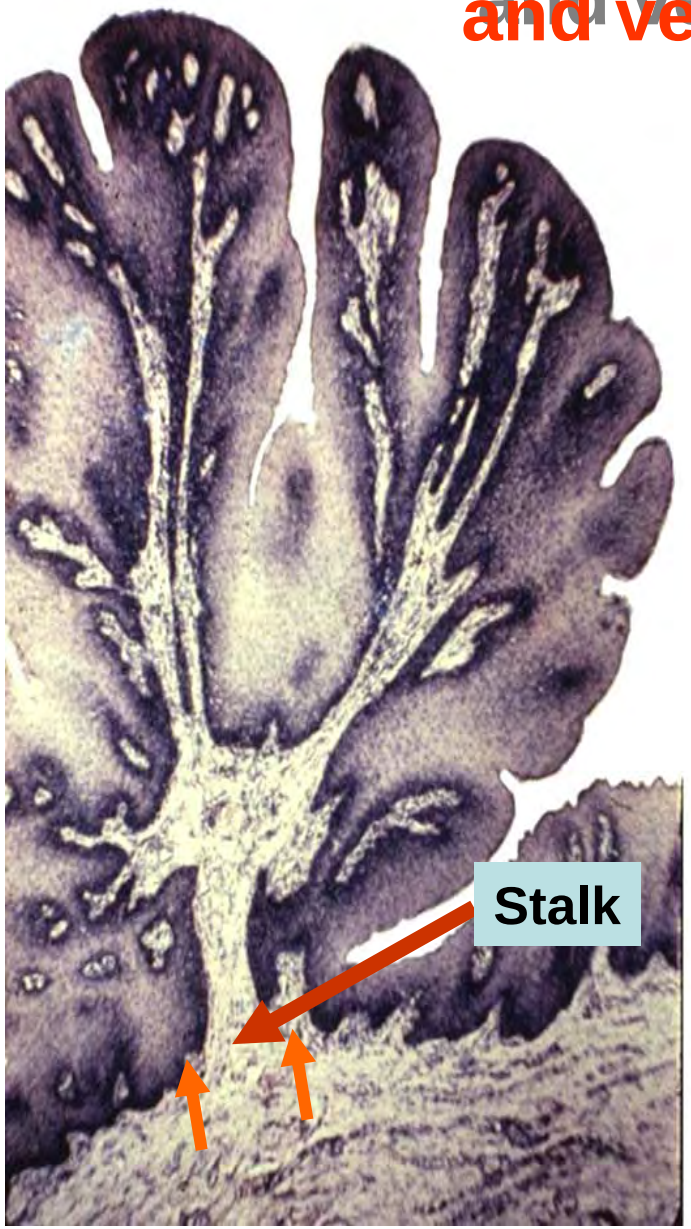
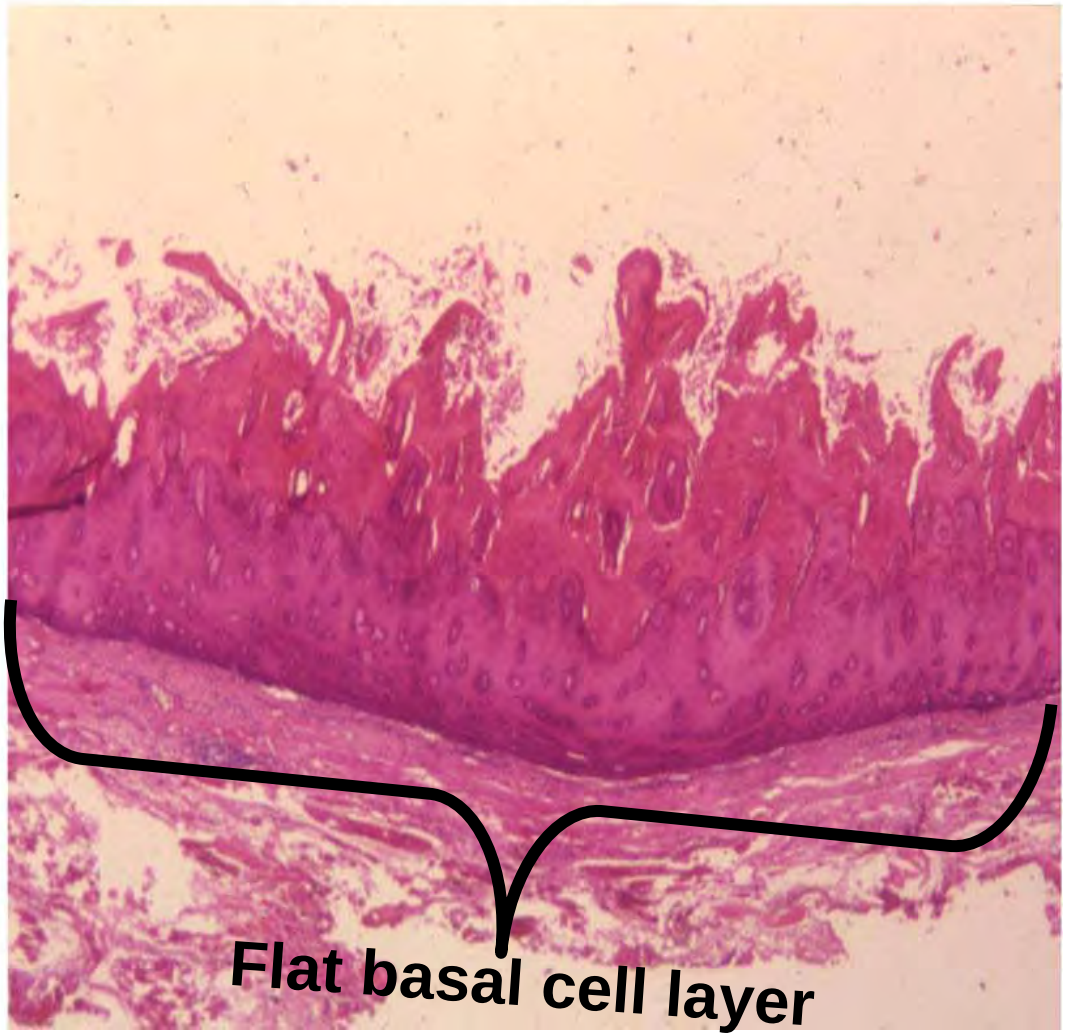
