

Reproductive Practical Block

Pathology Team

In The Exam

- The cases will range from 4-5.
- The questions are going to be about:
 - Gross pictures
 - Microscopical pictures
 - Diagnosis
- And one additional question about the disease itself.

Cases



1. Benign prostatic hyperplasia
2. Testicular mass (seminoma)
3. Leiomyoma
4. Teratoma
5. Fibroadenoma
6. Intraductal carcinoma (in situ and invasive)
7. Paget's disease

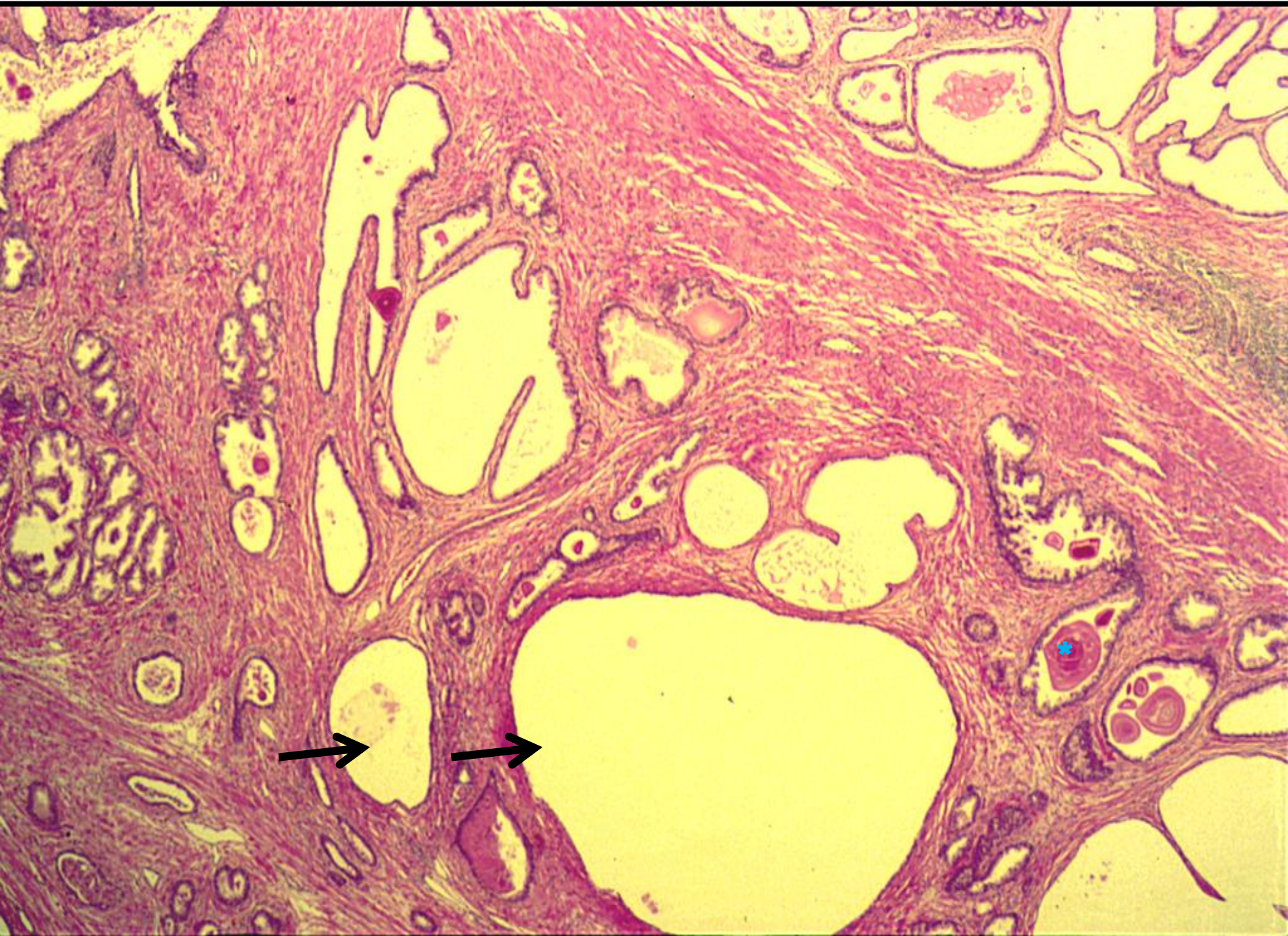
Case 1

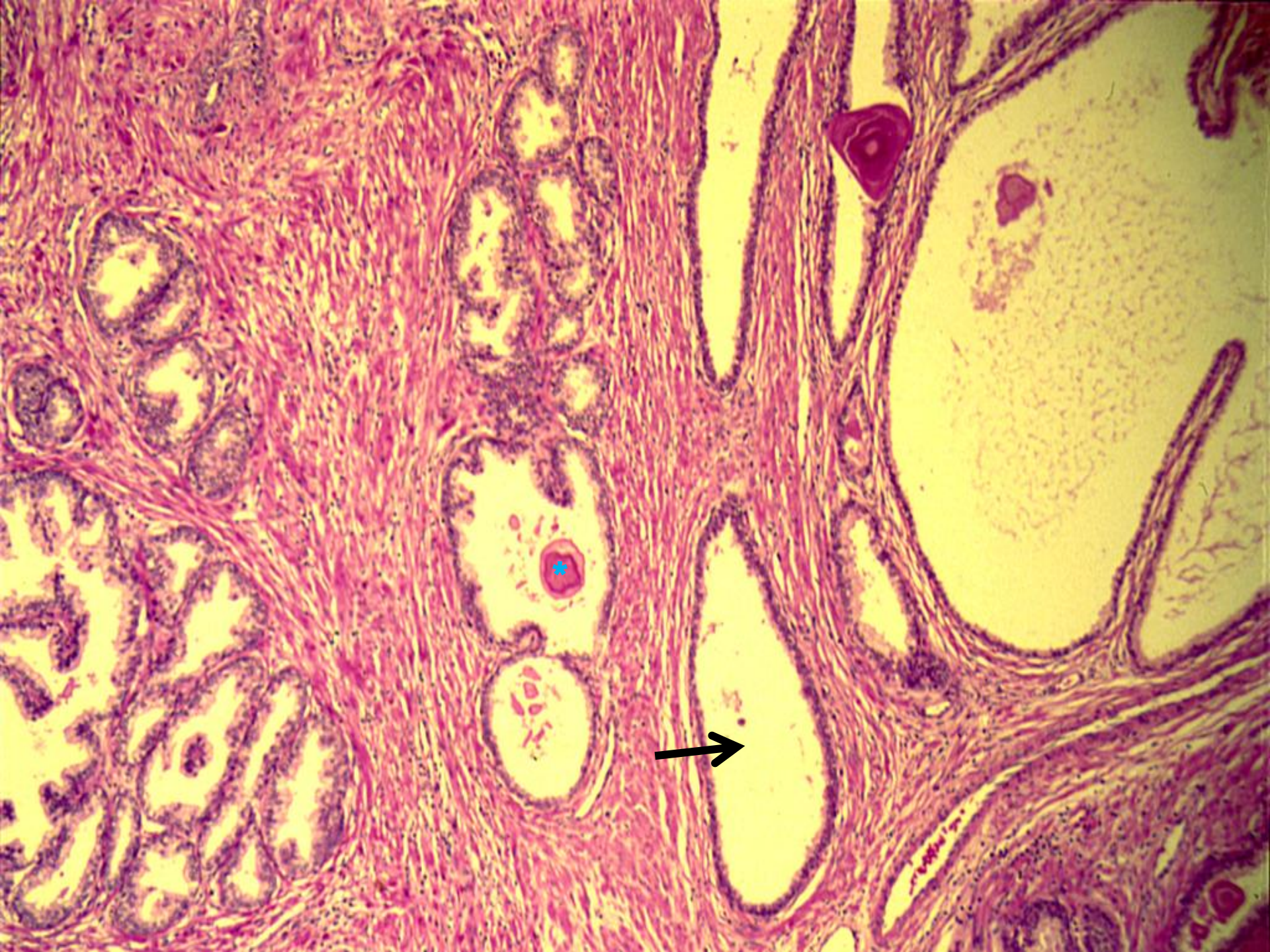
Benign Prostatic Hyperplasia

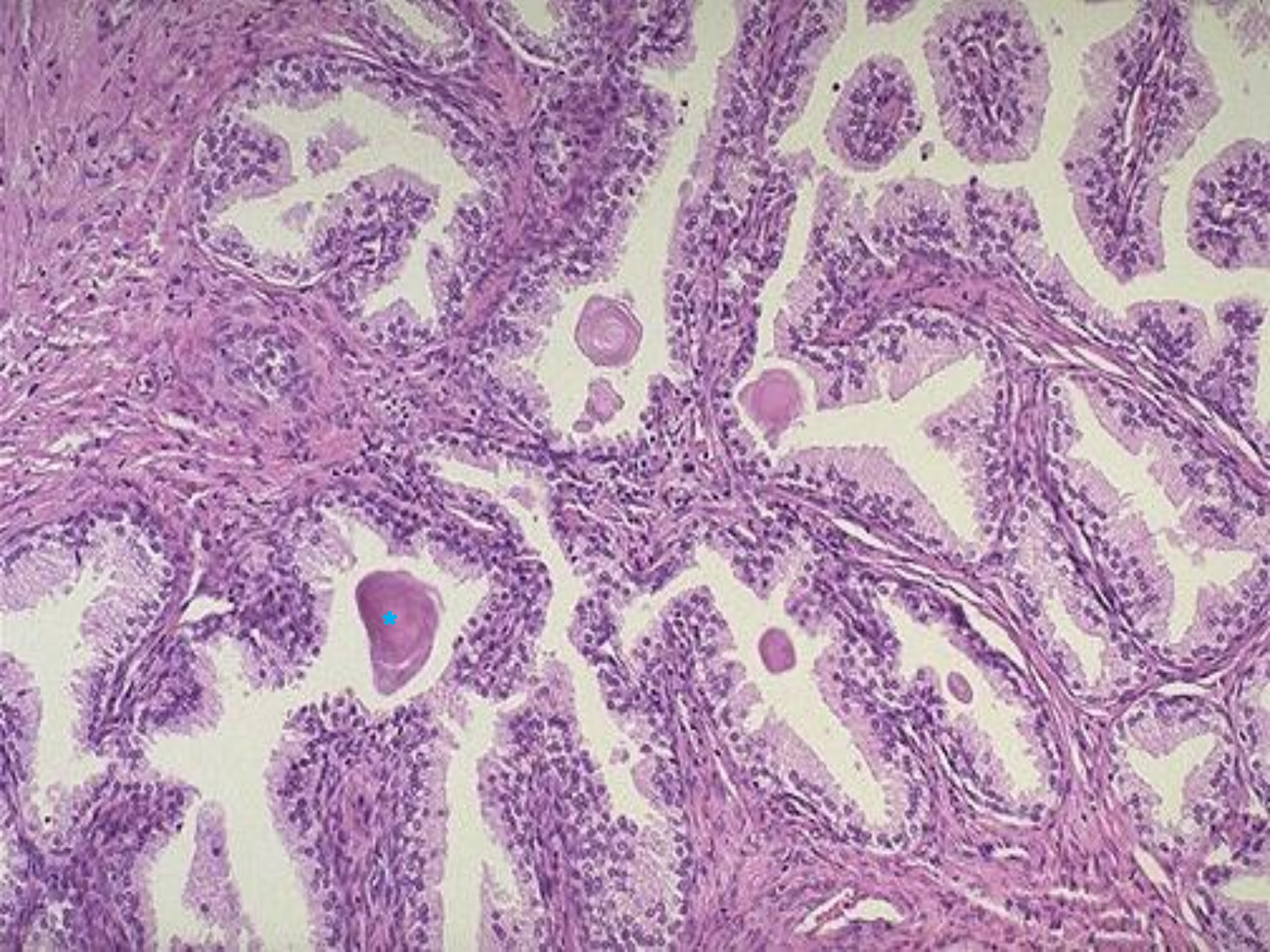


On Gross :

