



FS CASES IAP-ID 2018

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PRINCE ALY KHAN HOSPITAL

MUMBAI

THE STORY STARTS IN THE FS ROOM

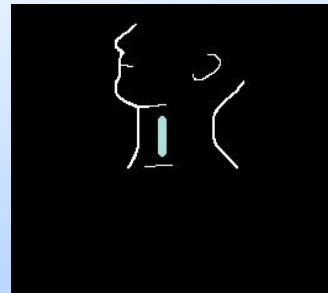
- 💣 Young man with a large firm neck mass
- 💣 Clinically this is a case of an unknown primary
- 💣 Excision was performed and FS requested

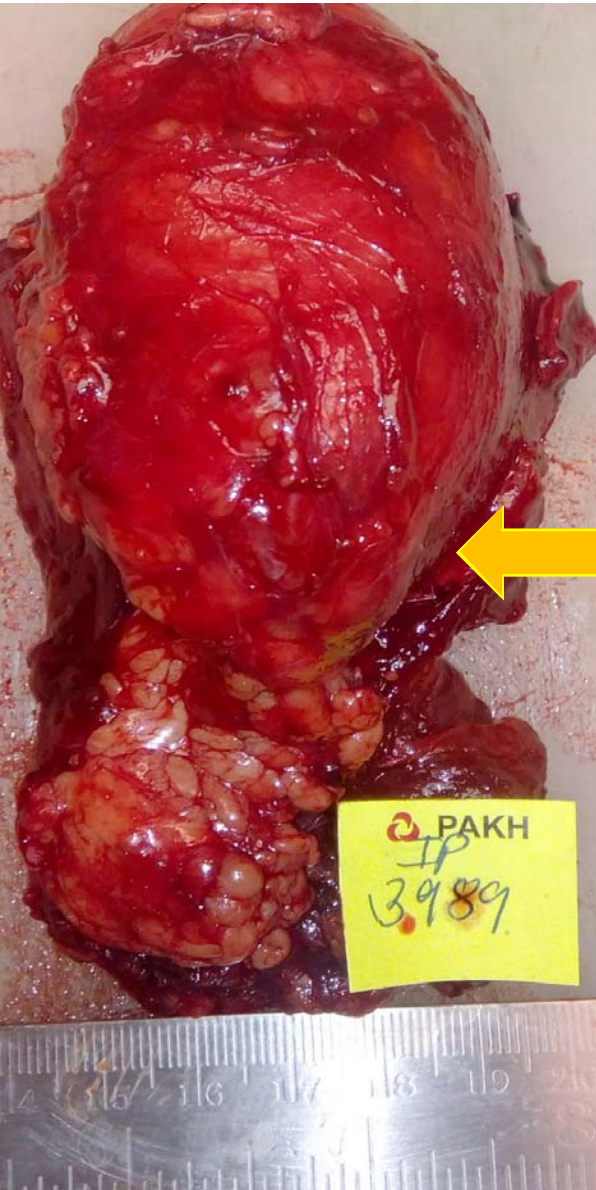
‡ Male smoker aged 23, presented with a large 11 cm sized firm left neck node mass
Sudden spurt of growth observed in the last 2 weeks

‡ FNAC smears done outside was diagnosed as Squamous Carcinoma

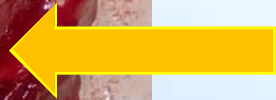


**Replicate
black & white
with
colours**





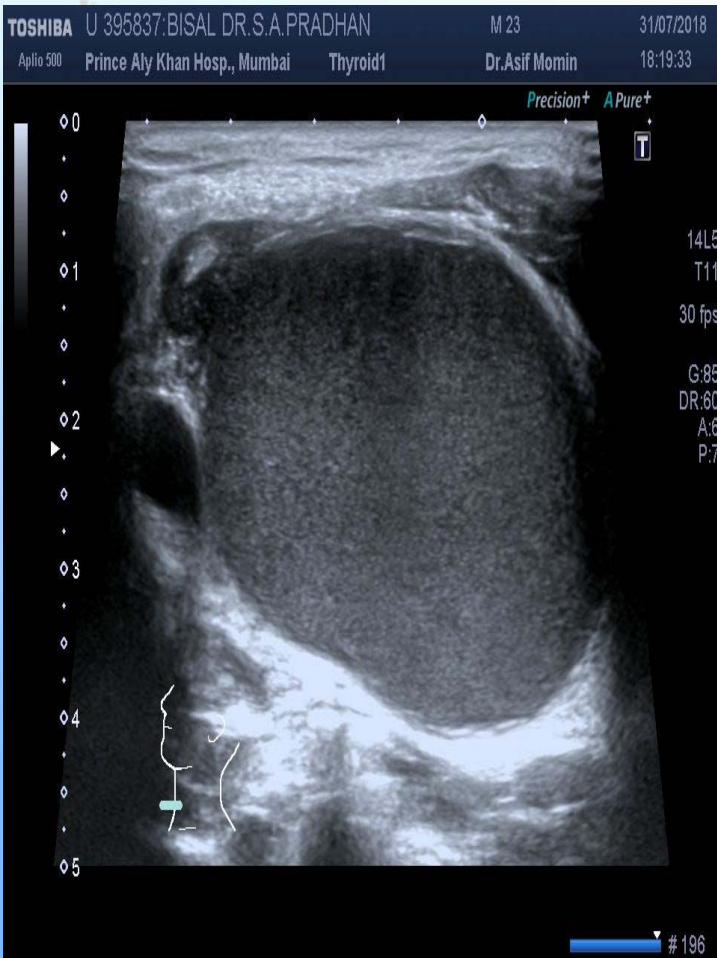
EXCISED SPECIMEN
11 x 5 x 5cm
tense cystic mass



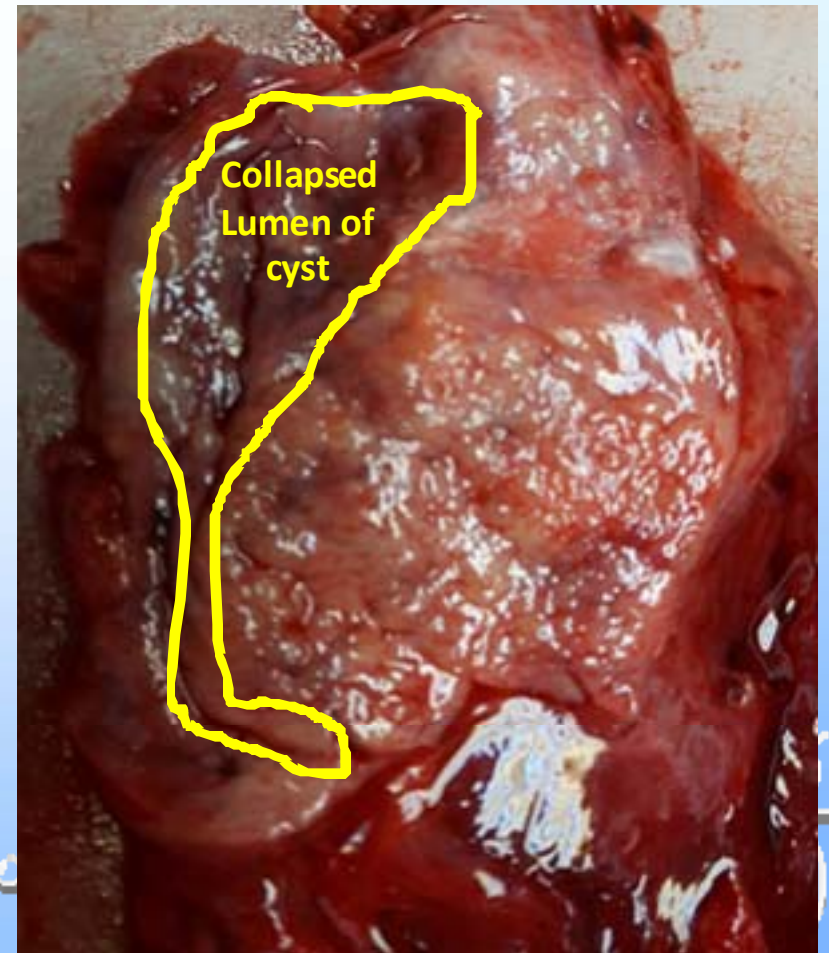
Anterior surface
opened surface

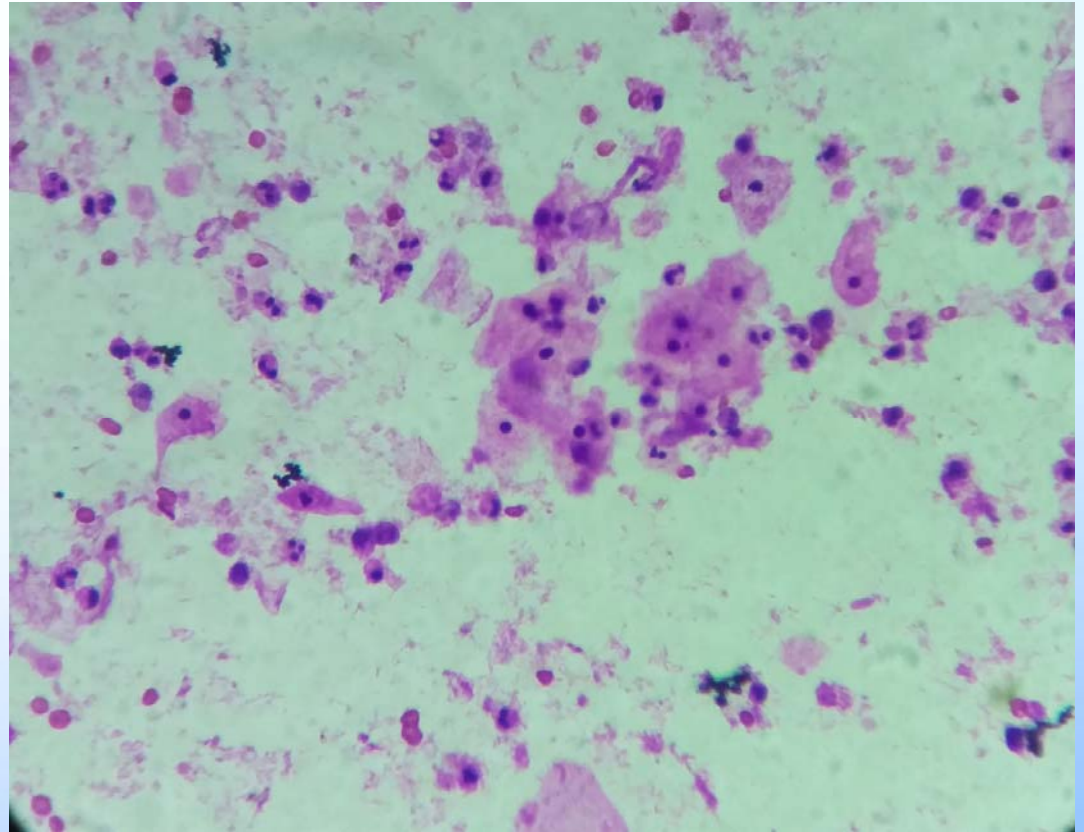
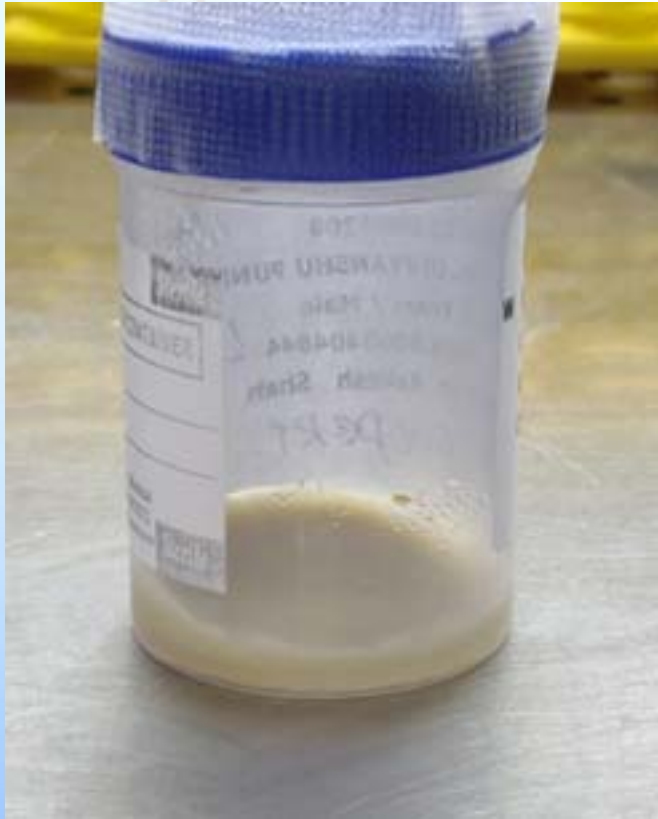


