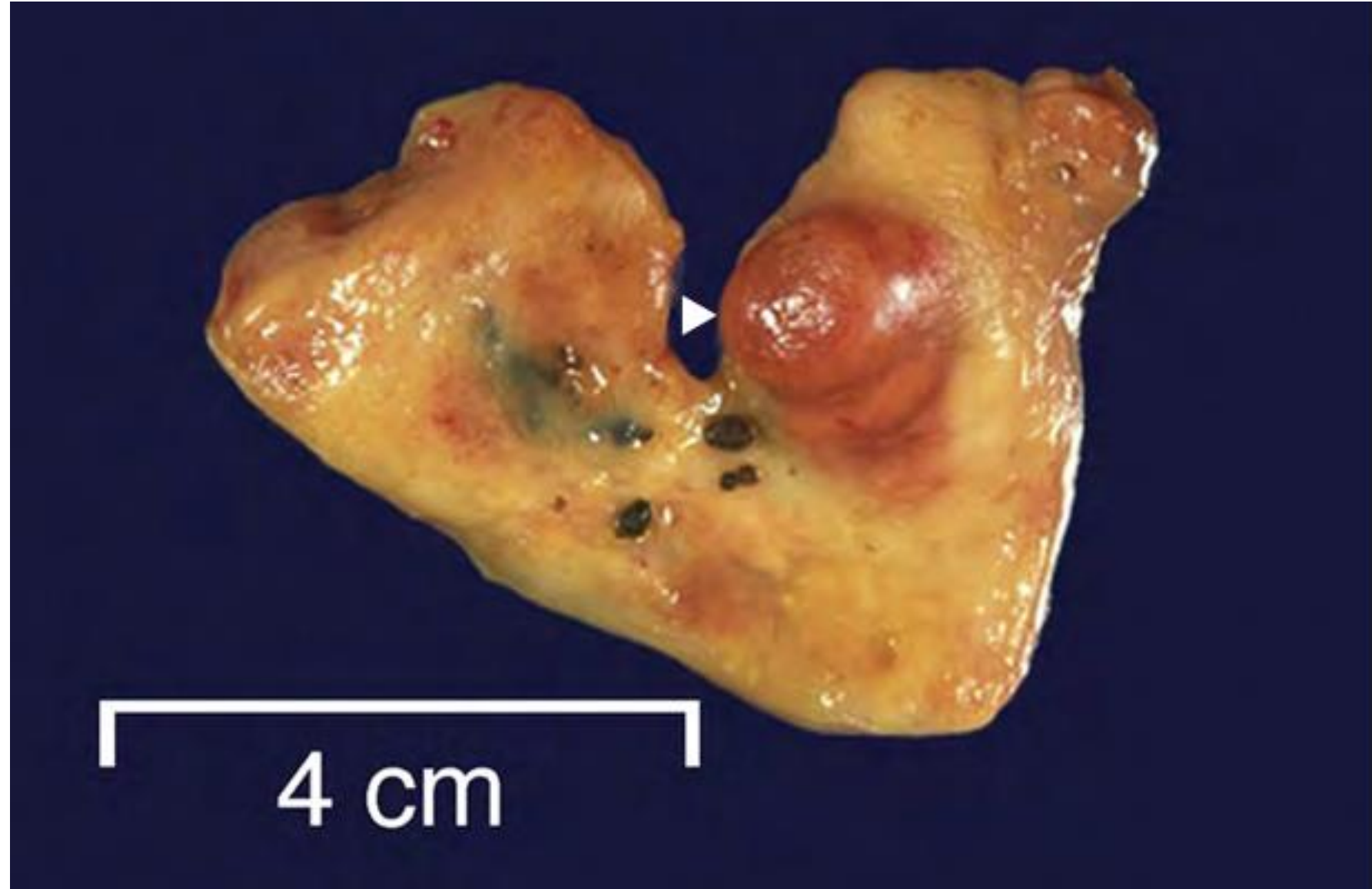
PIN AND ADENOCARCINOMA, MICROSCOPIC

- Shown here are irregular glands (▶) of adenocarcinoma at the top, and foci of PIN at the bottom.