-  **The prostate is enlarged**
-  **Presence of whitish nodules in the transitional zone .**










Hyperplasia of the prostate:

Section of prostate shows:

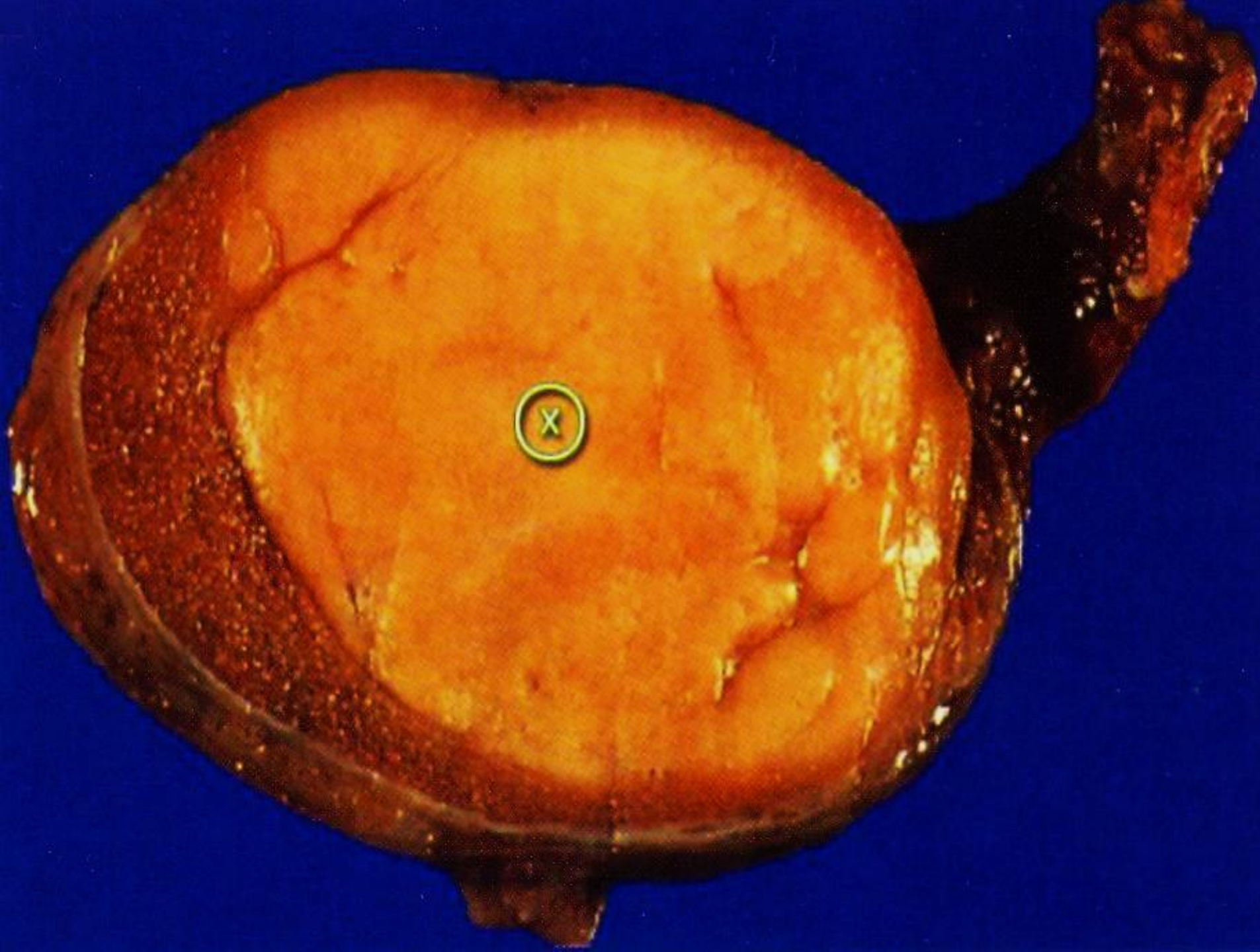
-  **Nodular hyperplasia of glandular and fibromuscular stromal tissue.**
-  **Each nodule shows large number of glands of variable sizes lined by tall columnar epithelium and some are cystically dilated (black arrow).**
-  **Eosinophilic hyaline corpora amylacea is present in some glands (*).**

Case 2


Testicular Mass (Seminoma)