COLLAPSED CYST WITH THICK WALL



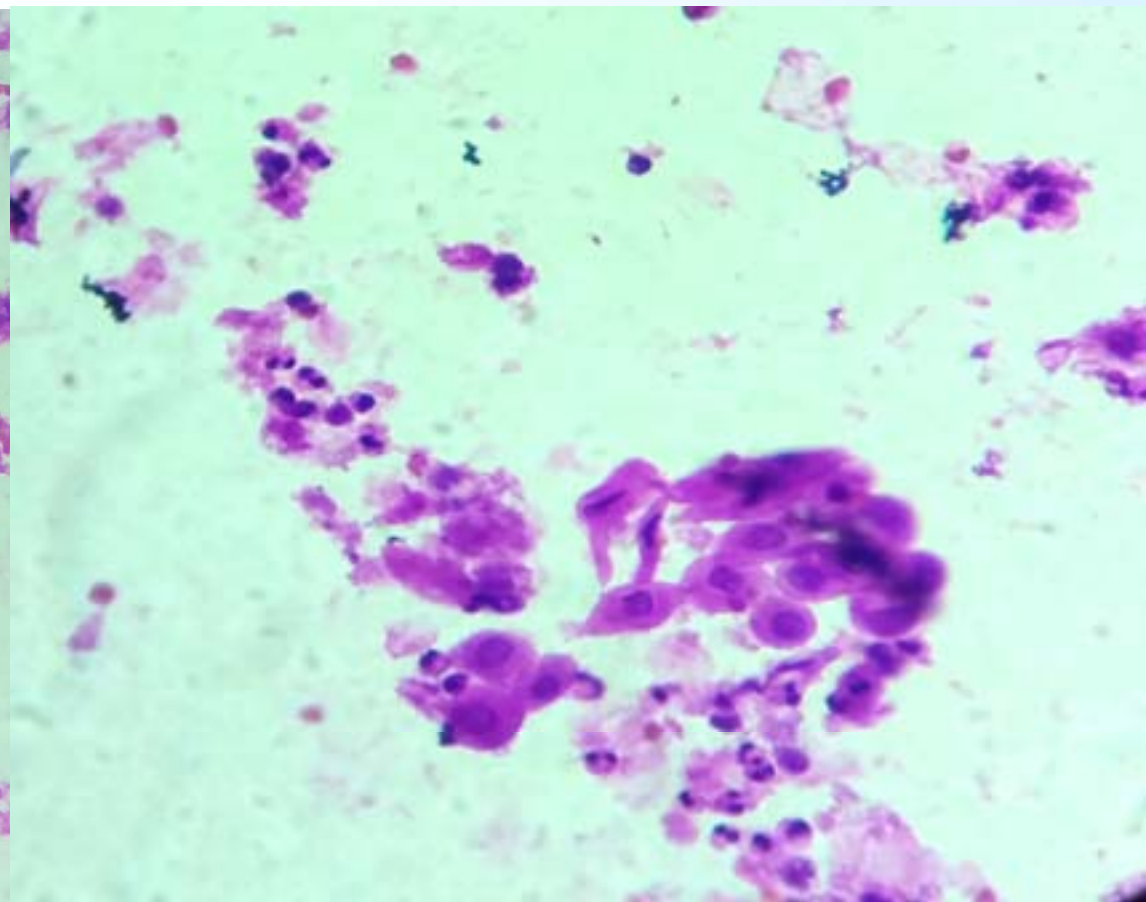
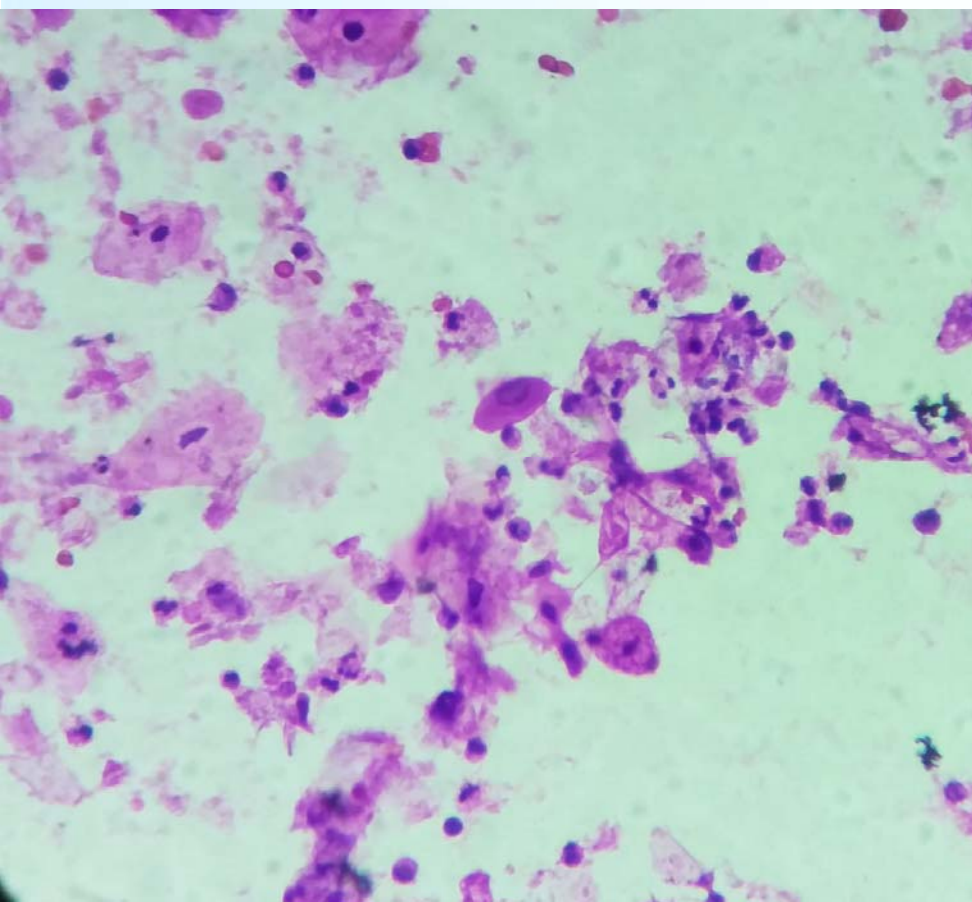
**Thick
turbid
white
cyst
contents**



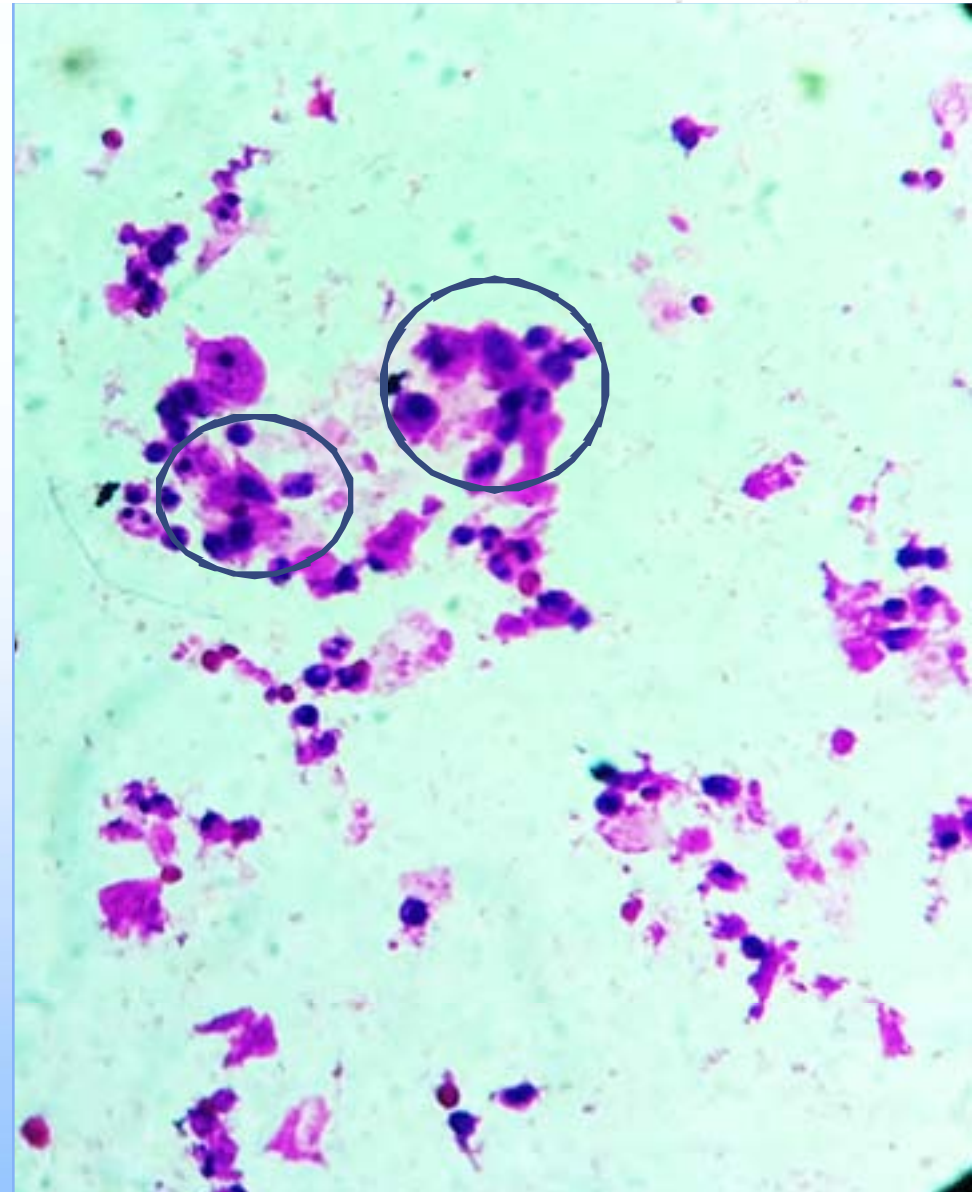
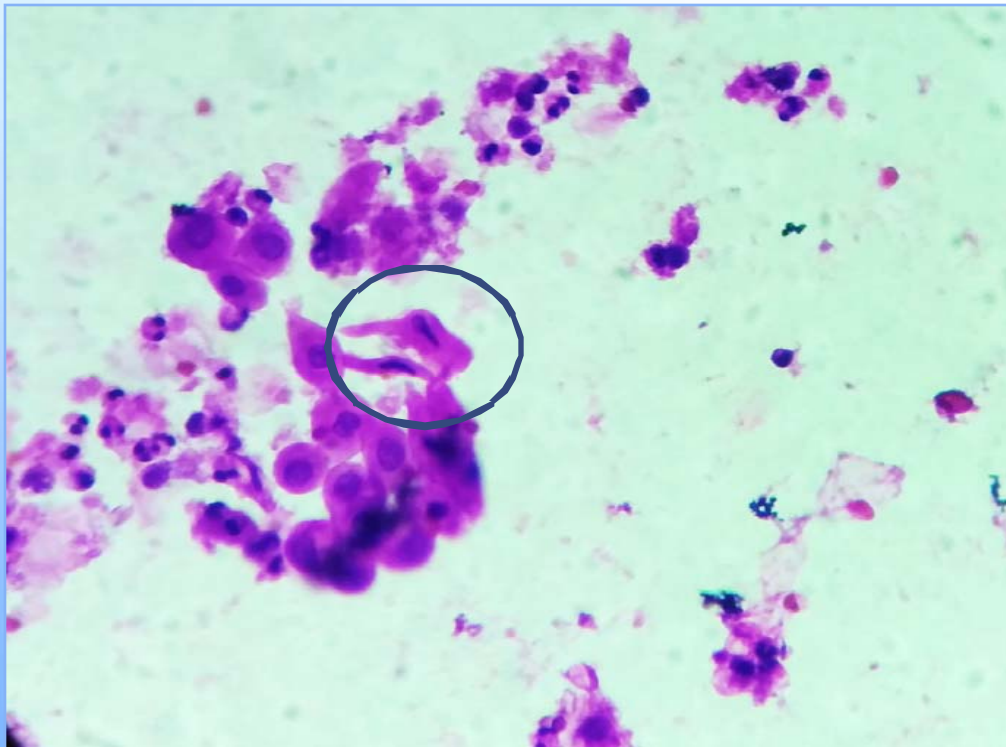


**INTRA-OP CYST CONTENTS SHOWED
A RANGE OF SQUAMOUS CELLS**

INTRA-OP CYTOLOGY SMEARS



HP of cytology smears



Opinions from the house on the intra-op smears?