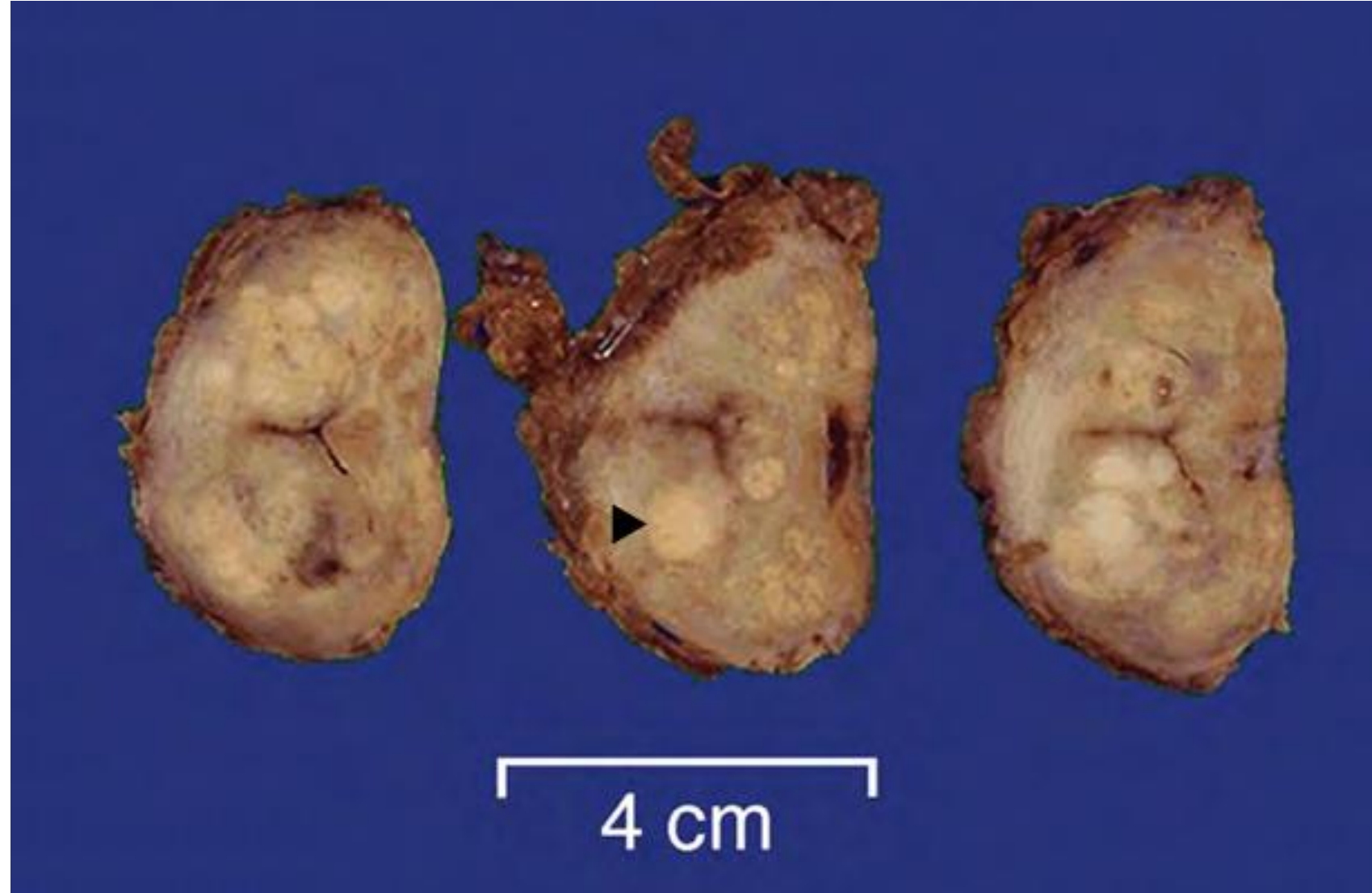
ADENOCARCINOMA, GROSS

- This axial section reveals a single prominent nodule (▶) of adenocarcinoma.
- Such a nodule may be palpable on digital rectal examination or may be detected on ultrasound.