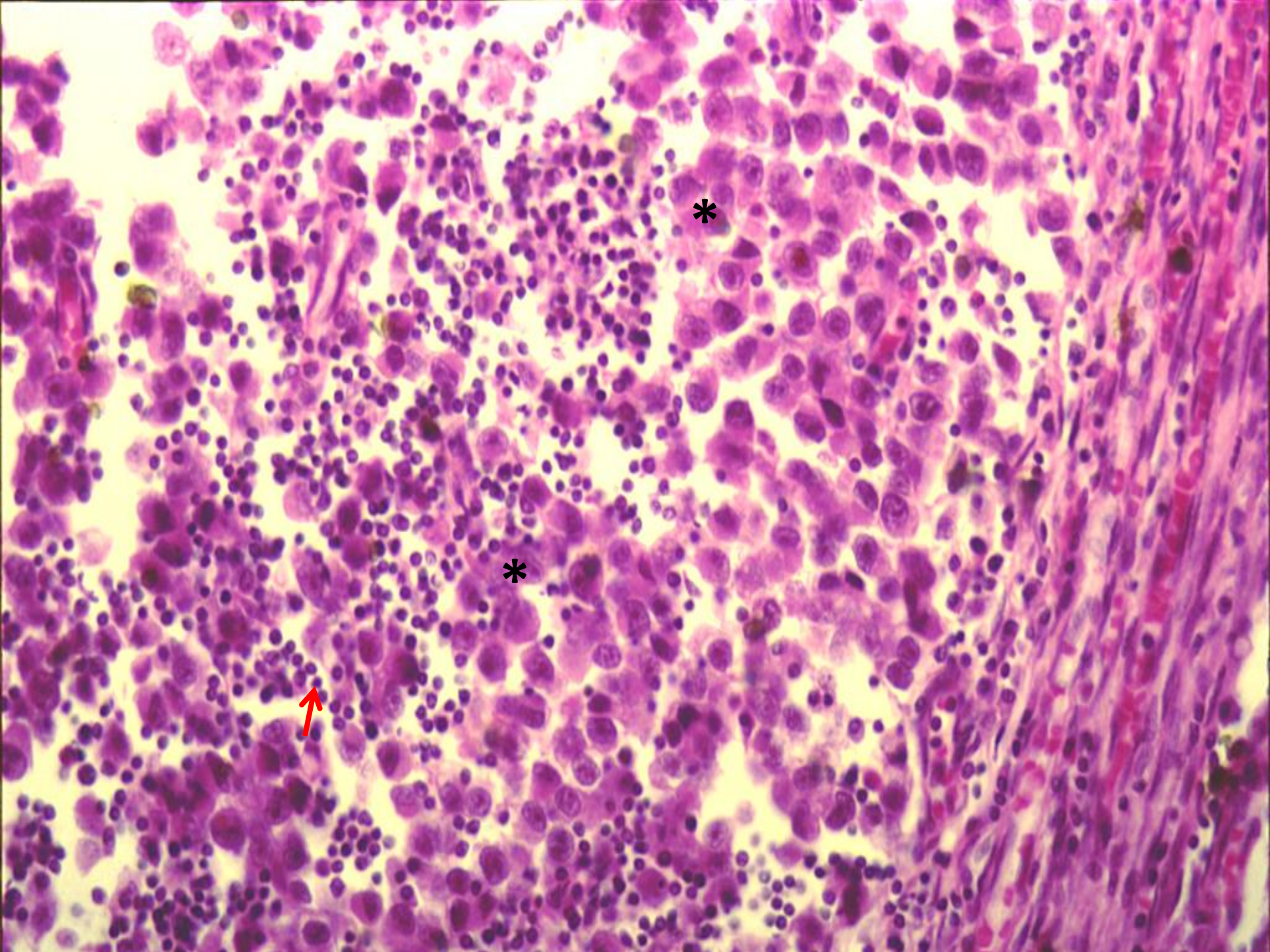


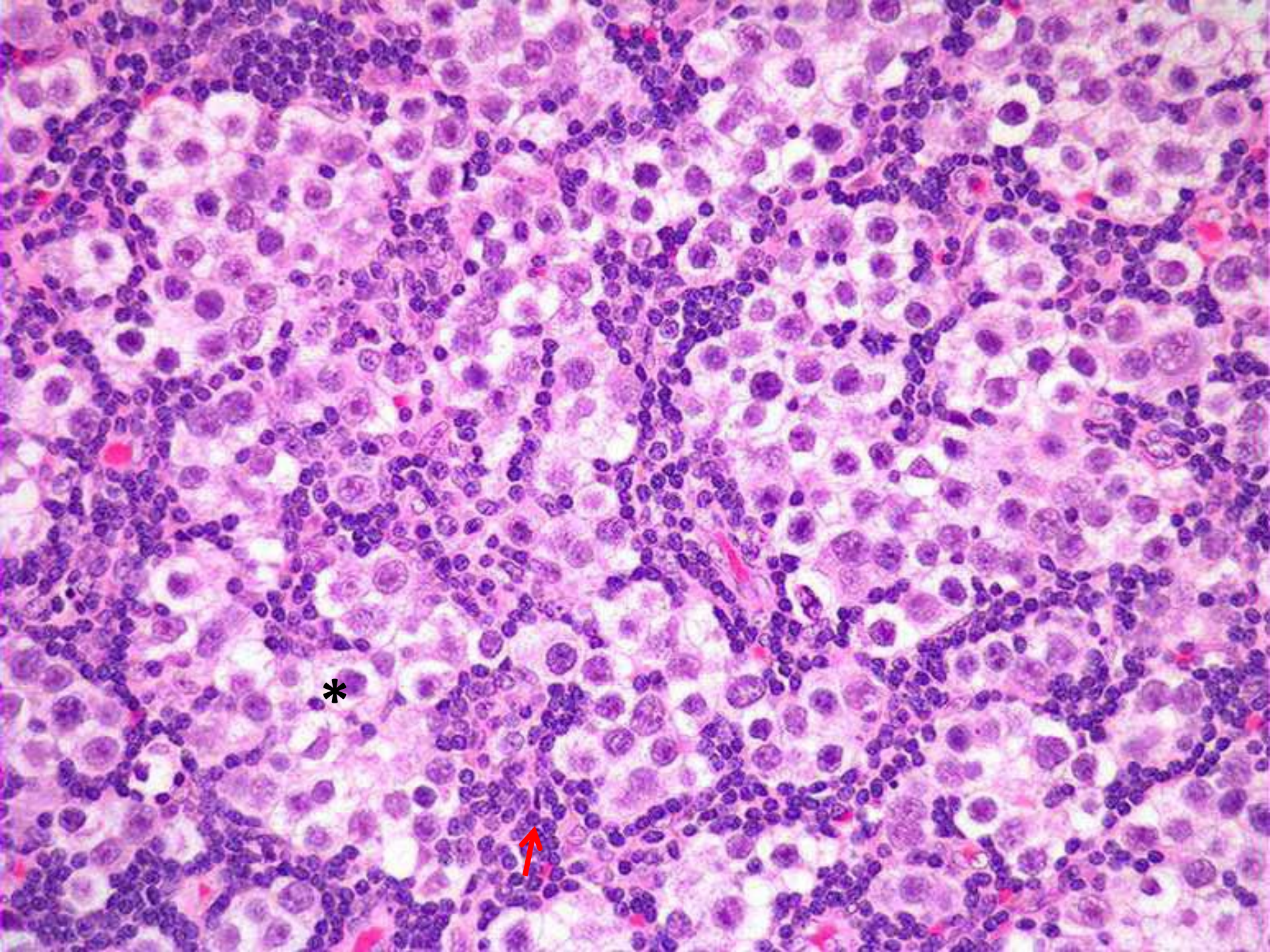
On gross:

-  **Pale and lobulated testicular mass**
-  **Bulging cut surface**
-  **attached congested spermatic cord**








**Normal but
compressed**





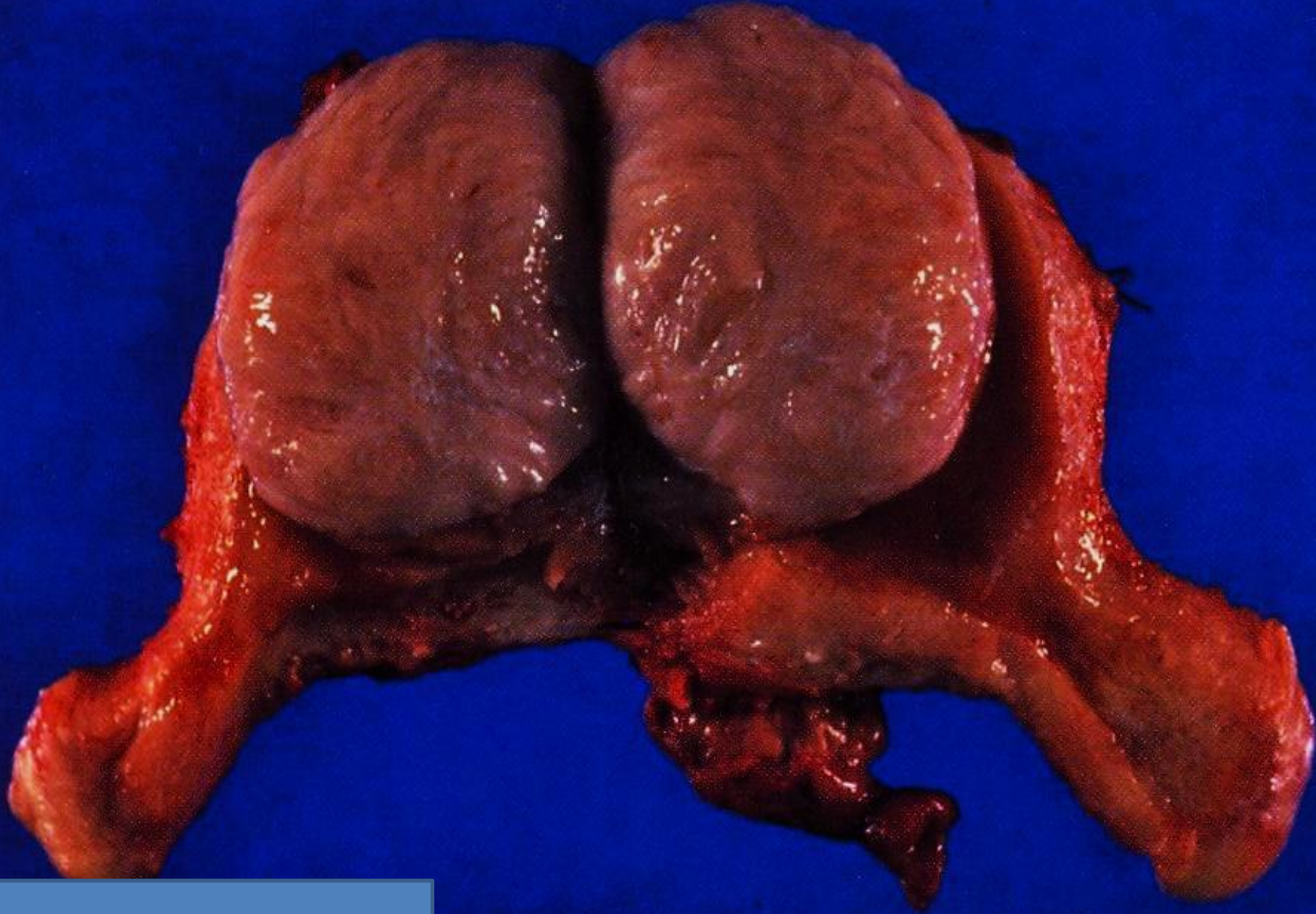
Seminoma of the testis:

Section of the testis shows:

-  **Sheets of malignant uniform cells showing large vesicular nuclei and prominent nucleoli (*).**
-  **The clusters of malignant cells are separated by fibrous septae and groups of lymphocytes (arrow).**
-  **Positive for Placental alkaline phosphatase**
-  **Most important risk factor is cryptorchidism (undescended testicle) .**
-  **The tumor can metastasize to → Para-aortic lymph nodes, lung and liver .**

Case 3

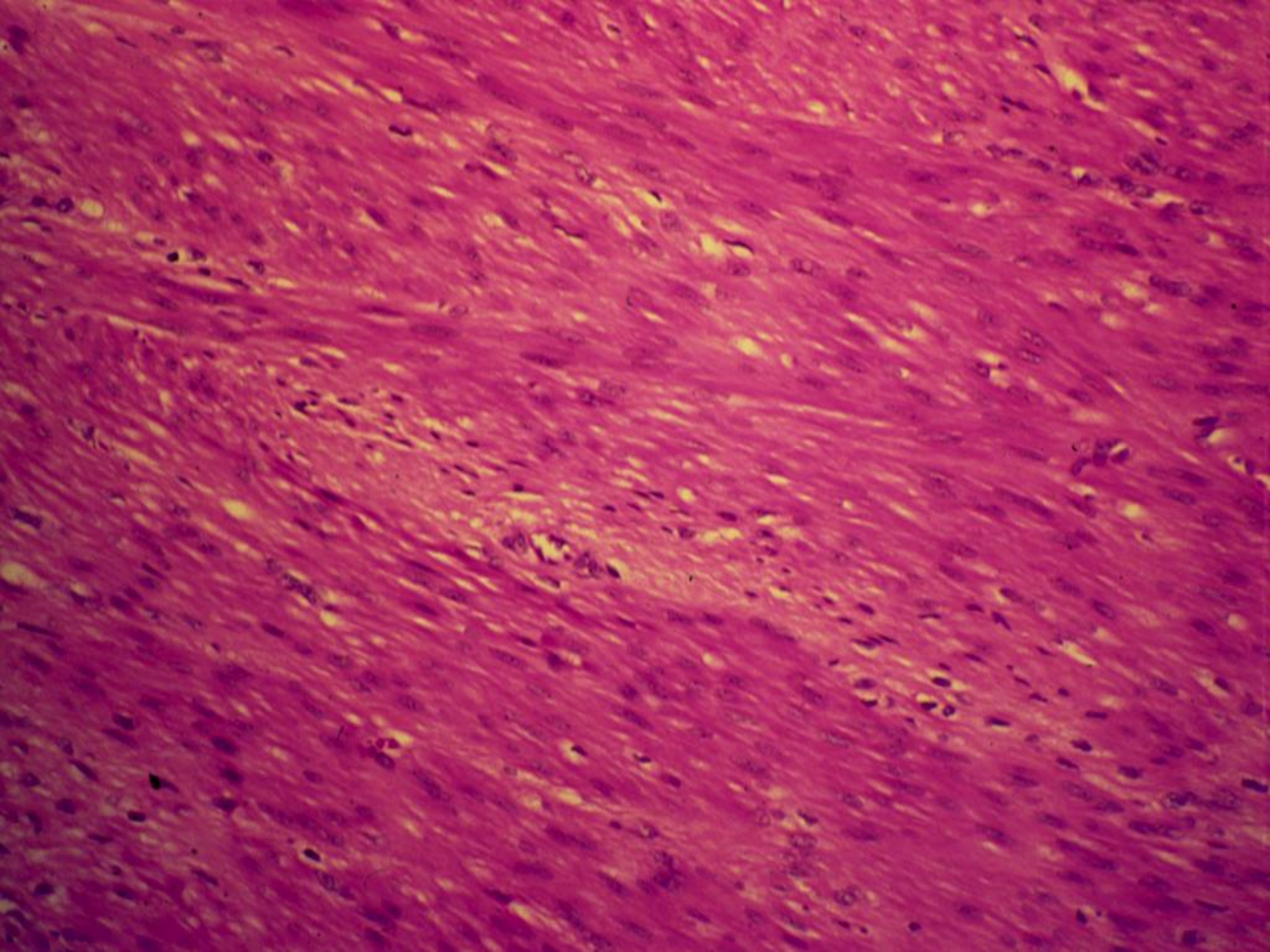
Leiomyoma



Single Leiomyoma








Multiple Leiomyoma



Leiomyoma:

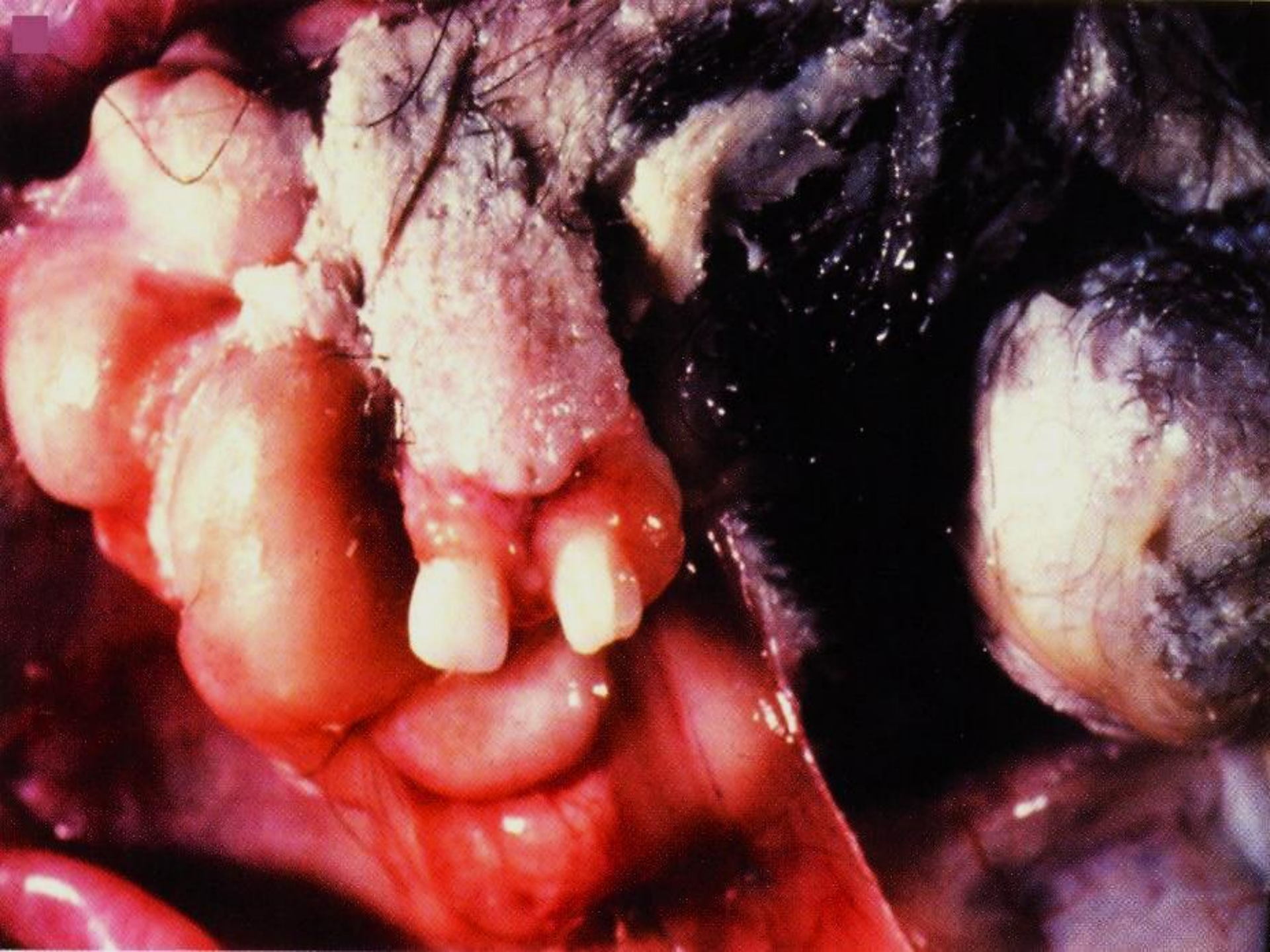
Section of tumour shows:

-  **A well demarcated tumour mass in the muscle coat of uterus without a definite capsule.**
-  **Tumour consists of interlacing bundles of smooth muscle and fibrous tissue.**
-  **The muscle cells are spindle shaped with elongated nuclei and eosinophilic cytoplasm.**
-  **There are three subtypes:
Intramural, submucosal and subserosal
Submucosal mostly present with bleeding.**
-  **Complications:
Red degeneration, abortion, infertility.**

Case 4

**Teratoma (Mature Dermoid Cyst of
The Ovaries)**

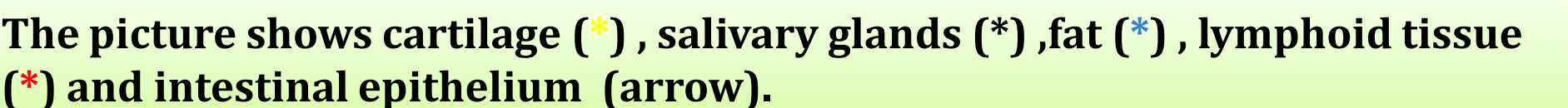




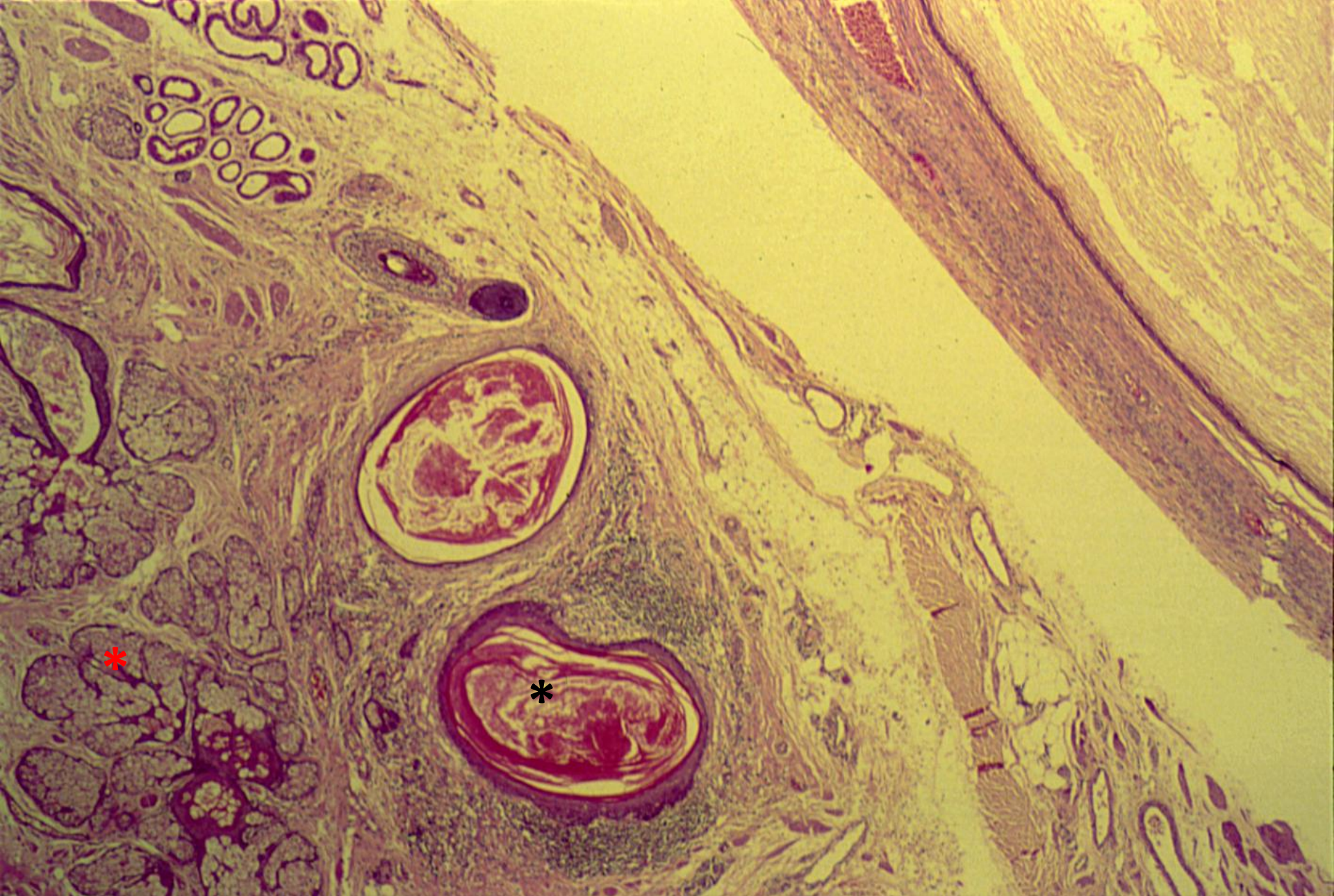
On gross:

the picture shows cyst containing teeth and hairs, nail tissue and skin (name anything you see)

It may be complicated by torsion, infarction , struma ovarii (thyroid tissue) and immature teratoma (neural component) .









The picture shows cartilage (*), salivary glands (*) ,fat (*) , lymphoid tissue (*) and intestinal epithelium (arrow).



The picture shows stratified squamous epithelium with hair follicles (*), sweat glands, sebaceous glands (*) and lymphoid tissue.

Dermoid cyst of the ovary:

section of the cyst wall shows:

-  **Stratified Squamous epithelium**
-  **Underlying appendages (sweat glands, sebaceous glands, hair follicles)**
-  **Intestinal epithelium**
-  **Neural tissue**
-  **Structures from other germ layers such as bone and cartilage**
-  **Lymphoid tissue, smooth muscle.**