DIFFERENTIAL DIAGNOSES

ON CYTOLOGY

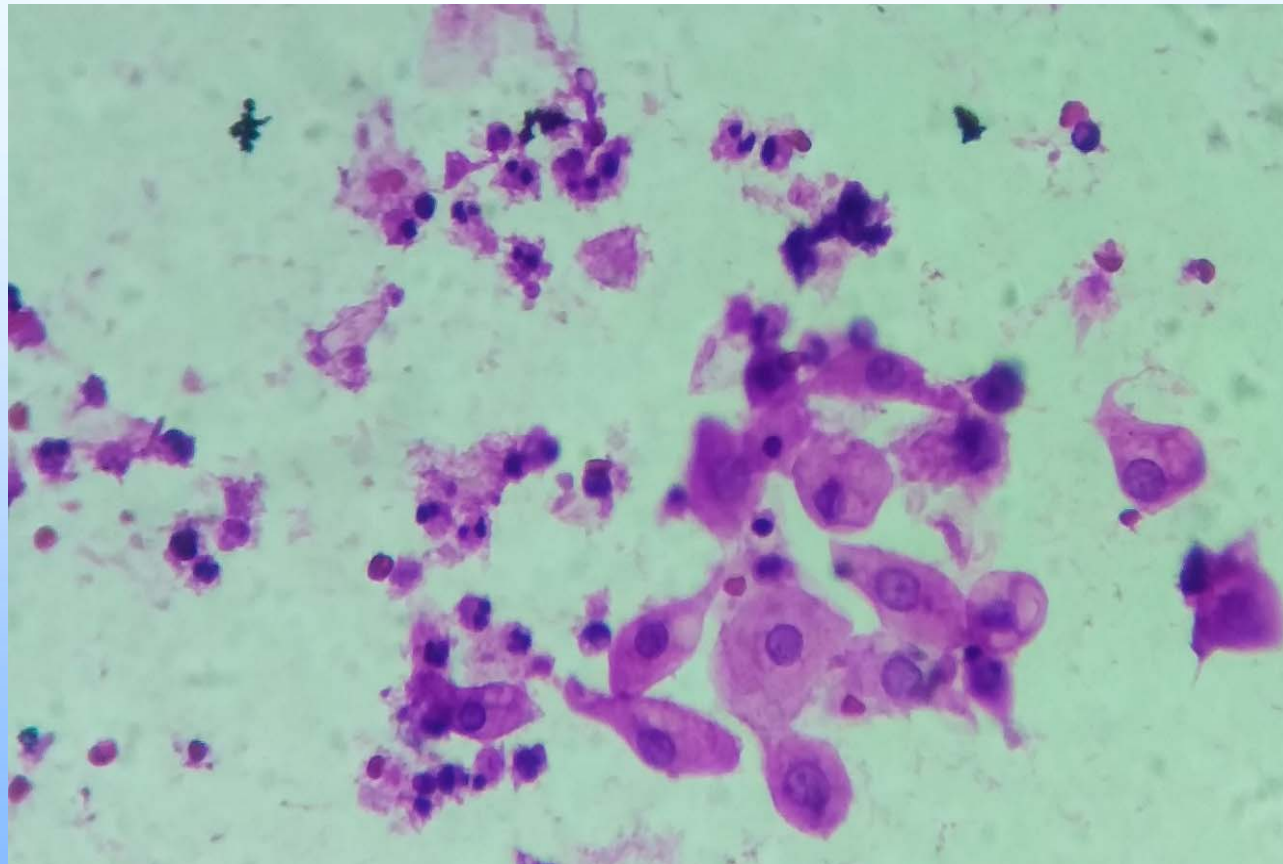
💣 **Metastasis of a differentiated
keratinizing squamous
carcinoma**

💣 **Liquefaction necrosis in a
squamous carcinoma**

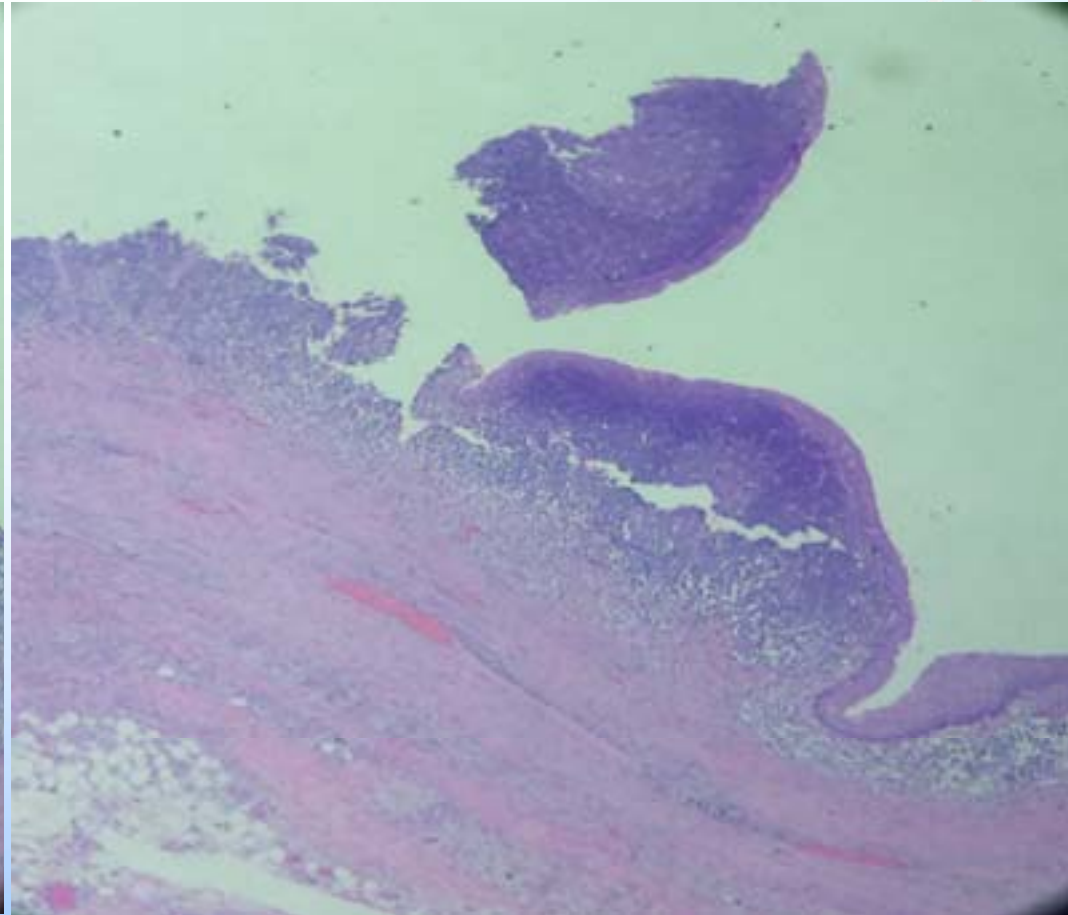
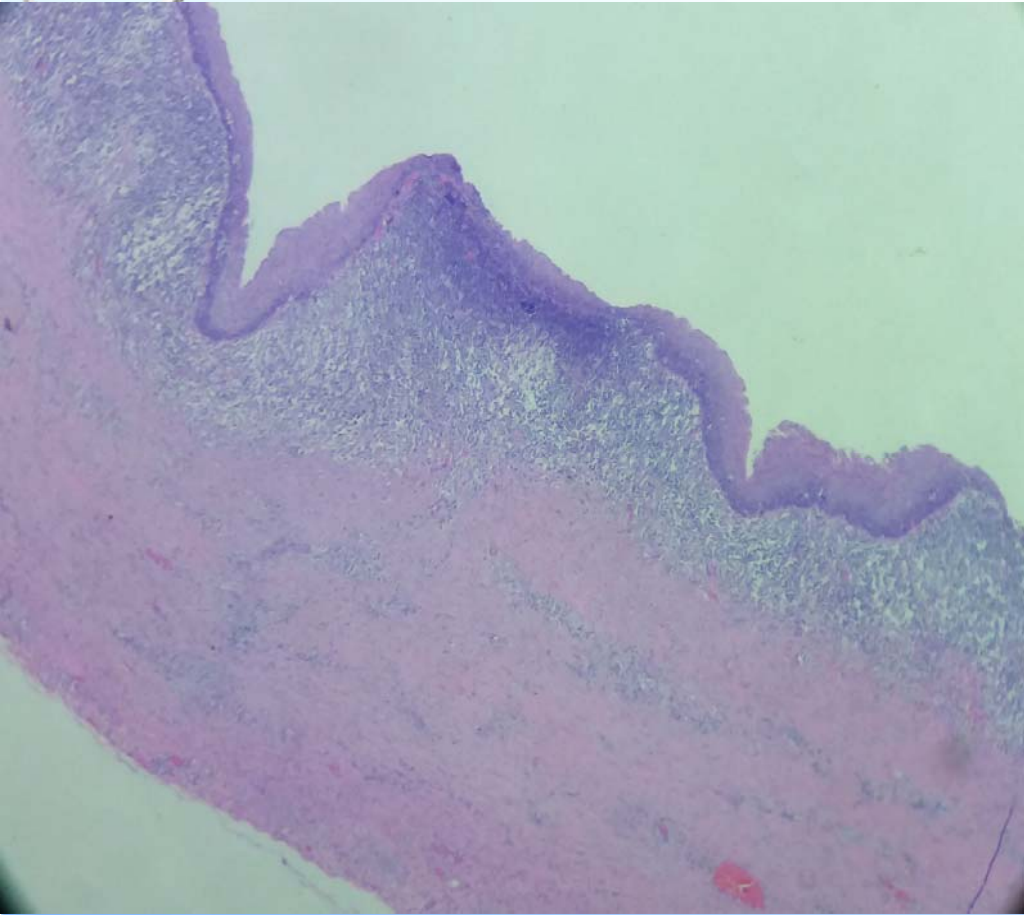
❖ **Branchial cyst**