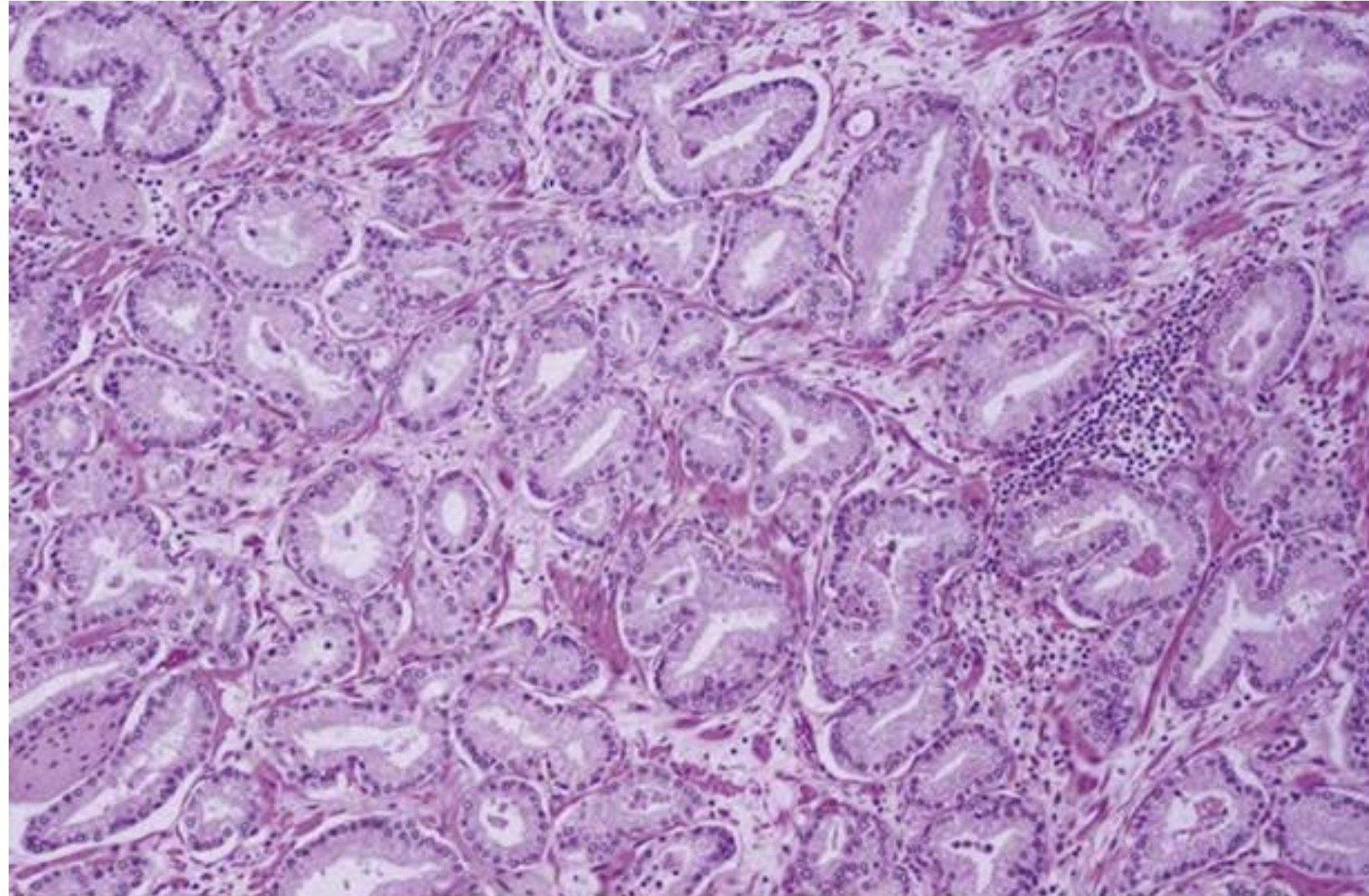
ADENOCARCINOMA, GROSS

- These sections through a prostate removed by radical prostatectomy reveal irregular yellowish nodules (▶) of adenocarcinoma, mostly in the posterior region.
- Prostate glands containing adenocarcinoma are not always enlarged.
- Adenocarcinoma may coexist with BPH.