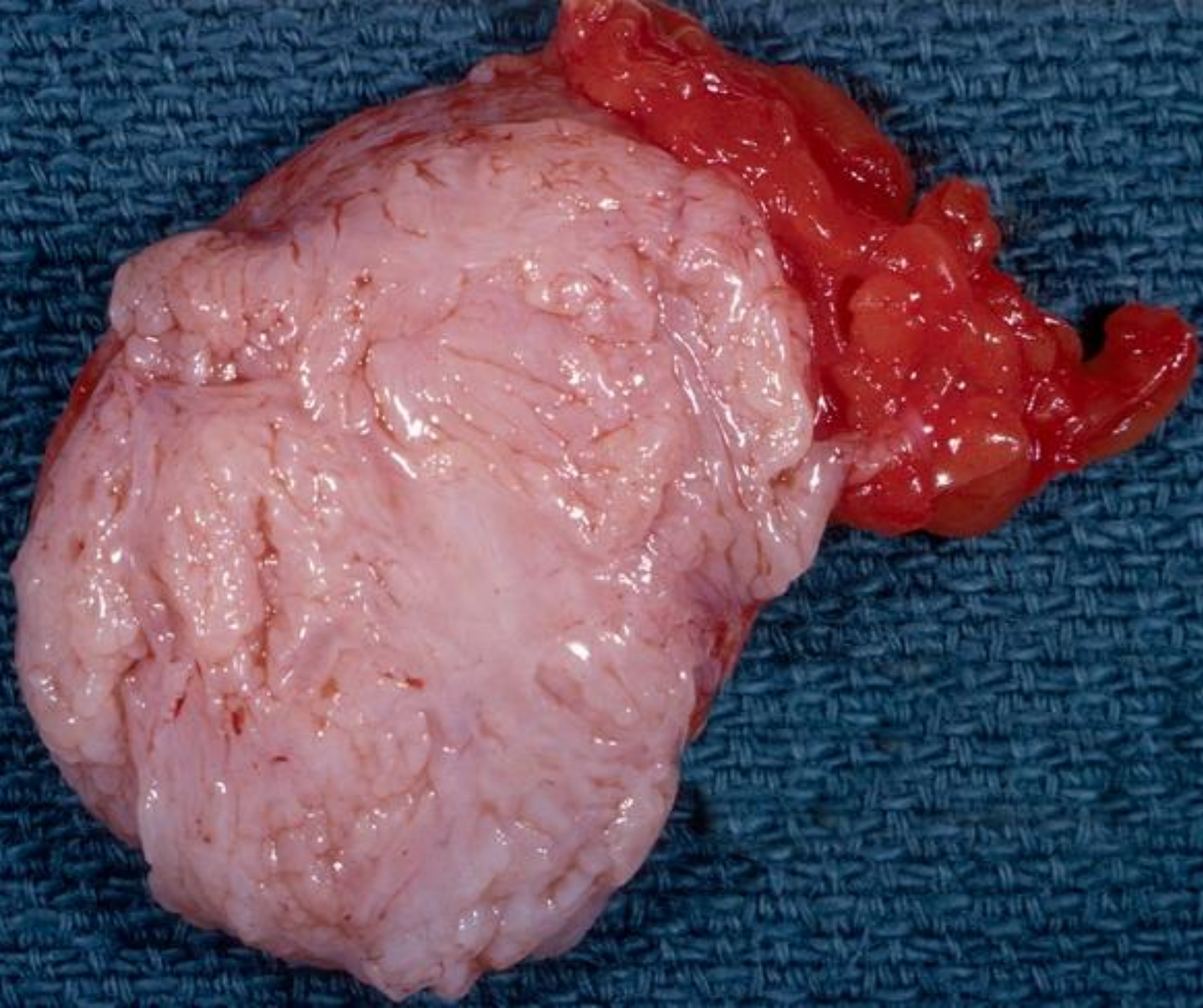
 **Types:**

Mature = benign (most common in female)

Immature = malignant (depends on the amount of neural component)

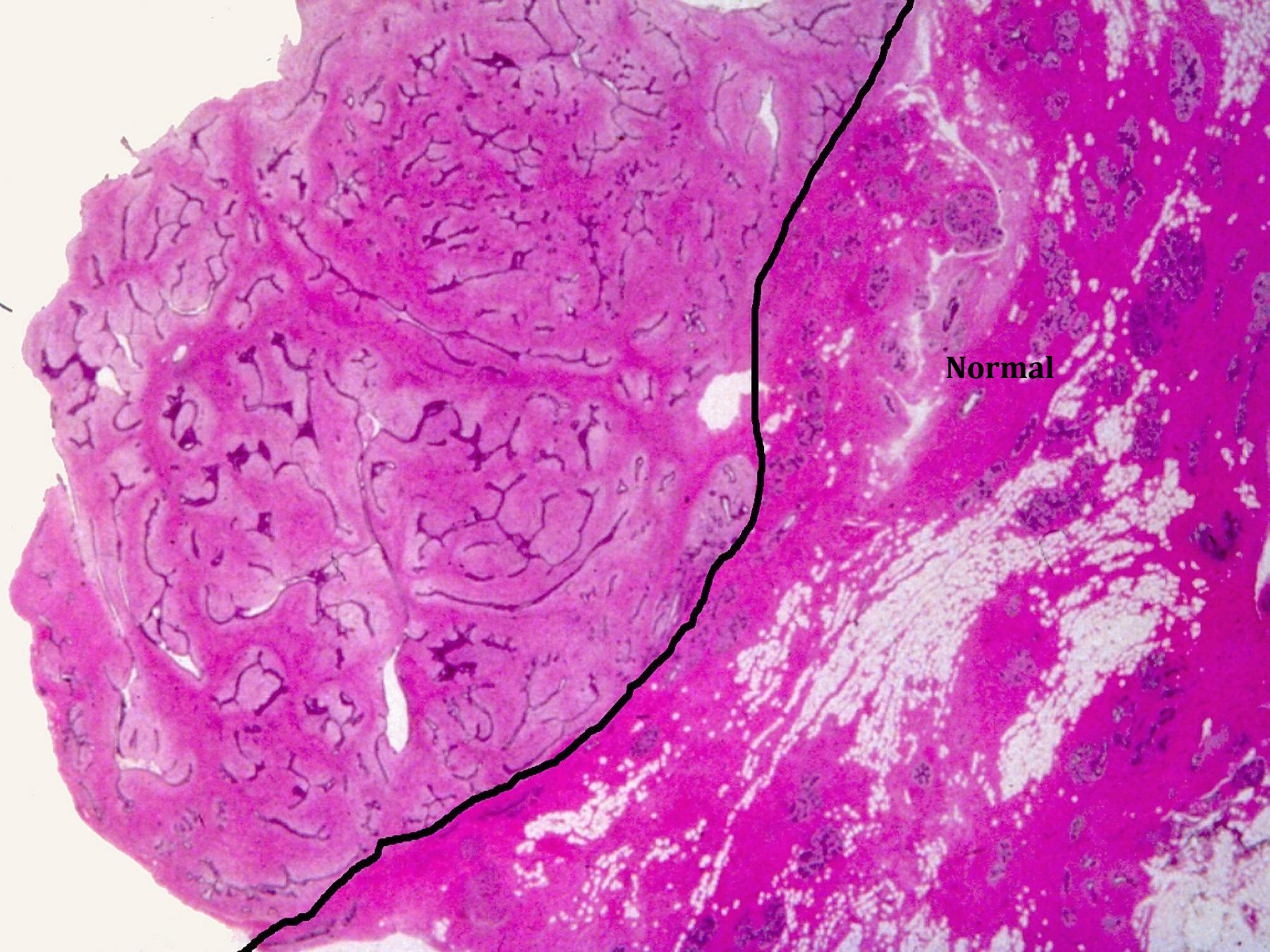
Case 5

Fibroadenoma of The Breast

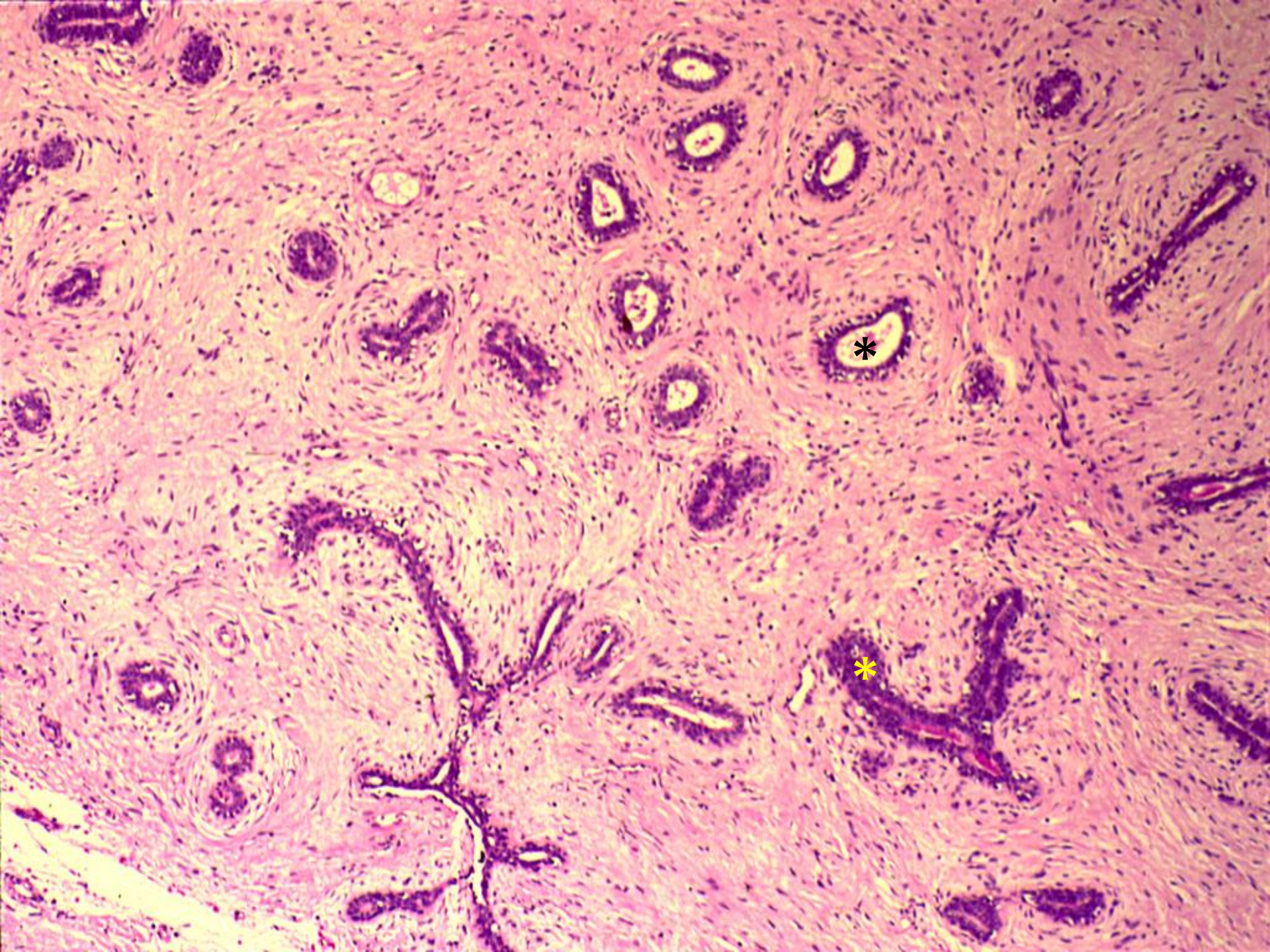


On gross:

 **Well circumscribed and bulging white mass .The cut surface is lobulated with slit-like spaces .**



Normal



Fibroadenoma of the Breast:

Section shows breast tumour:

A tumour shows proliferation of both glandular tissue and fibrous tissue.

It has a benign behavior with good prognosis

Two patterns: intracanalicular and pericanalicular

(a) Proliferation fibrous tissue is invaginating the ducts causing elongation, compression and distortion of the ducts which have slit-like lumen (intracanalicular) (*).