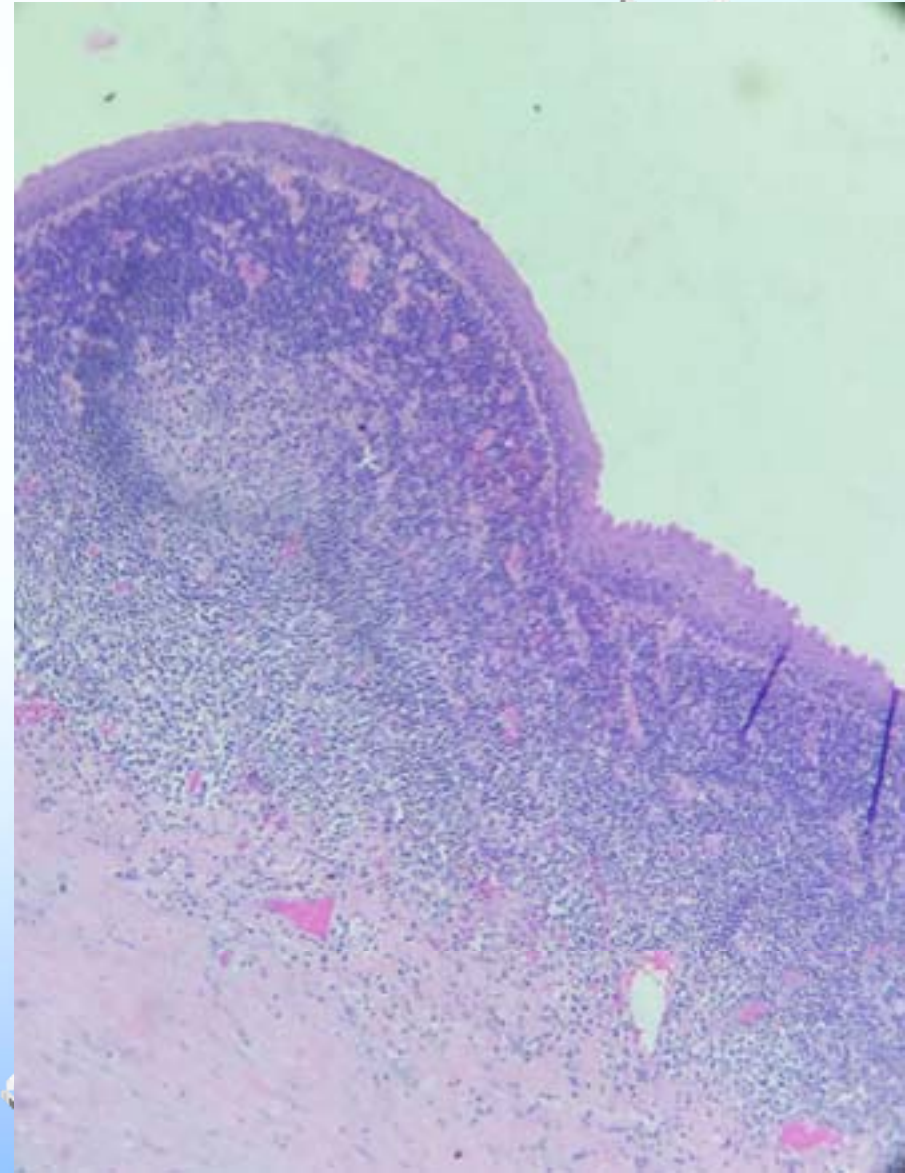
❖ **Thyroglossal cyst**

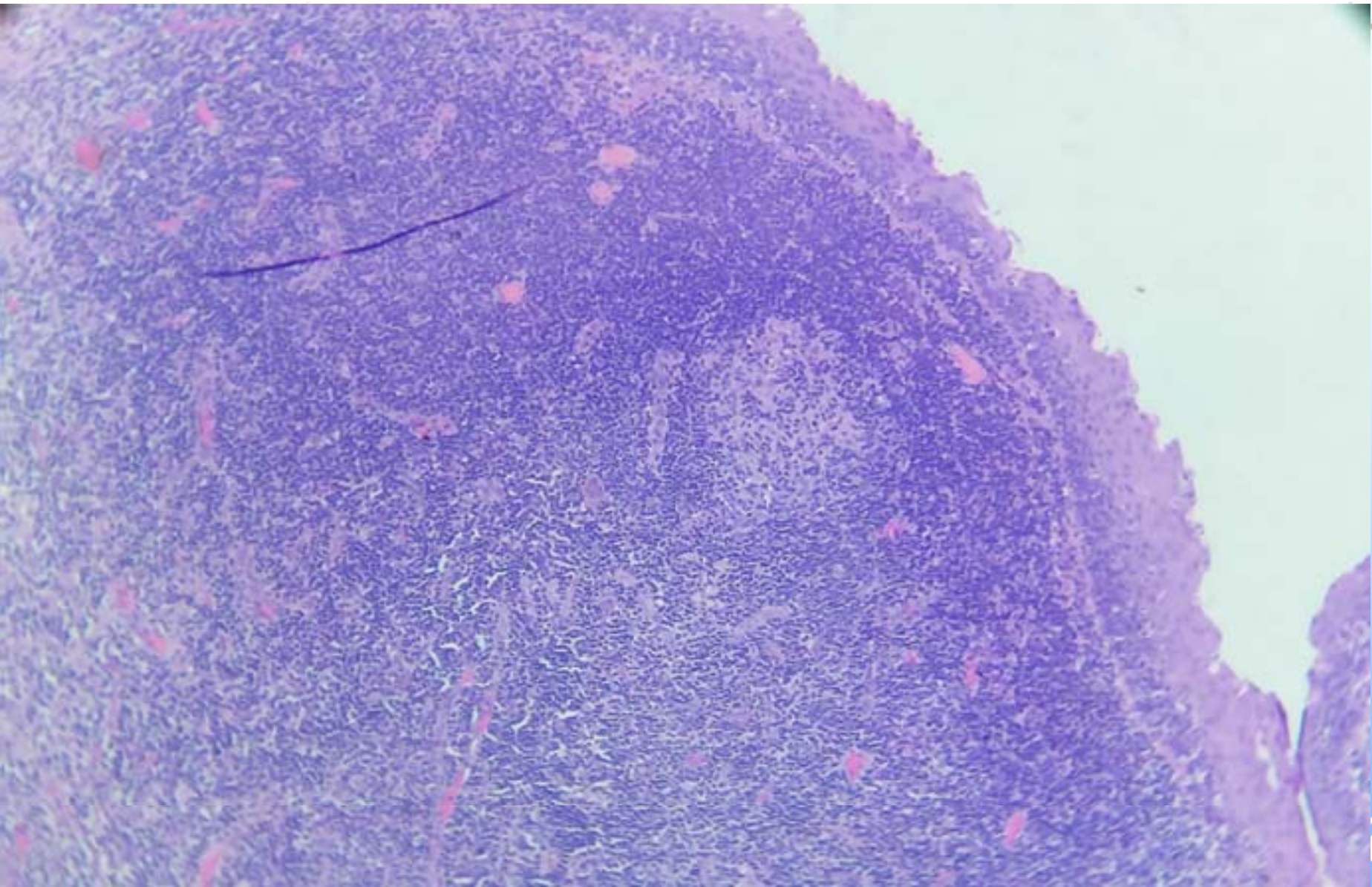
SMEARS OF THE CYST CONTENTS



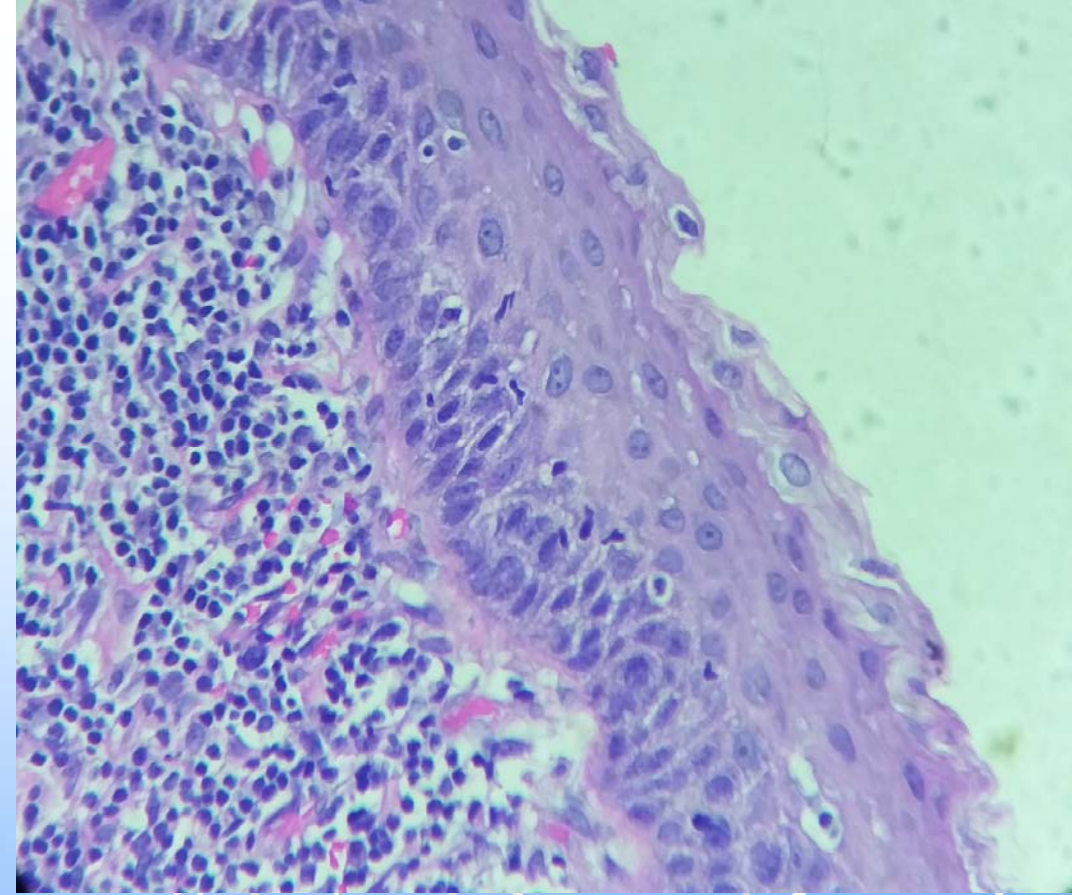
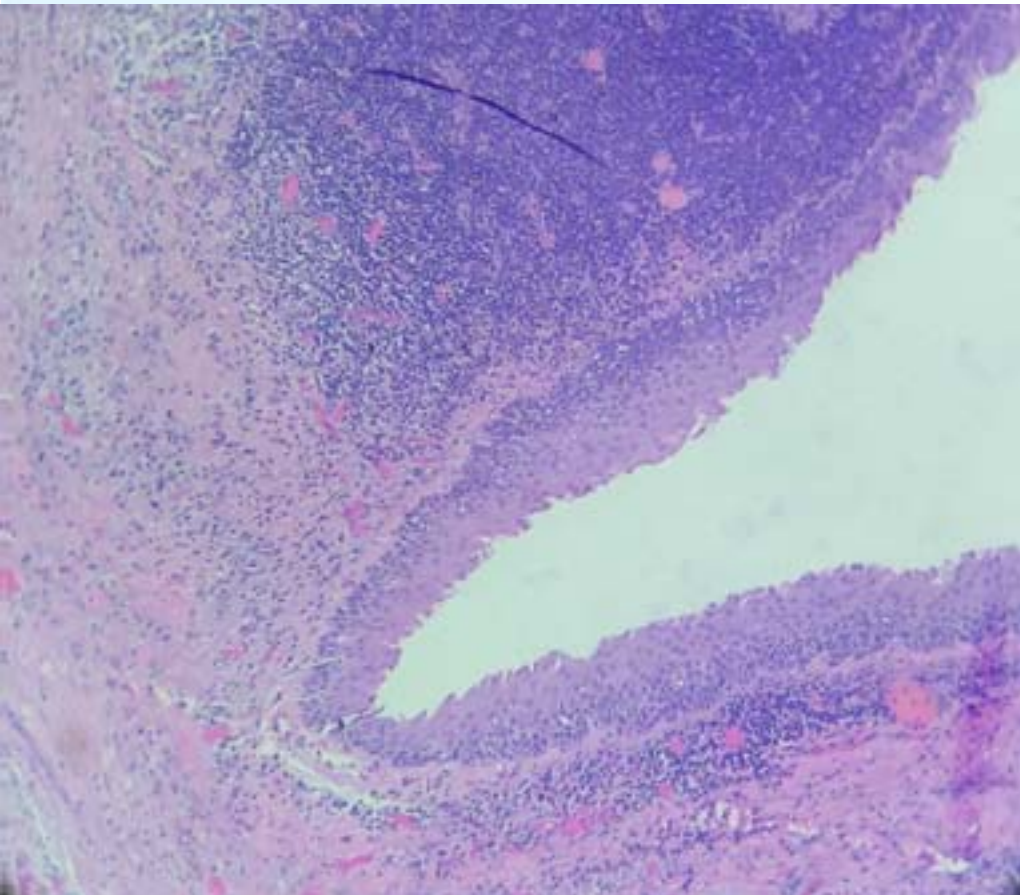
CYST LINING