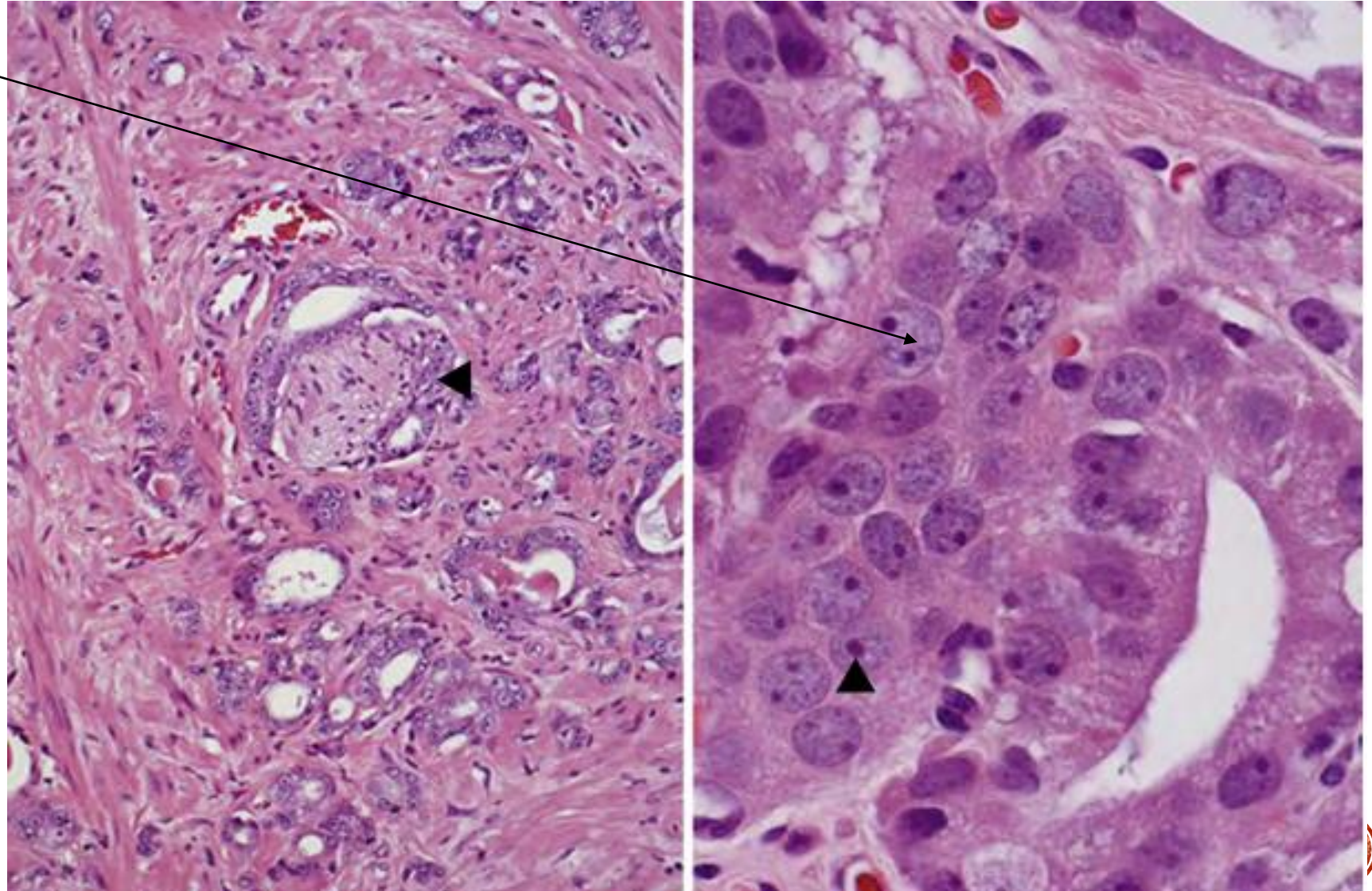
ADENOCARCINOMA, MICROSCOPIC

- Note how the glands of the carcinoma are small, irregular, and crowded, with **no intervening stroma**.
- Prostatic adenocarcinomas are given a histologic grade. The Gleason grading system is used most often and includes a score of 1 to 5.