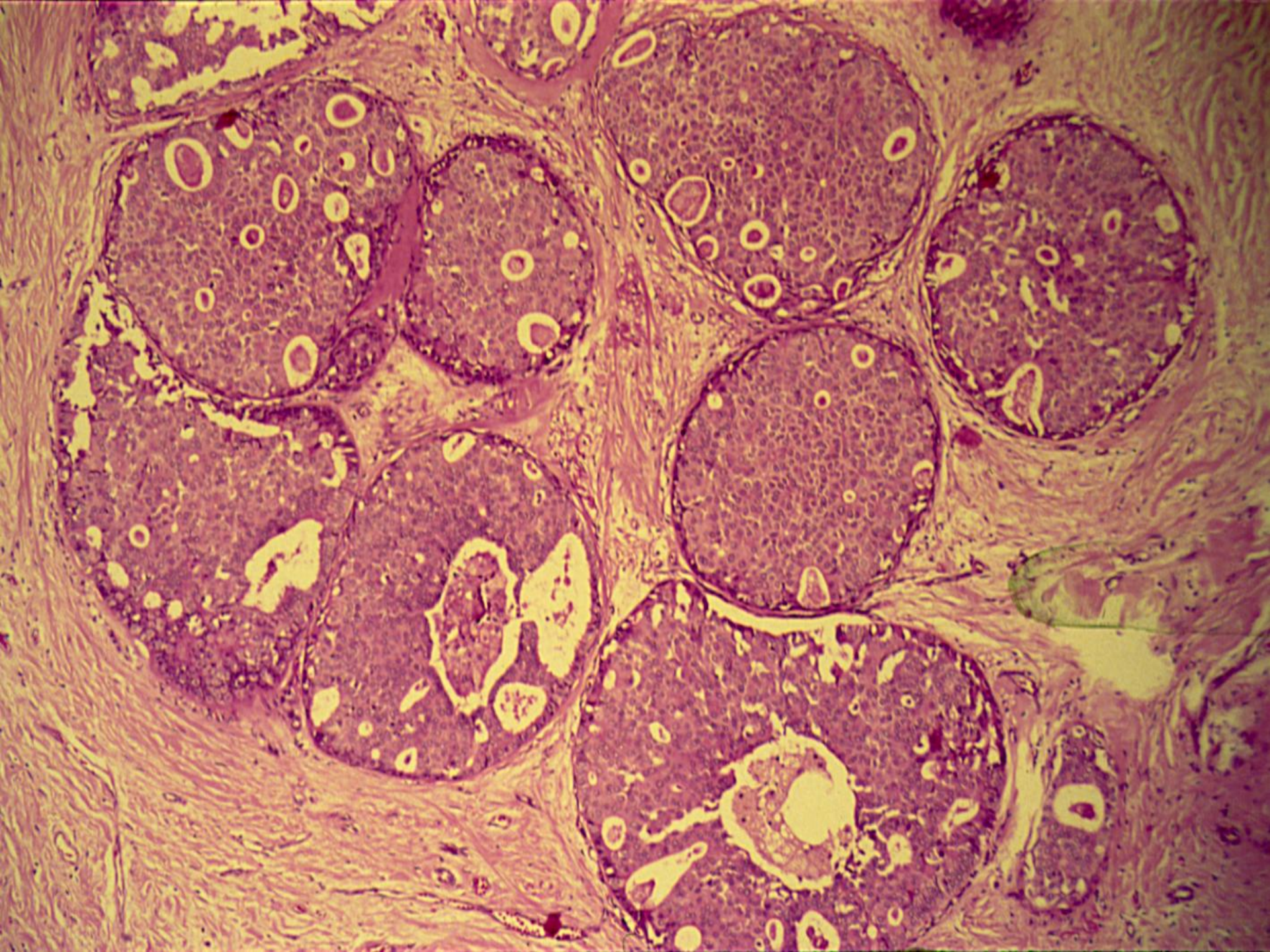
(b) At places fibrous tissue is arranged around the ducts (pericanalicular) and does not invaginate. (*)

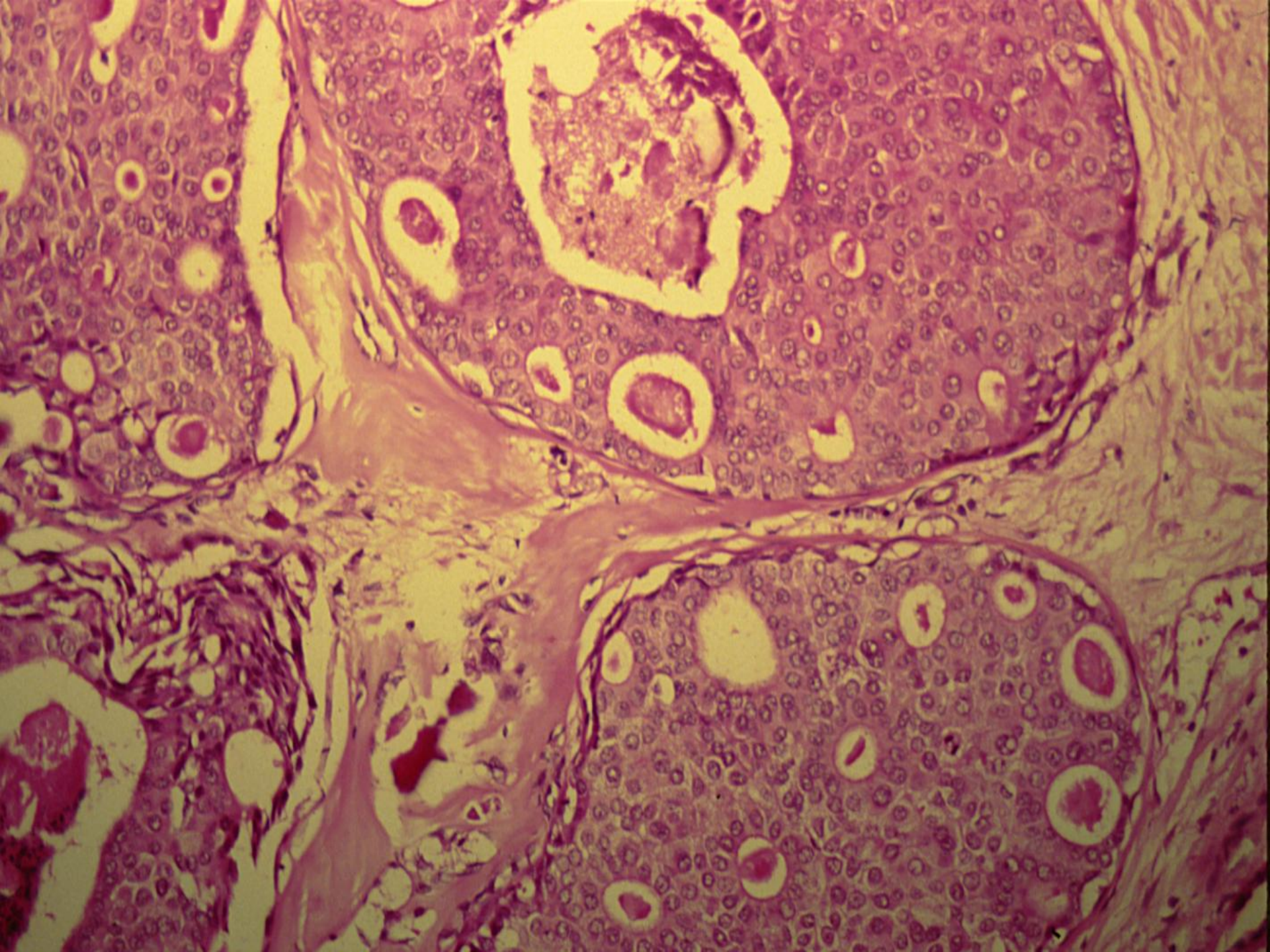
Case 6

Intraductal Carcinoma (In situ)

In general:

- The difference between the invasive and non-invasive carcinoma is that the non-invasive (in situ) type there is no invasion of the basement membrane (within the duct only).
- If we have retraction of the nipple, dimpling of the skin and peau'de orange (thickening of the skin) then the case is a malignant case.





Intraductal carcinoma of the breast:

Section of breast tumour shows:

Large ducts are distended by neoplastic epithelial cells which are pleomorphic with large hyperchromatic nuclei and **mitosis.**

Cells are forming imperfect acini and shows a cribriform pattern (network like).

Small groups of cells in the center of many ducts are **necrotic.**

****No invasion of basement membrane of the ducts.****

Case 7

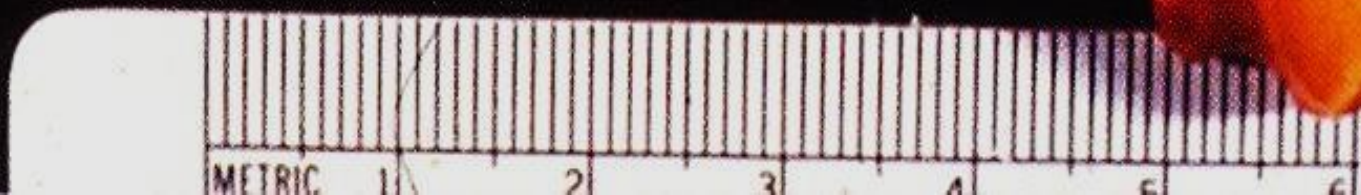
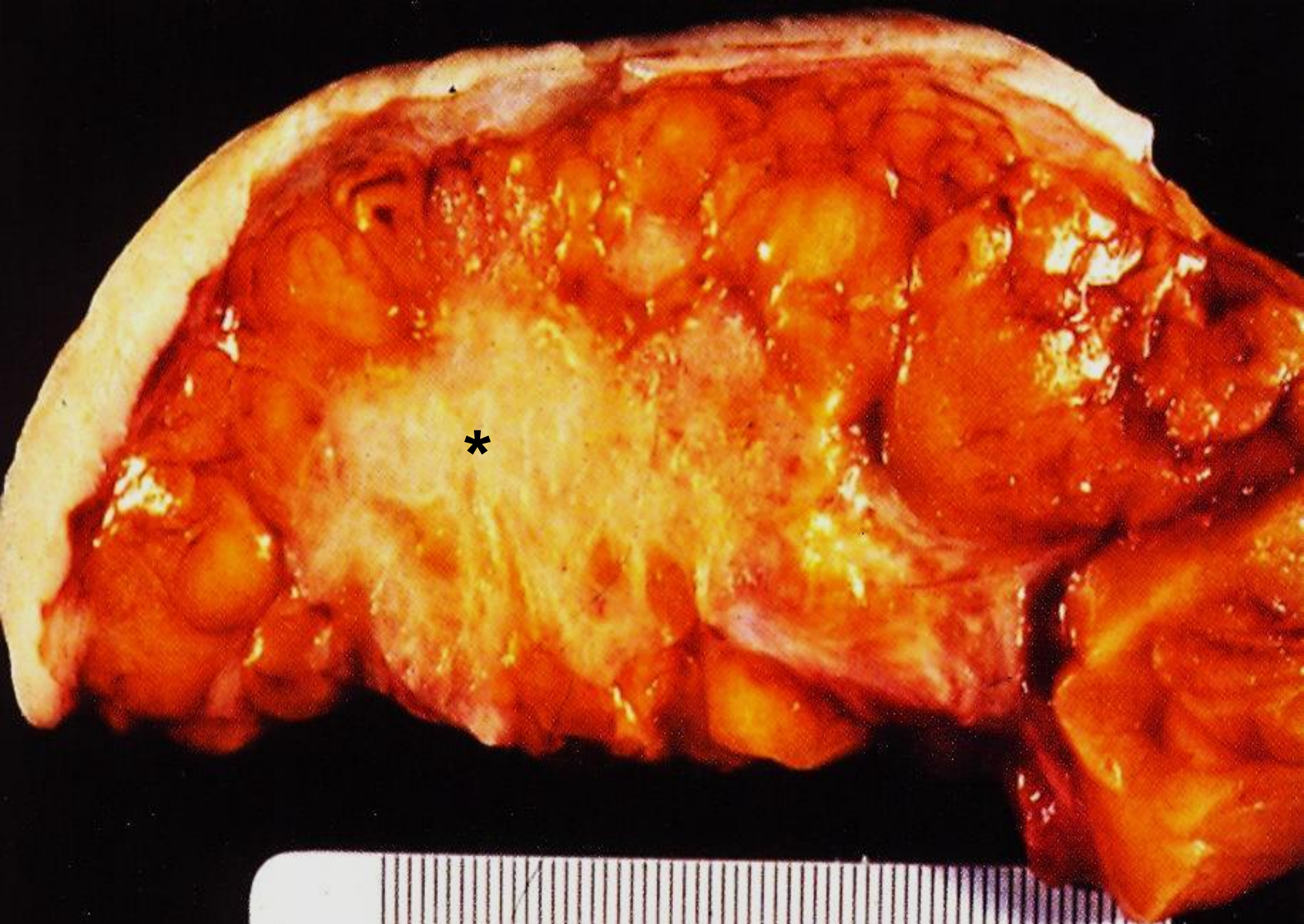
Intraductal Carcinoma (Invasive)