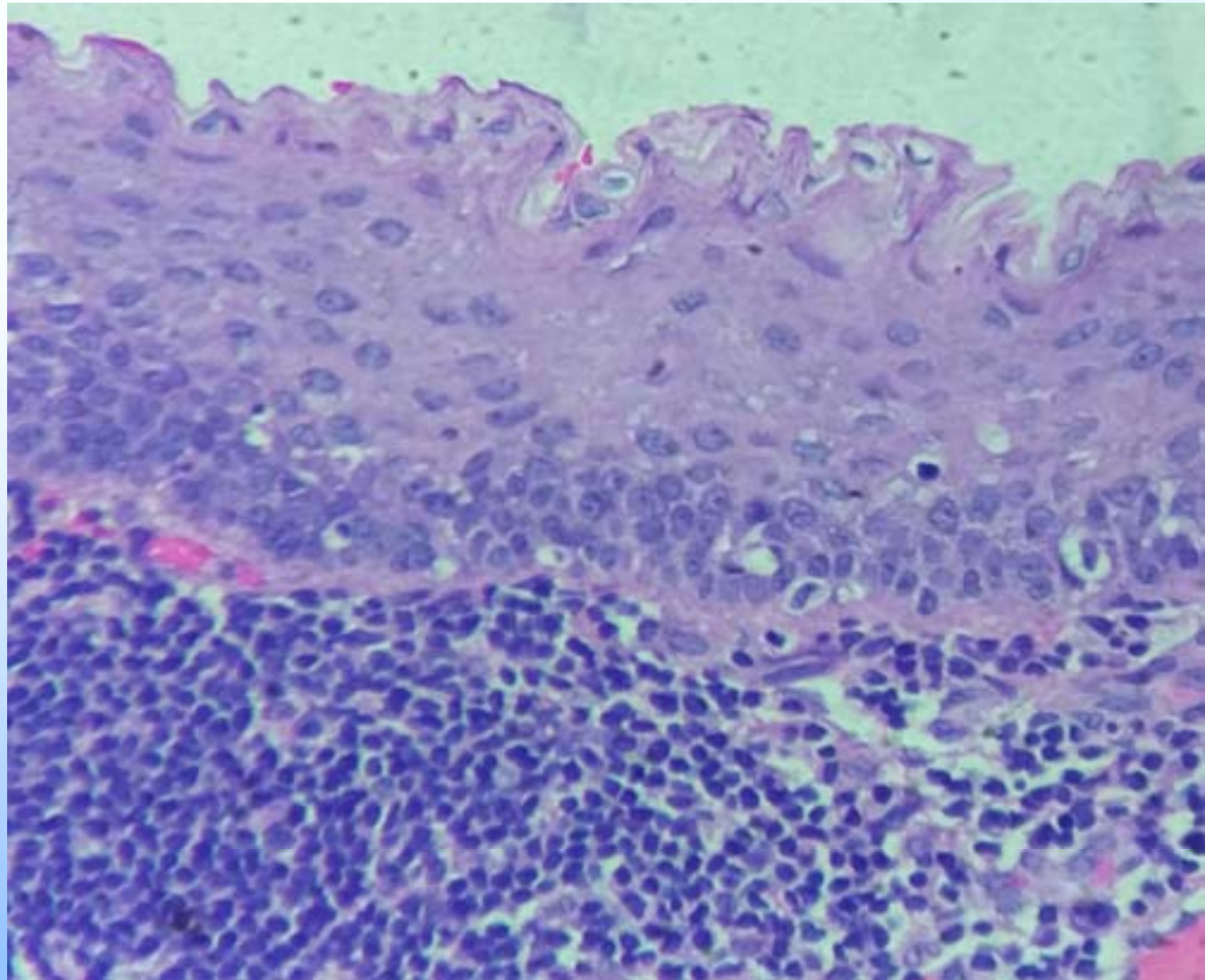


Low and high power views

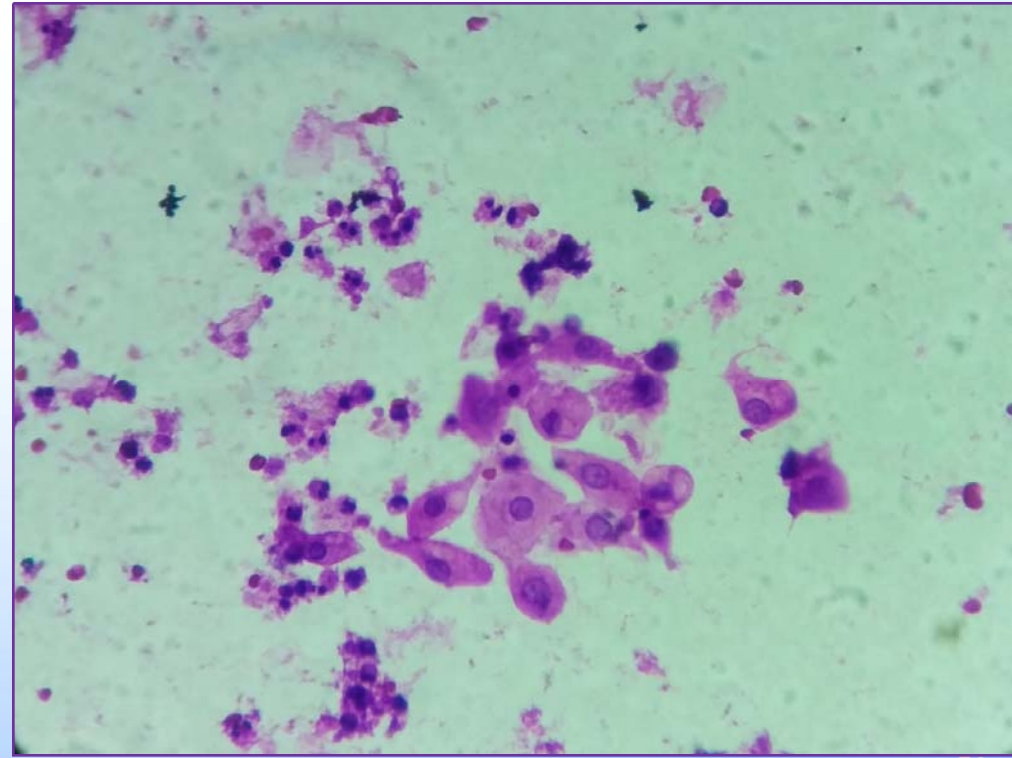
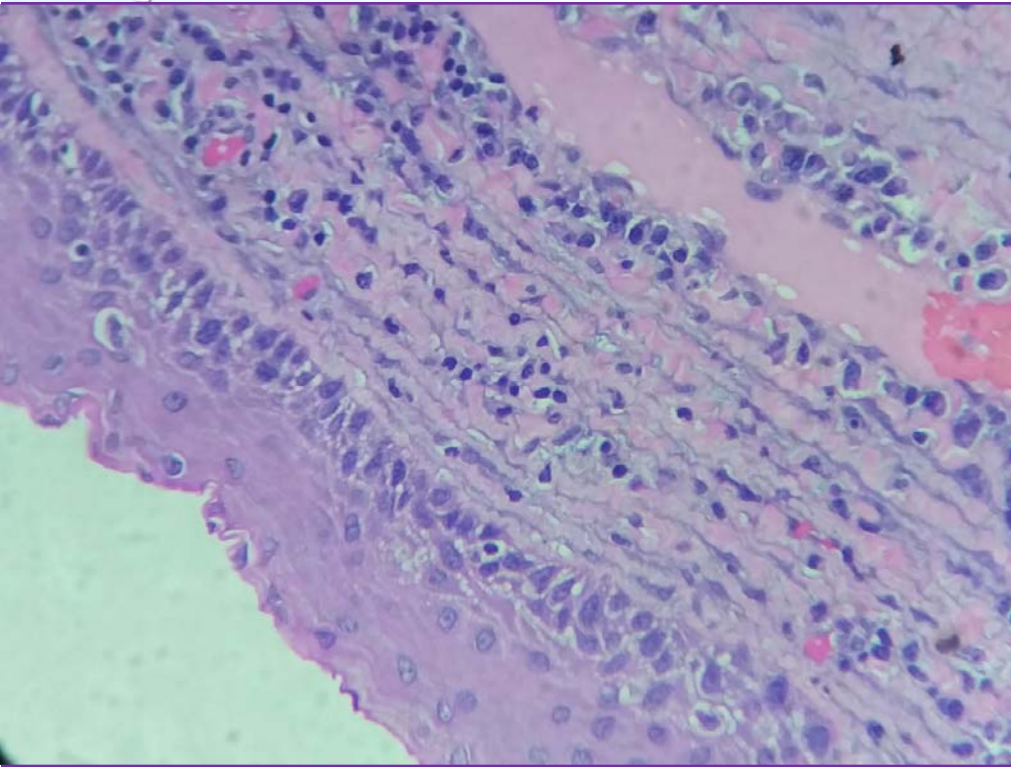


HP VIEW

- Cyst lining of stratified squamous epithelium
- Underlying lymphoid tissue



FINDINGS



SIGN OUT DIAGNOSIS

”

BRANCHIAL CYST

CYTOLOGY OF BRANCHIAL CYST

- ✓ Cells are bland, but degenerate forms can be very deceptive
- ✓ Nuclei are usually vesicular and bland, but can show inflammatory atypia
- ✓ Cells show a degree of maturity not seen in cancers
- ✓ Outside FNAC report was of a 'Metastatic Squamous Carcinoma'

“ WHAT IS THE WAY TO AVOID OVER-DIAGNOSIS OF A SQUAMOUS CARCINOMA? ”

Whenever a ‘metastatic’ lesion

- looks very differentiated, look again,
- ask for a possible primary as a rule,
- take a detailed history from both the patient
 - Get the radiology opinion
- Frame your report voicing your concern & the DD if only FNAC is provided

HISTOPATHOLOGY

- On histopathology, it shows cyst with lining epithelia of
 - stratified epithelium without keratinization,
 - columnar epithelium with or without cilia,
 - or a mixture of both.
- Branchial cleft cysts are usually lined by squamous epithelium in about 90% cases.
- Eight percentage of them are composed of ciliated columnar epithelium, and 2% show both types of epithelium.
- Beneath the epithelium, there is usually lymphoid tissue, often with germinal centers and subcapsular lymph sinuses.
- Often there are marked inflammatory changes and the epithelium overlying the lymphoid tissue is attenuated or absent.

DD

- **The differential diagnosis of branchial cleft cyst includes**
 - **Unilateral lymphadenopathy** and could be malignant or tuberculous, parotid and thyroid tumors, thyroglossal cyst, dermoid cyst, teratoma, cystic hygroma, carotid body tumor, infantile lymphangioma, or neurofibroma.
 - The fluctuant nature of the swelling rules out the solid masses such as tumors involving various tissues in the submandibular region and neck as well as cervical lymphadenopathies.
 - **Thyroglossal duct cysts** present as a midline neck mass at or below the level of the hyoid bone, and it moves with swallowing.
 - **Dermoid cysts** occur in the midline and differ in location from the cyst in the present case. All these lesions differ in microscopic features from branchial cleft cyst.
 - **Cystic hygroma** occurs in the posterior triangle of the neck that is posterior to the sternocleidomastoid muscle.

WHAT IS A BRANCHIAL CLEFT CYST?

- A **branchial cleft cyst** is a form of birth defect in which a lump develops on one or both sides of a young person's **neck**, or below the collarbone. ...
- This birth defect occurs during embryonic development when tissues in the **neck** and collarbone, or **branchial cleft**, don't develop normally
- A **branchial cleft cyst** is a **cyst** in the skin of the lateral part of the neck. ... The cause is usually a developmental abnormality arising in the early prenatal period, typically failure of obliteration of the second **branchial cleft**, i.E. Failure of fusion of the second and third **branchial** arches.

ORIGIN OF A BRANCHIAL CLEFT CYST

Various theories regarding its origin

- **Congenital theory** says that the cysts develop from remnants of the embryonic gill apparatus
- **Lymph node theories**: in 1949, King concluded that the cyst arises from cystic changes in parotid epithelium that become entrapped in upper cervical lymph nodes during embryonic life
- **Branchial theory**: A basic understanding of cervical embryology is essential to the discussion of branchial anomalies.
- *Branchial apparatus develops during the 2nd–6th week of fetal life. At this stage, the neck is shaped like a hollow tube with circumferential ridges, which are termed as branchial arches. Branchial arches develop into the musculoskeletal and vascular components of the head and neck. The thinner regions between the arches are termed clefts (on the outside of fetus) and pouches (on the inside of the fetus)*

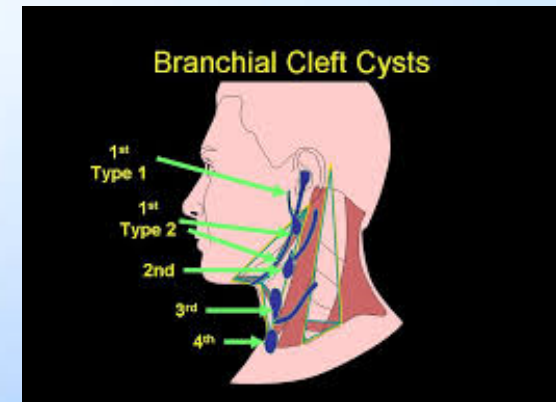
Typical appearance of usual branchial cysts