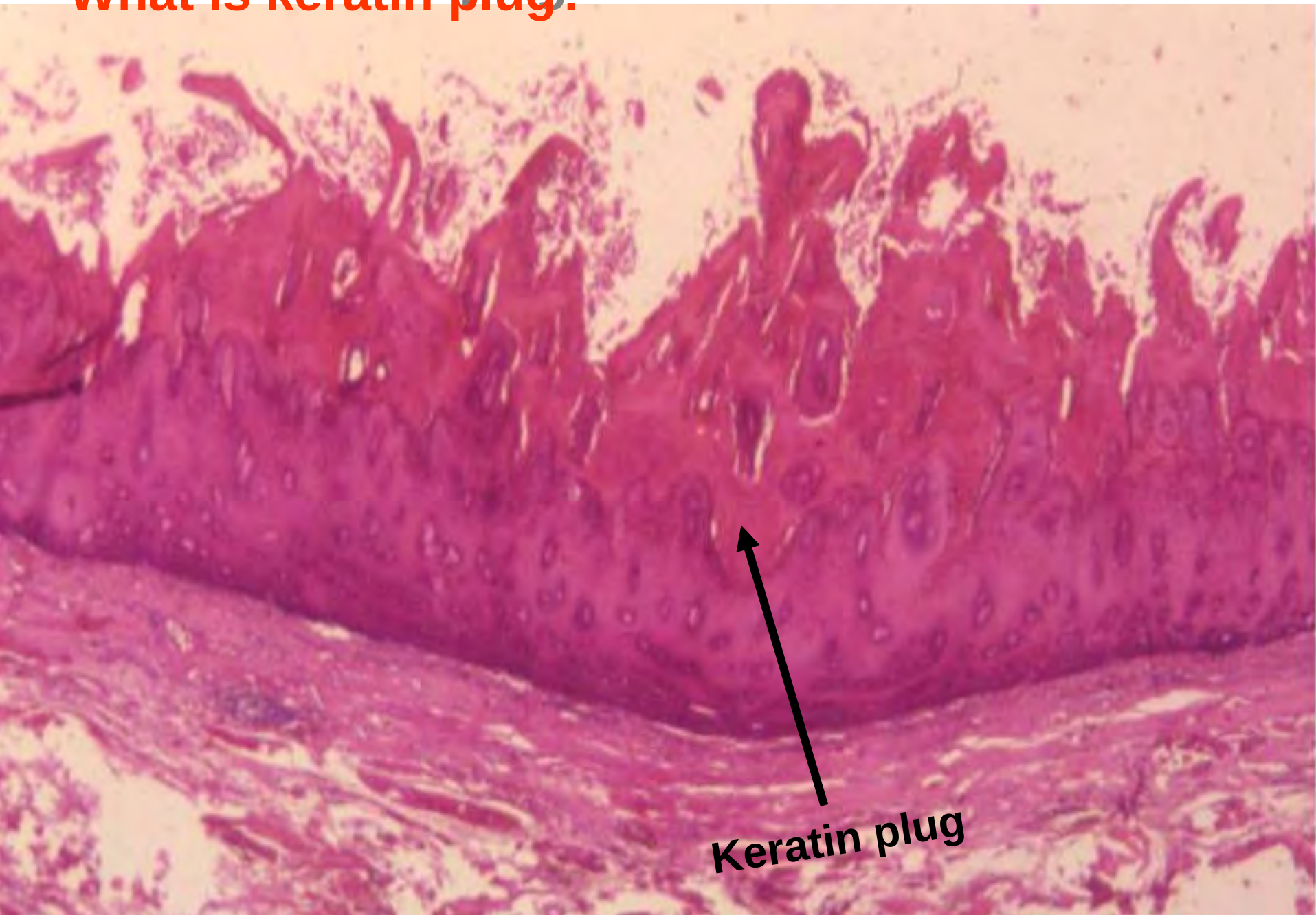
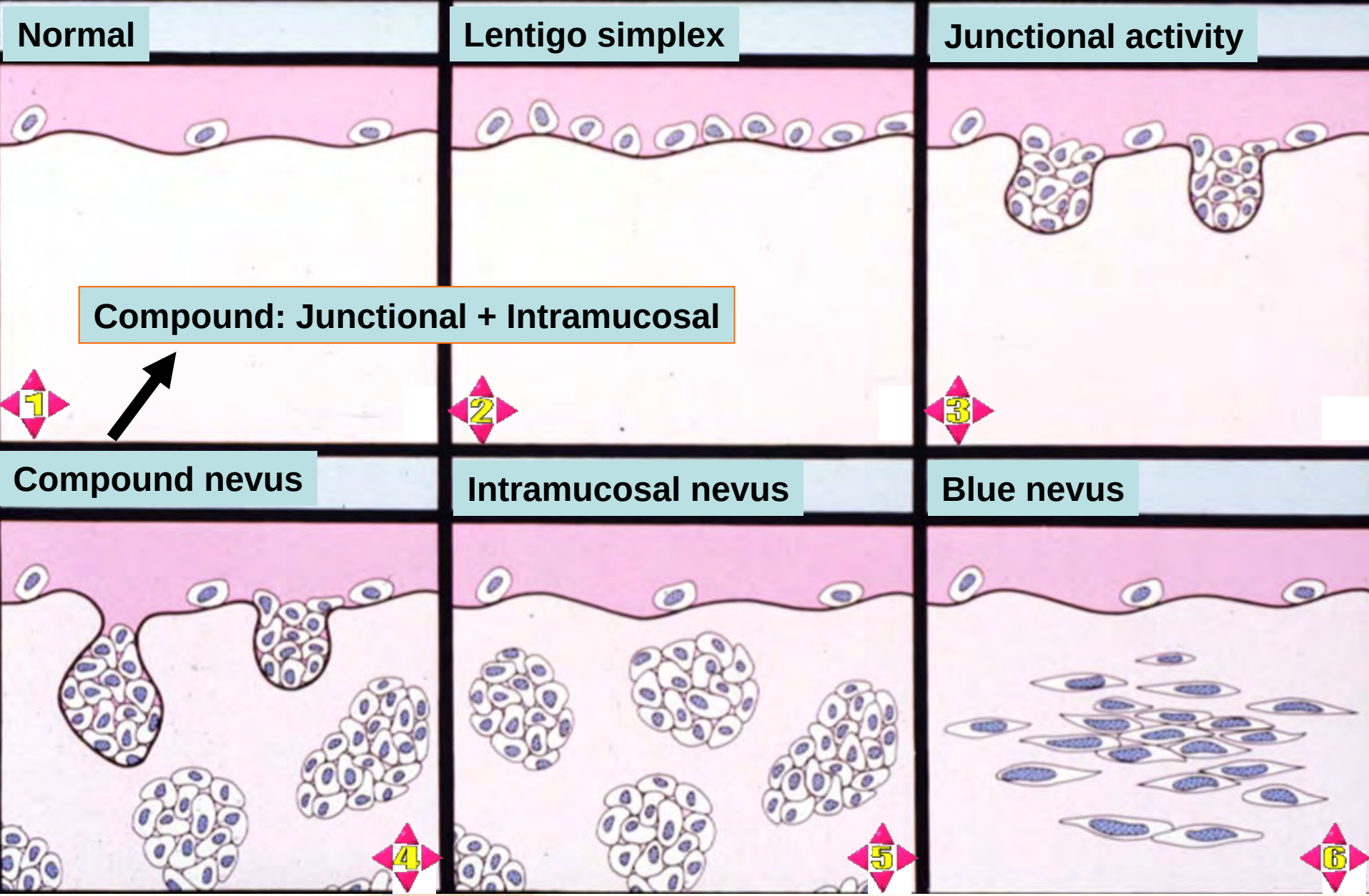