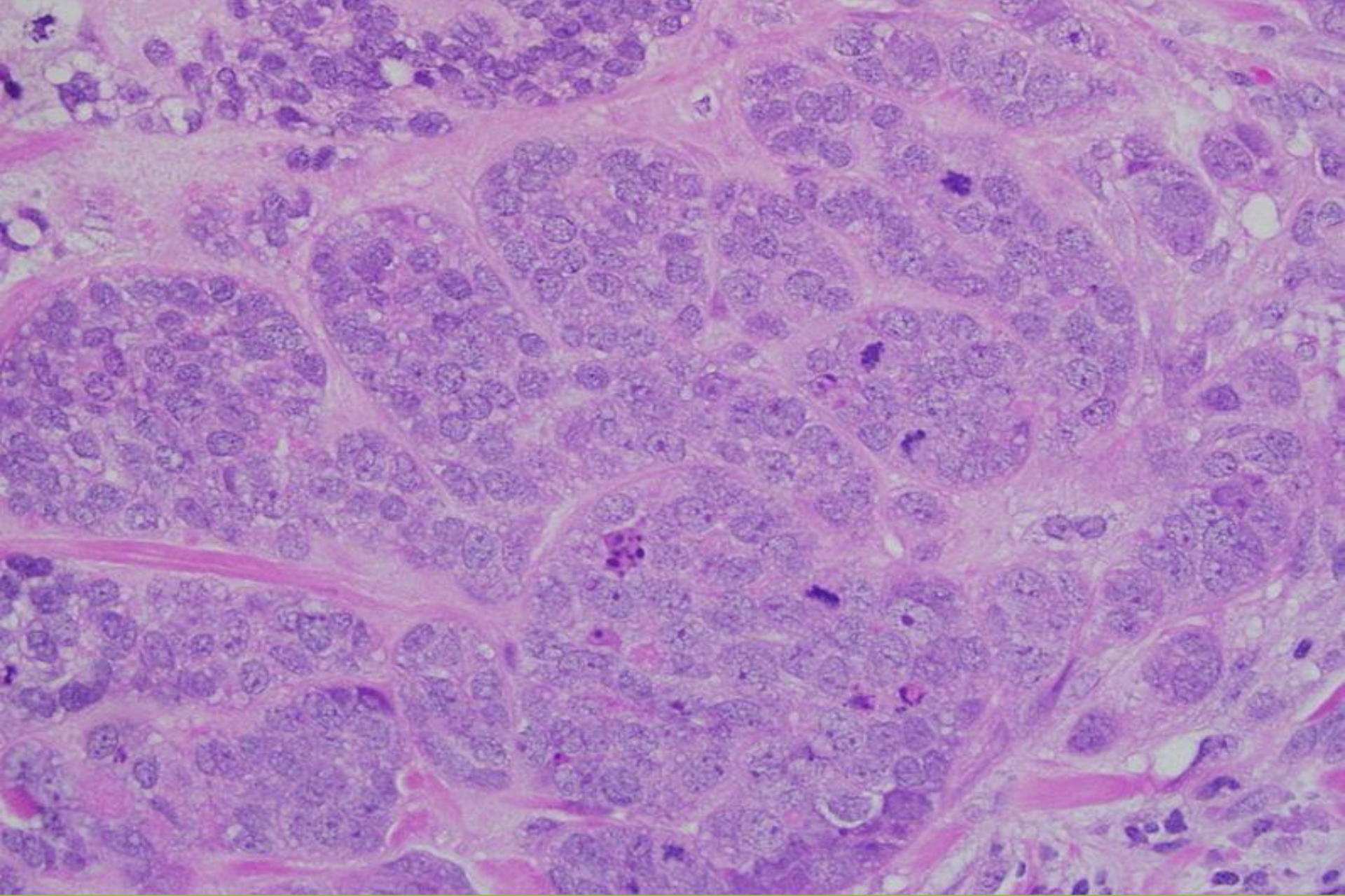


Breast cancer showing an inverted nipple, lump, skin dimpling

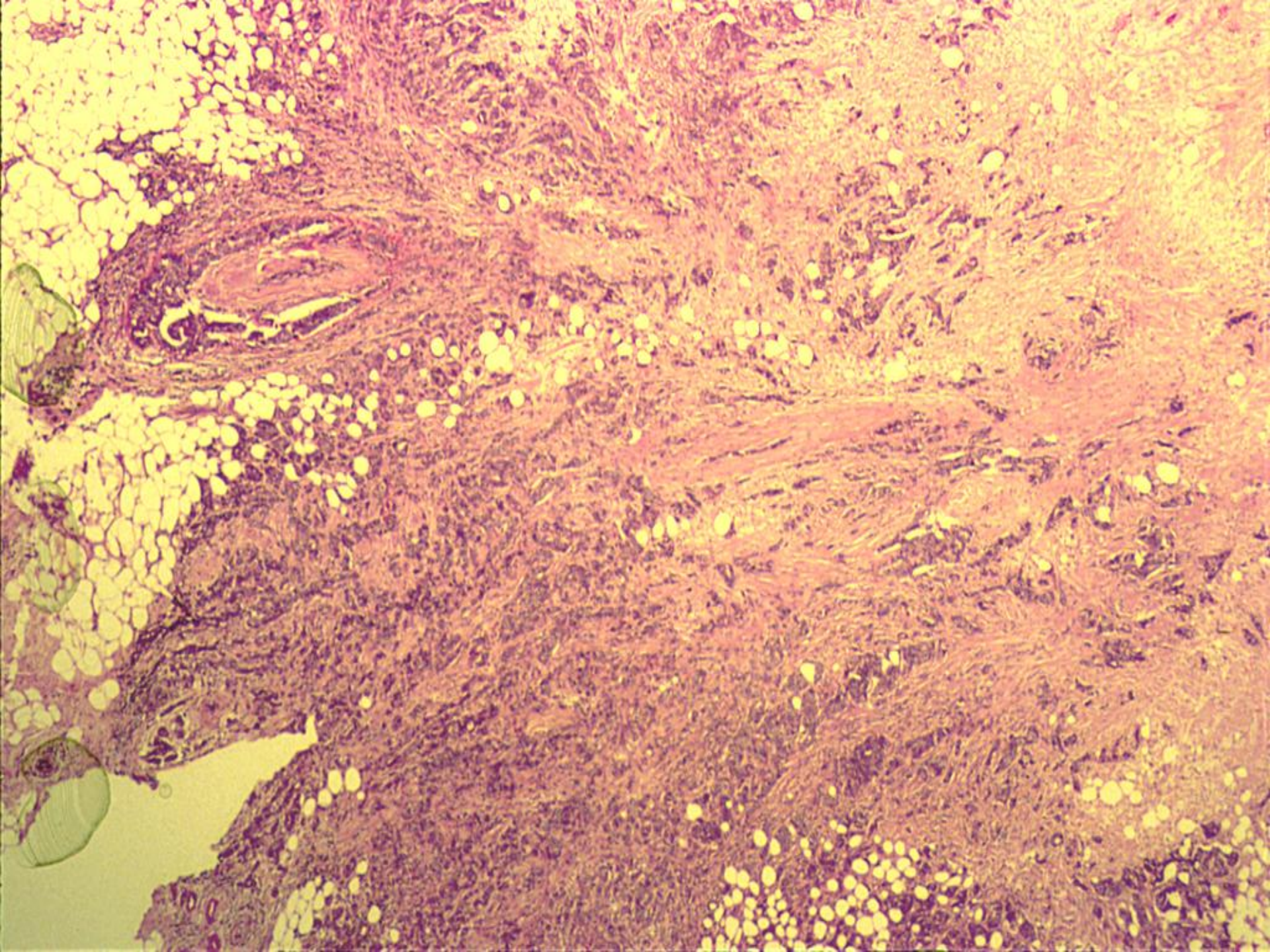
Ill-defined pale and firm nodule (*) . Overlying retracted nipple and surrounding skin