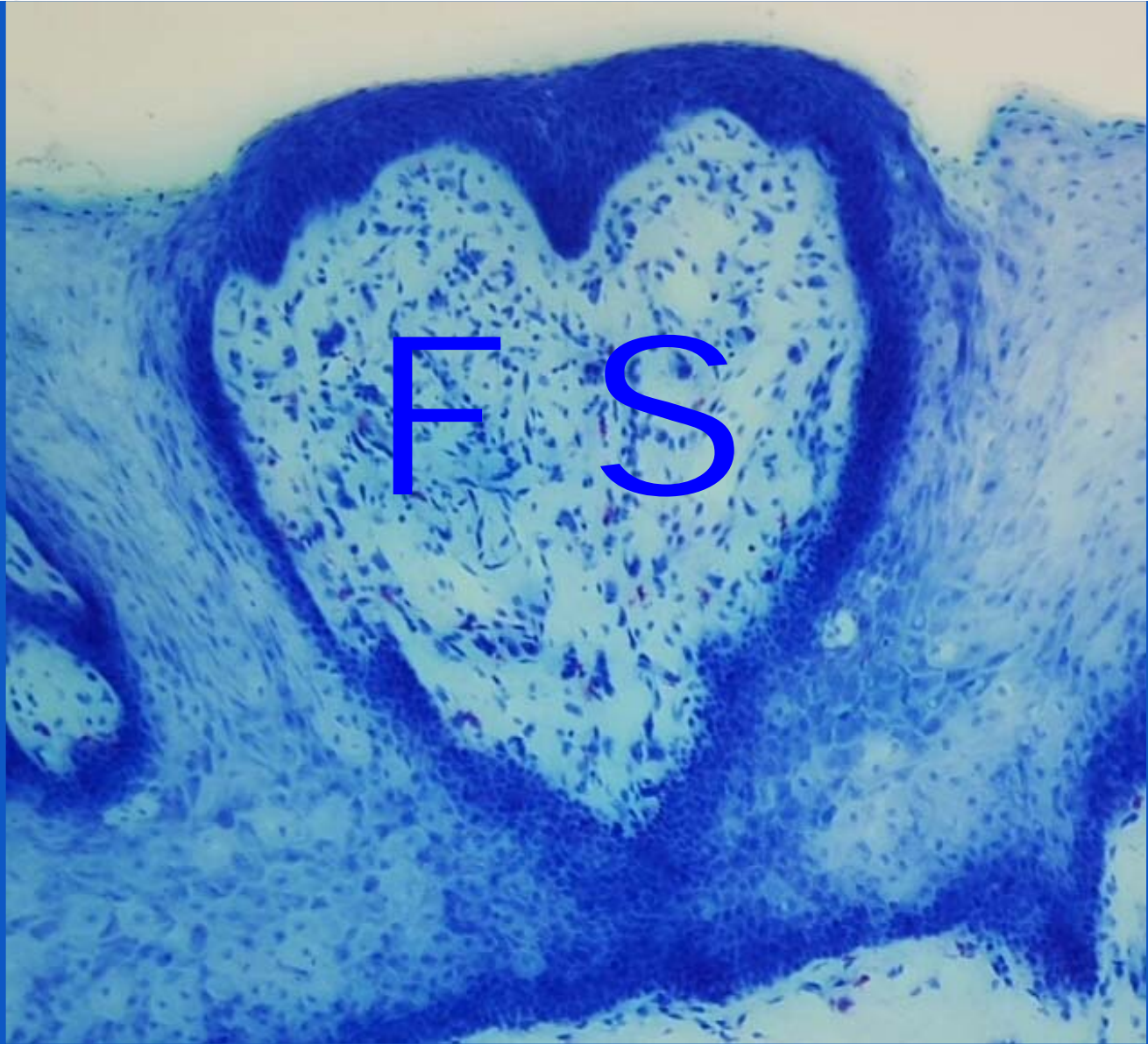
The exact incidence of **branchial cleft cysts** is unknown. **Branchial cleft cysts** are the most **common** congenital cause of a neck mass.

An estimated 2-3% of cases are bilateral.

A tendency exists for cases to cluster in families.

Different types of Br cleft cysts exist





FS



IAP-ID 2018

FS Of An Ovarian Mass

R F Chinoy

Prince Aly Khan Hospital



YOUNG 35 YEAR OLD LADY: OVARY SENT FOR FS



Large fresh ovarian
mass measuring
16x15x4cm,

Intact Capsule

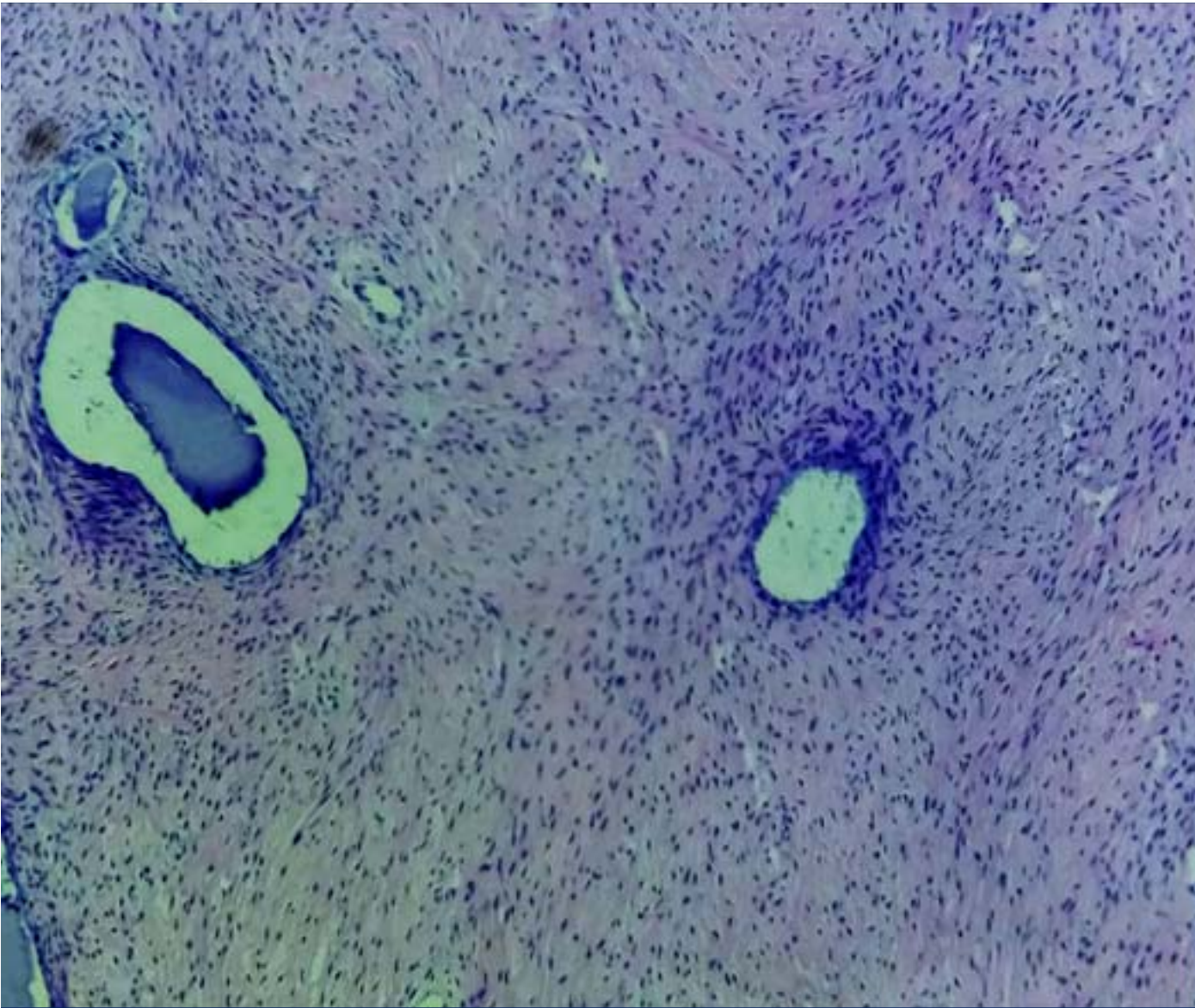
Externally
bosselated almost
dumbbell shaped



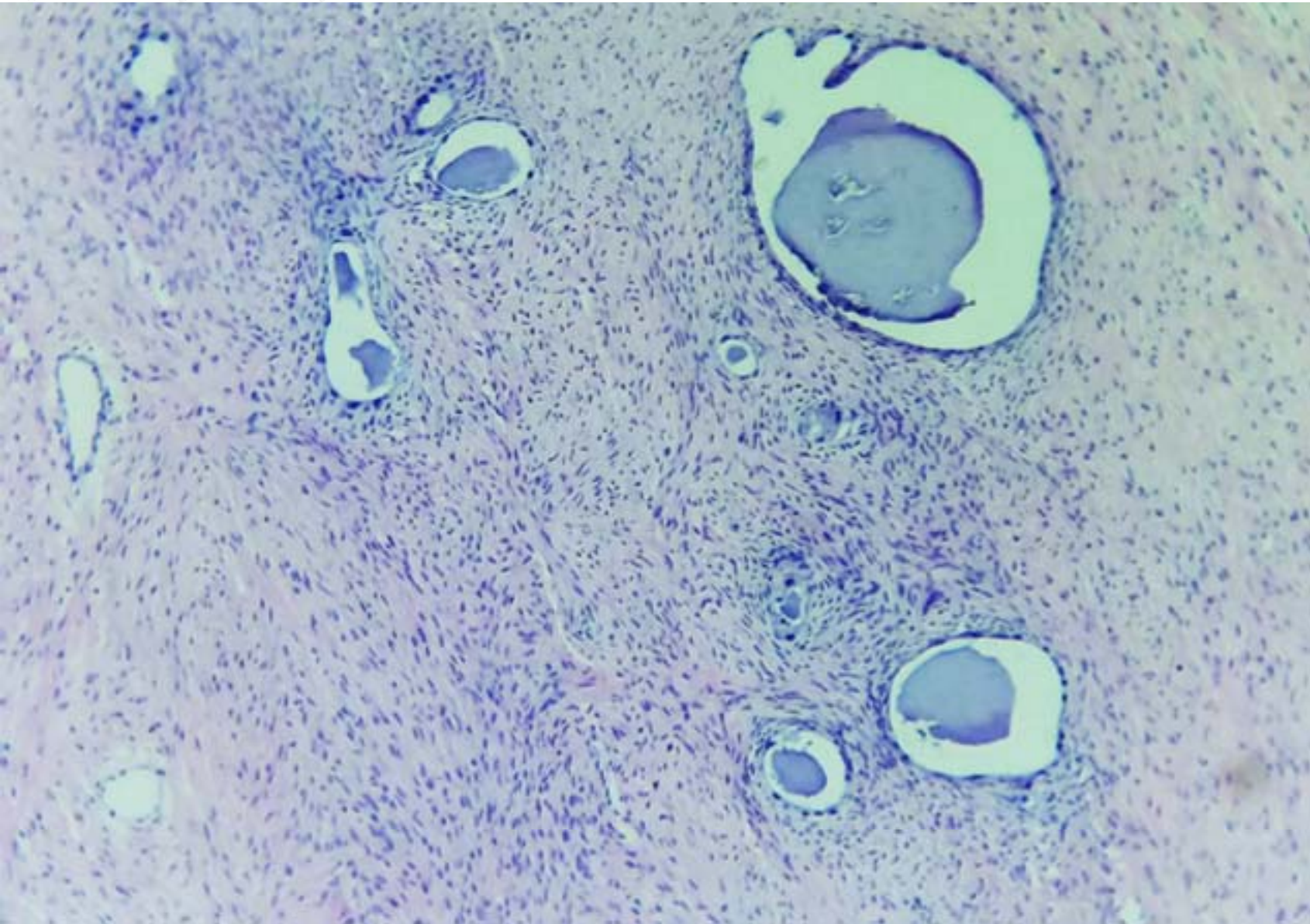
CUT SURFACE OF THE OVARIAN MASS

Largely solid, with few
small and large cysts

Areas of greenish
myxoid change noted
centrally, with
translucent creamish
areas at the periphery



- FS SECTIONS:
5 SECTIONS STUDIED**
- Scattered empty glands lined by low cuboidal, and somewhat hobnailed cells
 - Surrounding stroma: bland and collagen forming
 - No mitosis, necrosis, increased cellularity or nuclear pleomorphism