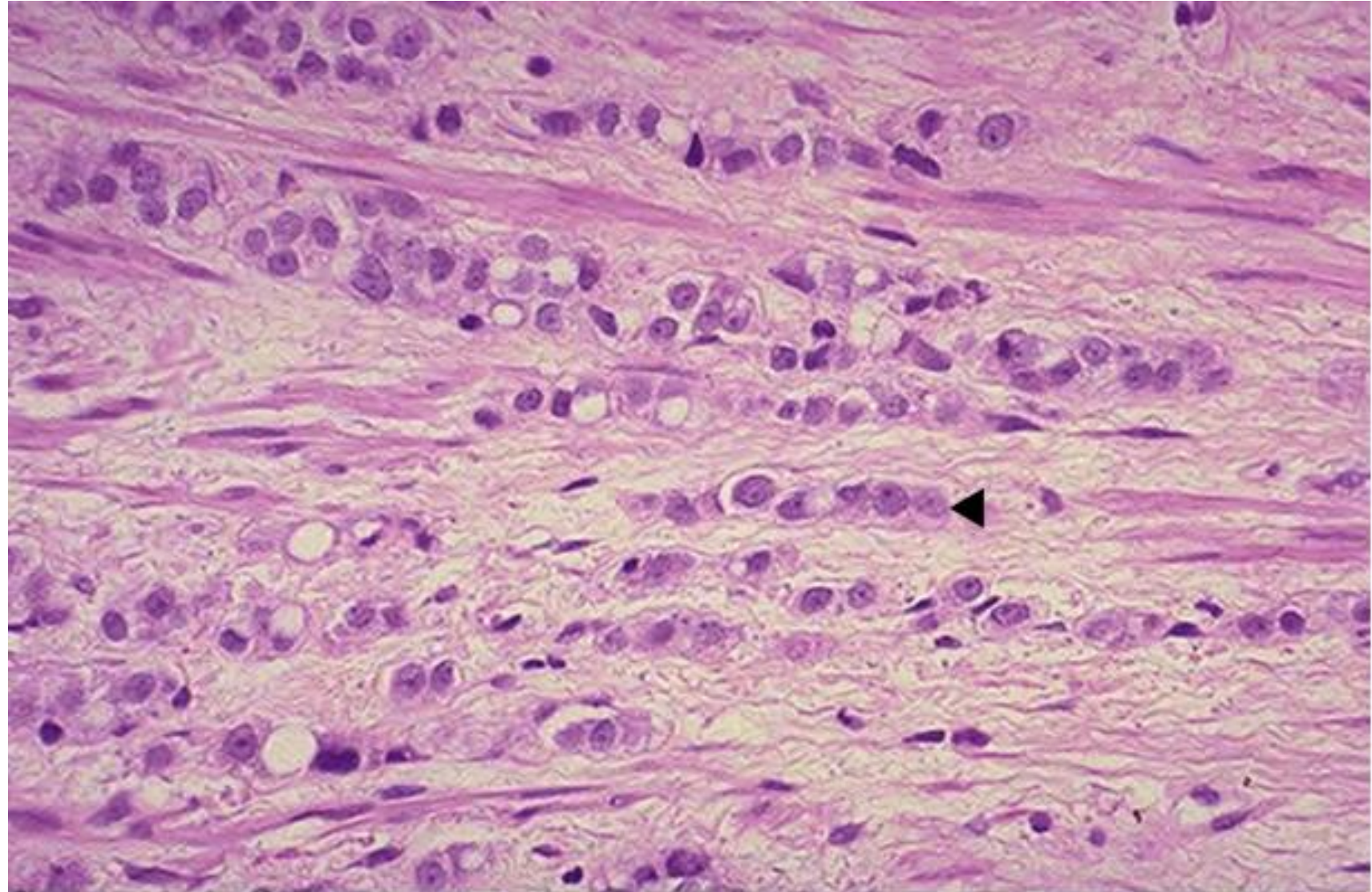
ADENOCARCINOMA, MICROSCOPIC

- Prominent **nucleoli** are a characteristic histologic feature of prostatic adenocarcinoma (right panel) as well as
- perineural (◻◀) invasion (left panel).



ADENOCARCINOMA, MICROSCOPIC

- This adenocarcinoma is so poorly differentiated (Gleason grade 5) that no glandular structure is recognizable, only individual cells infiltrating (◀) in rows.



THANK YOU