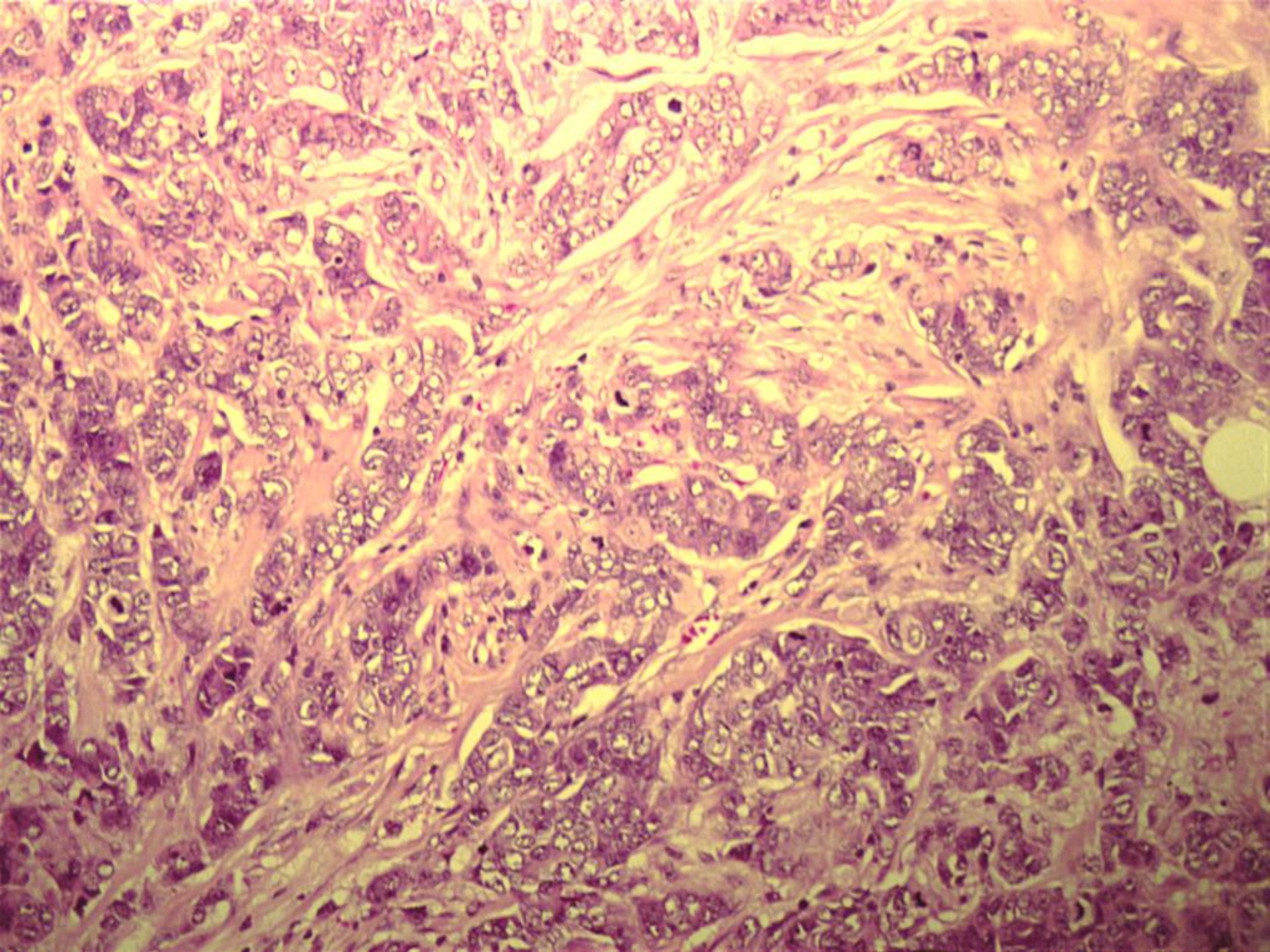






High grade invasive ductal carcinoma, with minimal tubule formation, marked pleomorphism, and prominent mitoses, 40x field.





Invasive ducts carcinoma of the breast:

Section of breast tumour shows:

- + Cord, sheets and nests of pleomorphic tumour cells**
- + Tumour cells are polygonal with deeply stained nuclei, prominent nucleoli and occasional mitoses.**
- + Minimal tubule formation**
- + Tumour cells are invading breast adipose tissue.**
- + Few tumour cells from duct-like structures.**
- + Clinical feature which may effect prognosis: metastases to lymph nodes, Size of the tumor; Presence of distant metastases .**

Invasive carcinoma is graded based on:

- **Number of tubules**

The more tubule = low grade (good prognosis resemble normal)

- **Mitotic index**

High mitotic index = high grade (bad prognosis)

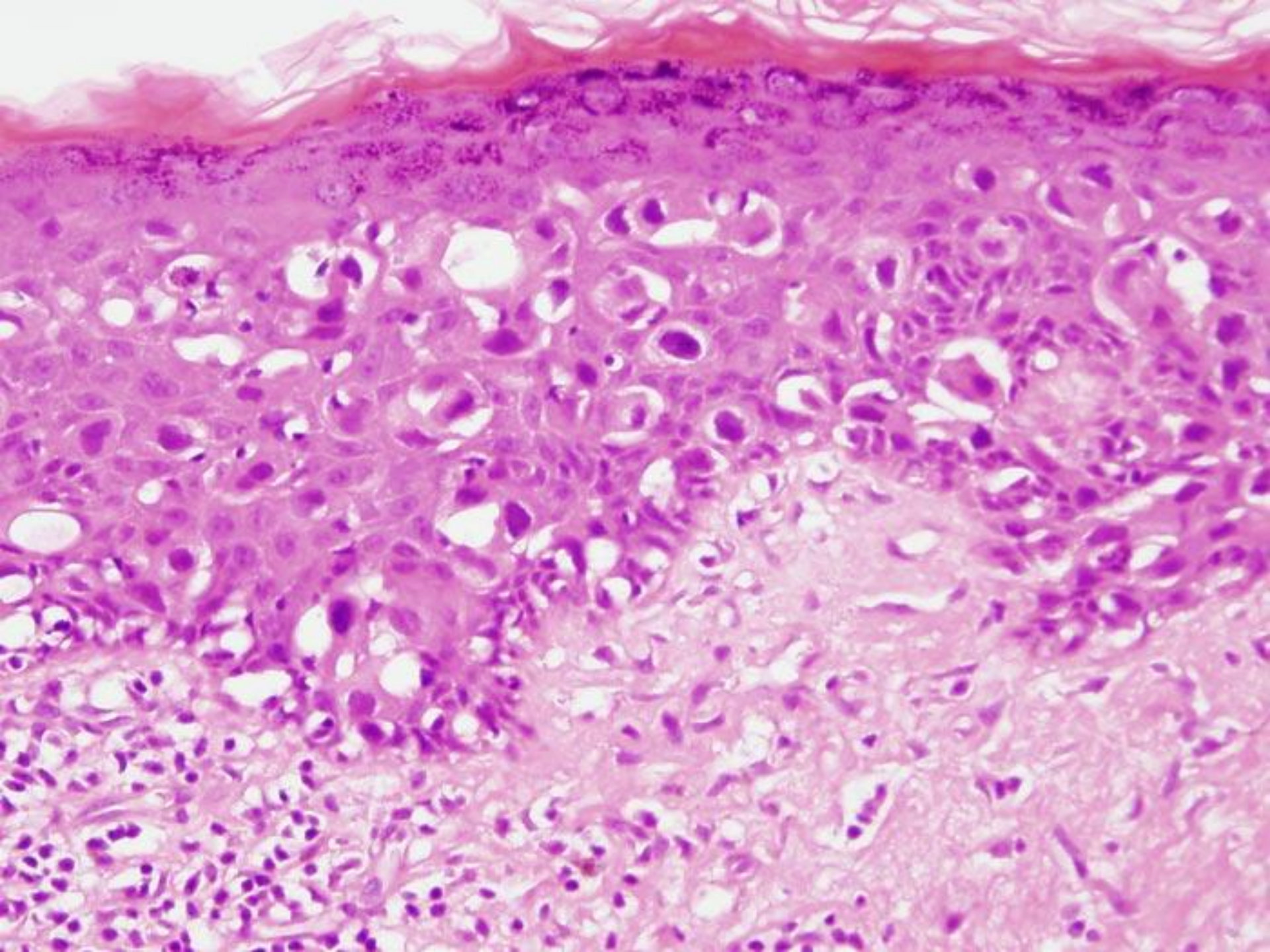
- **Pleomorphism = high grade**

Case 8

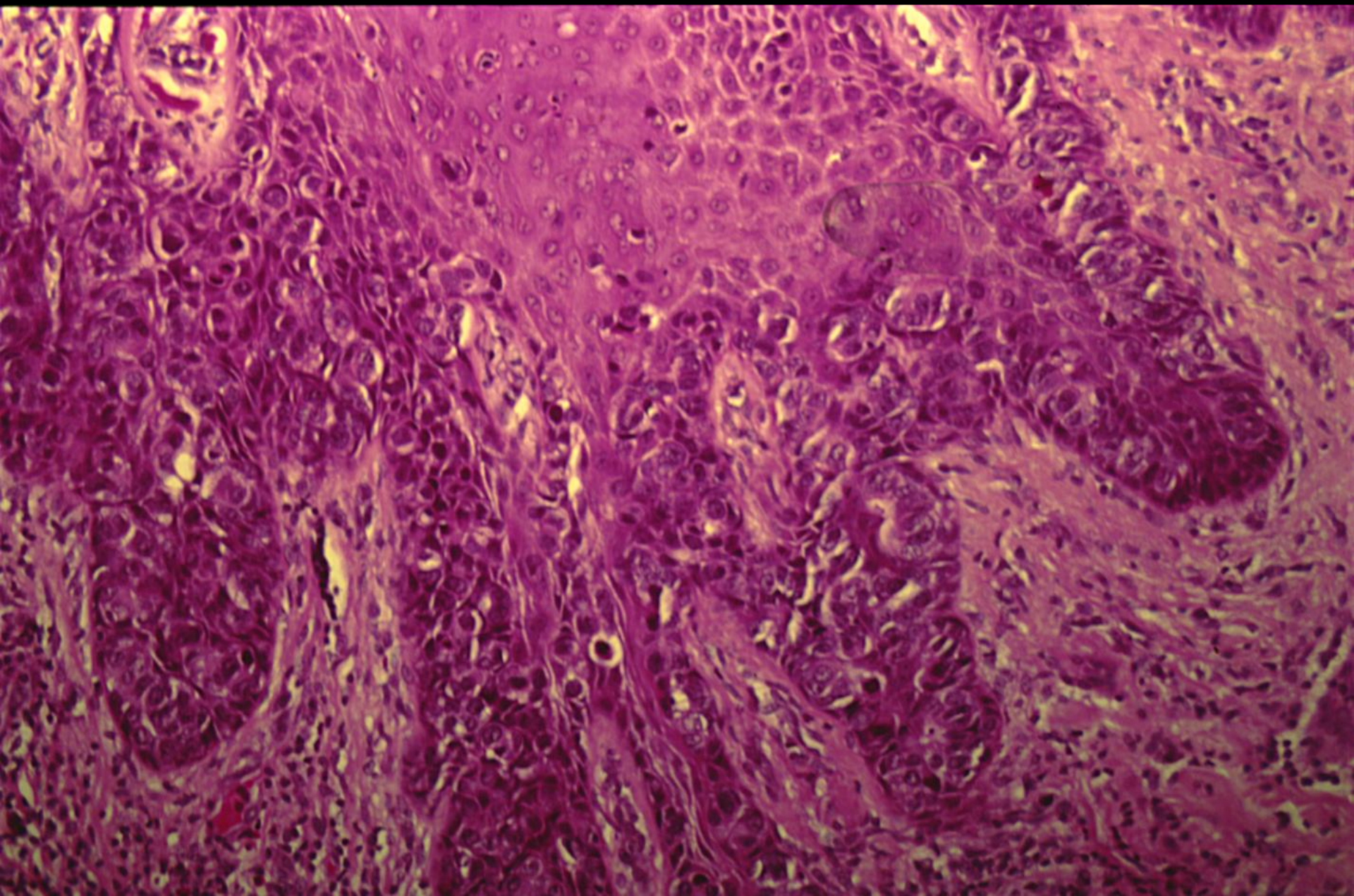
Paget's Disease of nipple and breast



Paget's disease of the nipple that shows ulceration and retraction of the nipple as well as erosion.







PAGET'S DISEASE OF THE BREAST



Paget's disease of the breast:

Section of breast and skin shows:

-  **Ulceration and invasion of *epidermis* by ductal carcinoma cells (Paget cells), present between basal cells in elongated rete pegs.**
-  **Paget cells are large, anaplastic cells having *pale cytoplasm, hyperchromatic nuclei* with occasional *mitoses*.**
-  **Paget cells are present either singly or in small groups of two or three surrounded by a clear zone or halo.**
-  **Deeper tissue shows *intraductal proliferation of neoplastic epithelial cells*.**