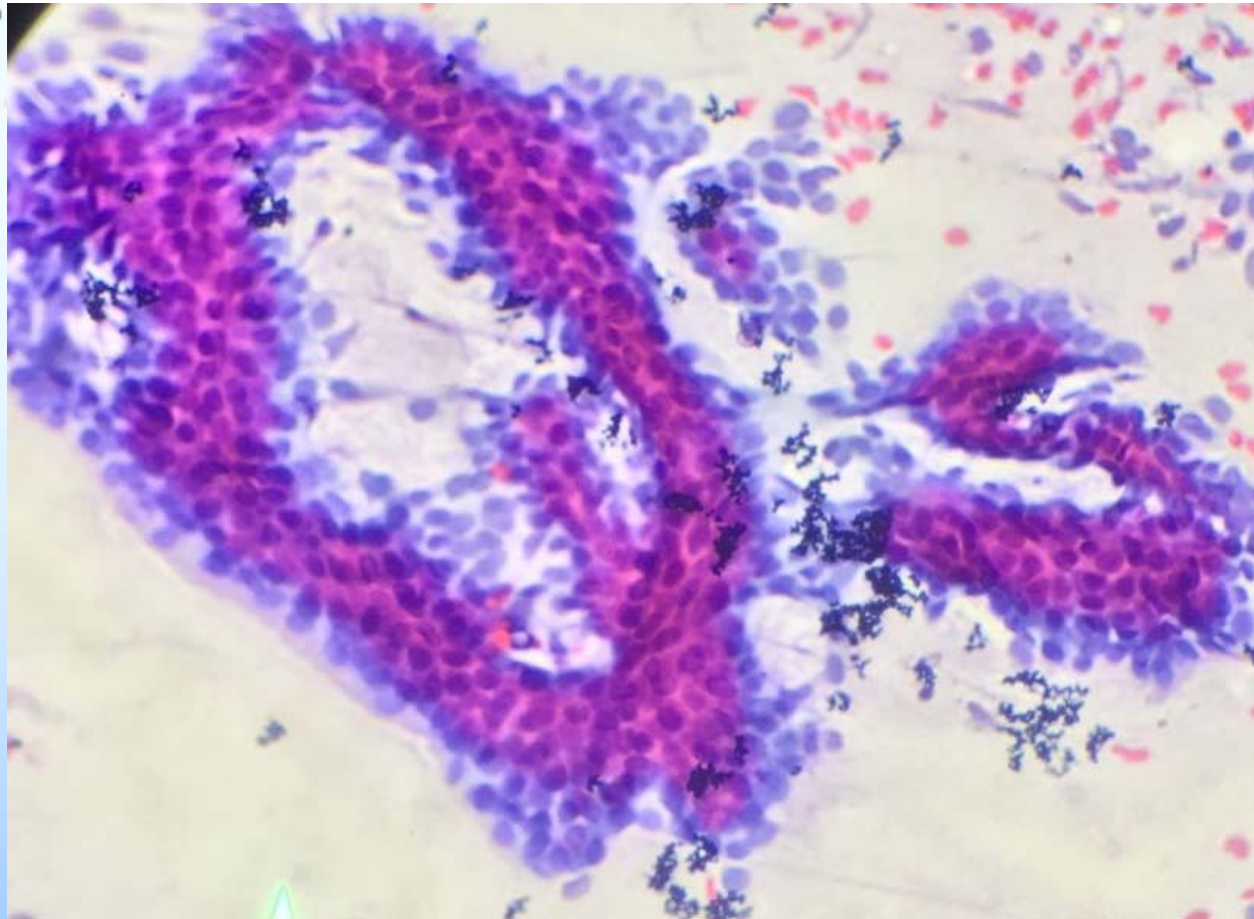


FS

Glandular
element

&

a bland
stroma

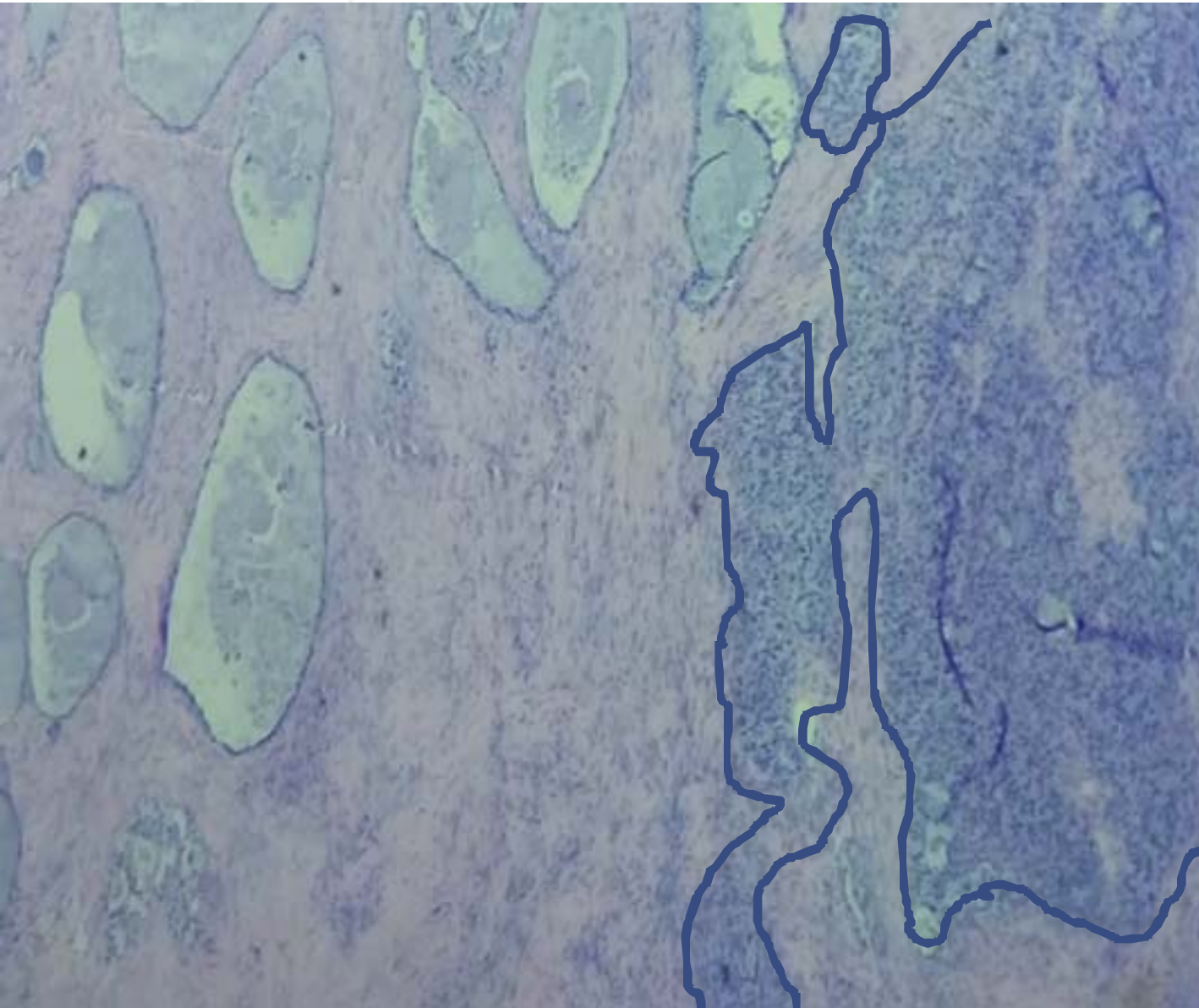


What is your FS impression?

FS DIAGNOSIS

CYST ADENOFIBROMA

FIVE SECTIONS WERE STUDIED



**Then we got
the paraffin
sections:**

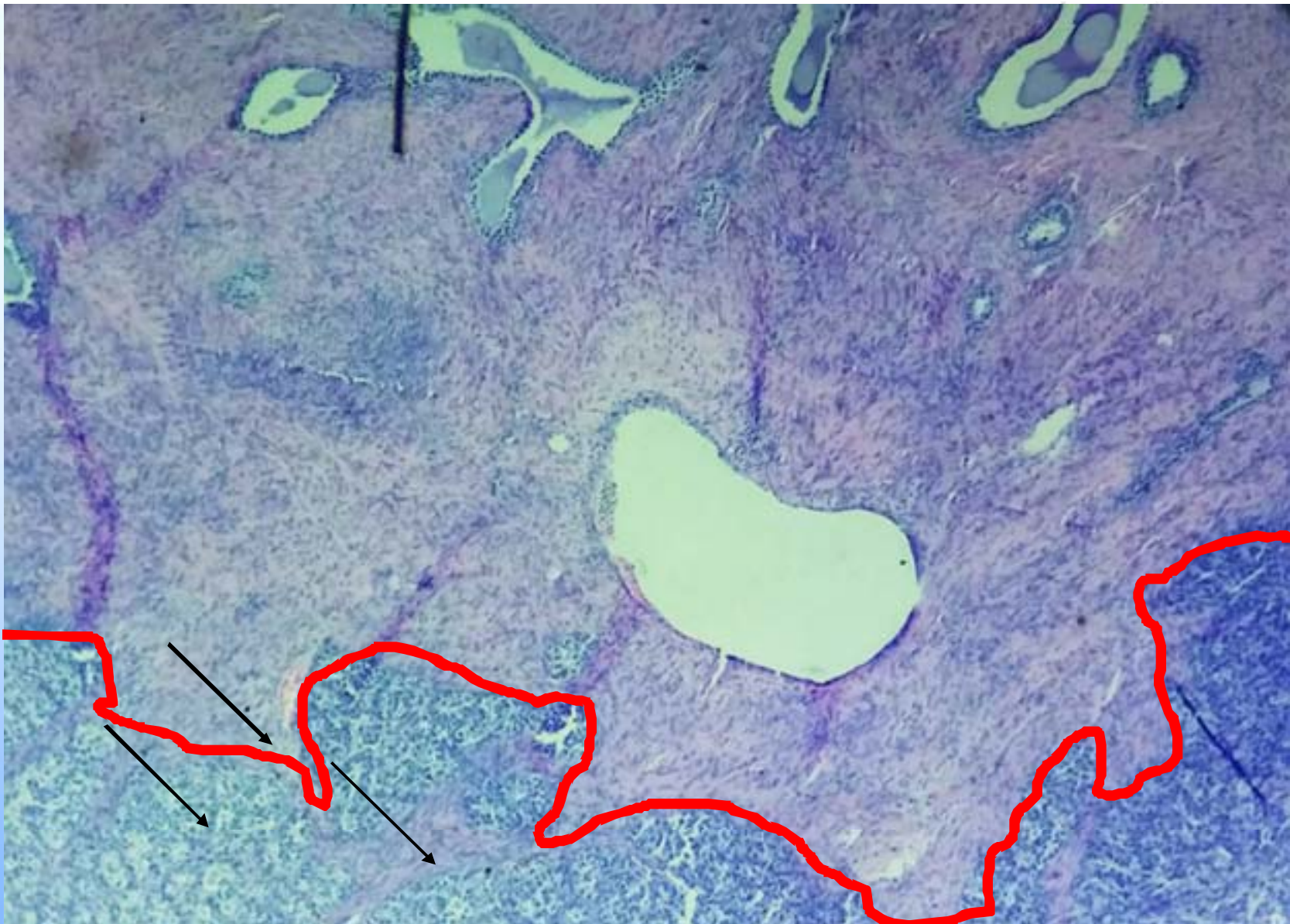
Surprise

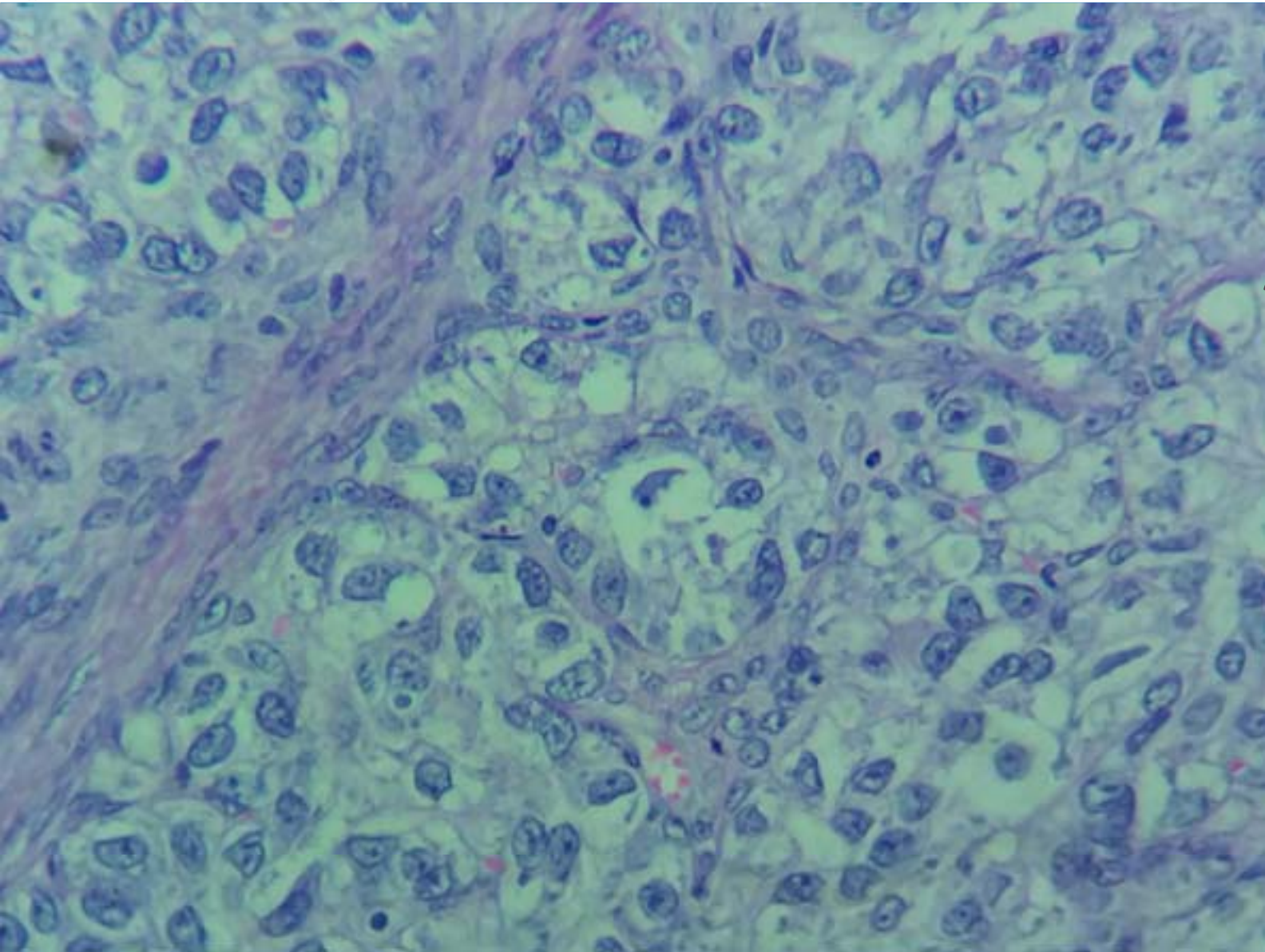
**Junctional area
with beginning
of cellularity**



**Paraffin
Sections**

**Cellularity
abruptly
increased**

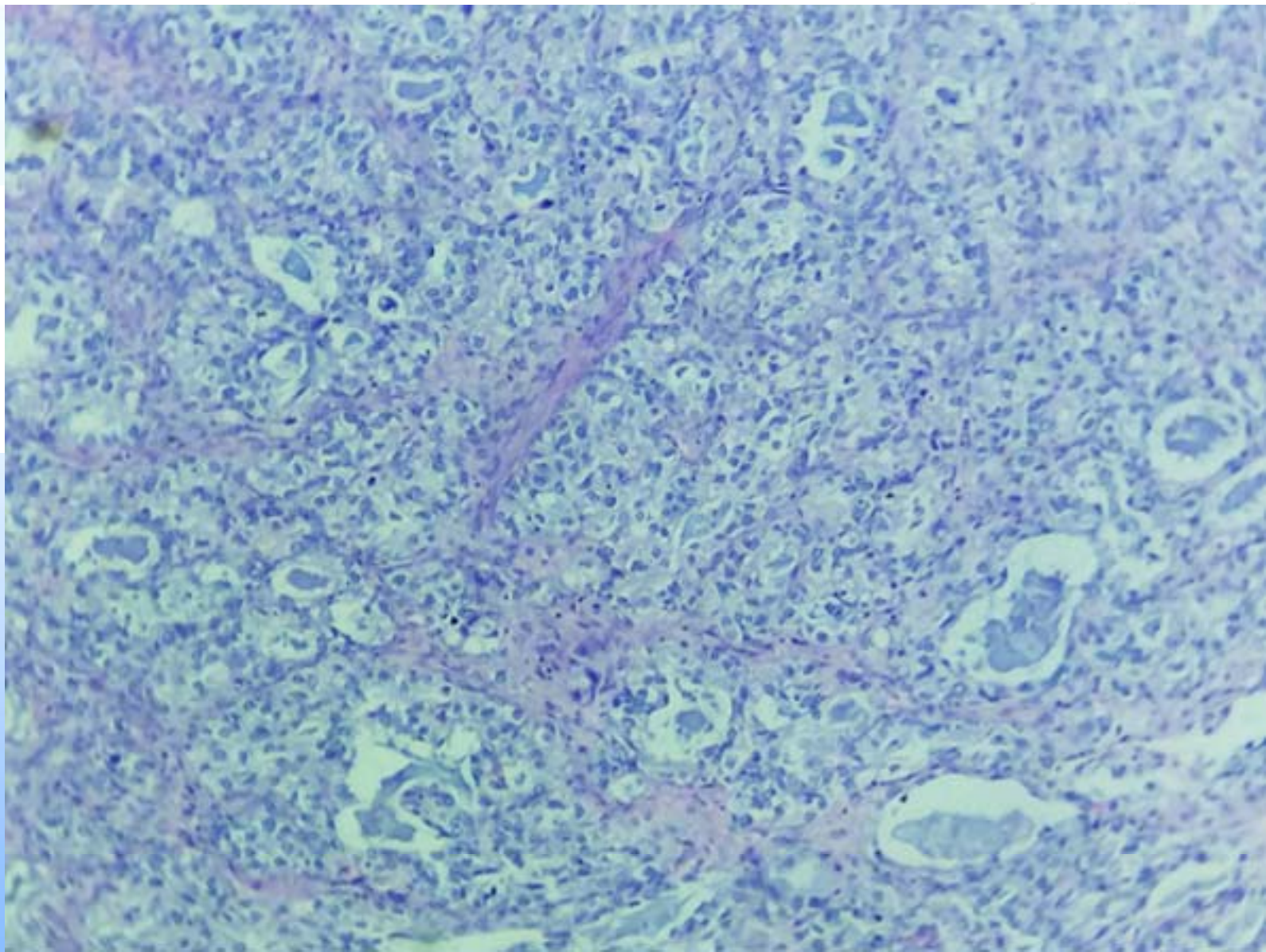


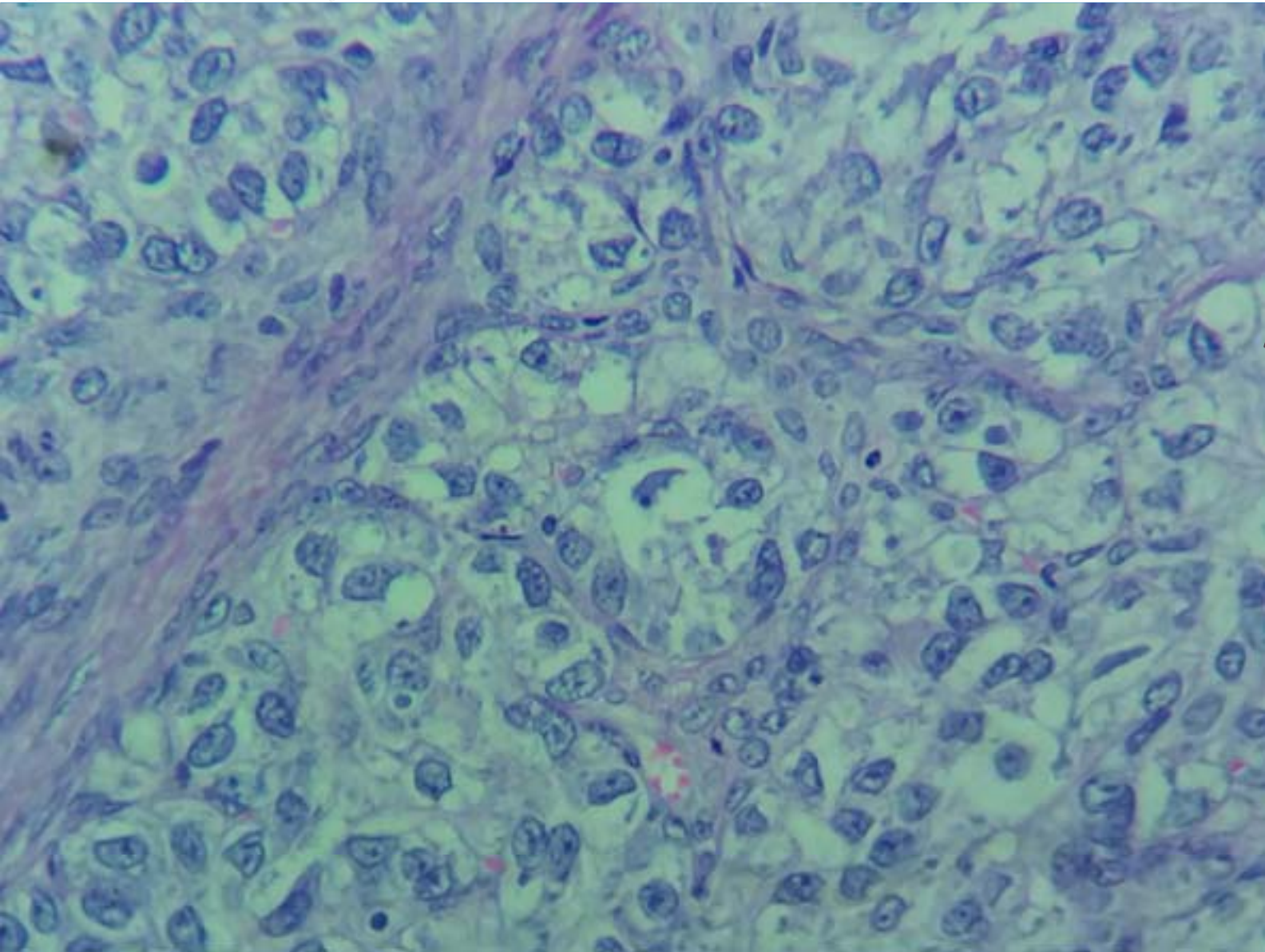


**NESTS OF
ATYPICAL CELLS
SHOWING
CLEARING OF
THE
CYTOPLASM**



Cellular Areas of the Tumour





**NESTS OF
ATYPICAL CELLS
SHOWING
CLEARING OF
THE
CYTOPLASM**

DIAGNOSIS

Clear Cell Carcinoma Supervening On A
Large Clear Cell Adenofibroma.

WHY PRESENT THIS CASE IN A FS MEET?

- Brings out the fact that tumours can be deceptively hypocellular & bland in areas, unless they are extensively sampled
- In FS a limited number of sections can be submitted, therefore smaller areas which are grossly indistinguishable from the rest can be missed
- Pathgenetic pathway can be visualized in such tumours

SIZE & LOCATION ARE IMPORTANT FACTORS OF PELVIC LESIONS

💣 There is a rough dictum we need to remember:

💣 A lesion larger than 7cm is always suspect for malignancy in deep seated locations like RP, Pelvis deep muscle sites, mediastinum

CLEAR CELL CARCINOMA

- ✓ Ovarian Clear Cell Carcinomas (CCC) typically present as large adnexal, stage I tumors
- ✓ Generally considered highly malignant.
- ✓ They are frequently associated with
 - ✓ endometriosis and,
 - ✓ less often with clear cell adenofibromas

Two distinctive forms of clear cell carcinoma based on a number of differing clinicopathologic features-

- One associated with an adenofibromatous (AF+) background and the other without an adenofibromatous (AF-) background
- Although endometriosis can be seen in some (AF+)s, it is significantly more common in (AF-)s.
- In contrast to all the other types of clear cell Carcinomas, the subset of (AF-)s with endometriosis is particularly distinctive since the women with these tumours are younger and their tumors are lower stage and cystic, as they develop within an endometriotic cyst (endometrioma).

OVARY

ENDOMETRIOTIC
CYST

ATYPICAL
ENDOMETRIOTIC
CYST

CLEAR
CELL
CARCINOMA

?

CLEAR
CELL
ADENOFIBROMA

ATYPICAL PROLIFERATIVE (BORDERLINE)
CLEAR CELL
TUMOR

CLEAR
CELL
CARCINOMA

● = Non-cystic endometriosis

➡ = Endometriotic cyst pathway

➡ = Adenofibromatous pathway

ADDITIONAL POINTS

This case had no endometriosis in the ovary

However there was an element of a
cystadenofibroma

- In summary, both types of clear cell carcinomas, adenofibromatous and cystic, appear to be derived from endometriosis.
- The two pathways are not necessarily mutually exclusive, as there may be overlap in some cases.
- True benign clear cell adenofibromas are rare:FS Dx to be made with provisions that the specimen will be extensively sampled

BENIGN CLEAR CELL ADENOFIBROMA OF THE OVARY. A CASE REPORT WITH
LITERATURE REVIEW.

Paşaoğlu O1, çiftçi E, tel N, ozalp S, acikalin MF.
Gynecol obstet invest. 2007;64(1):36-9. Epub 2007 jan 5.

- Most clear cell neoplasms of the ovaries are carcinomas; benign and borderline clear cell tumors are uncommon.
- To date, only 12 cases of benign clear cell adenofibroma have been reported in the literature.
- Here we report a case of benign clear cell adenofibroma of the left ovary in a 51-year-old postmenopausal woman.
- Histological examination revealed widely spaced simple glands embedded in a dense fibrous stroma. The glands were lined by one to two layers of cells with abundant clear cytoplasm. The nuclei were bland and uniform in size and shape. There was minimal cytologic atypia in some areas. In this article we discussed the criteria for the diagnosis of benign and borderline clear cell adenofibromas and reviewed the literature.