Histological differences between papillomatous and verrucous exophytic lesions



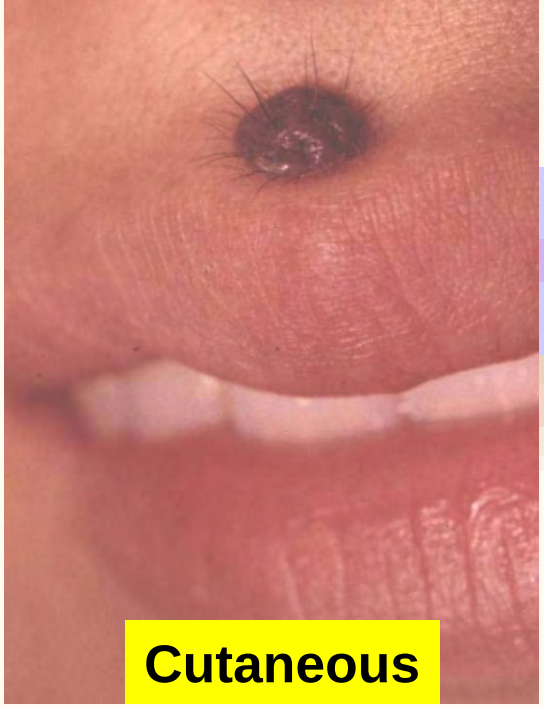


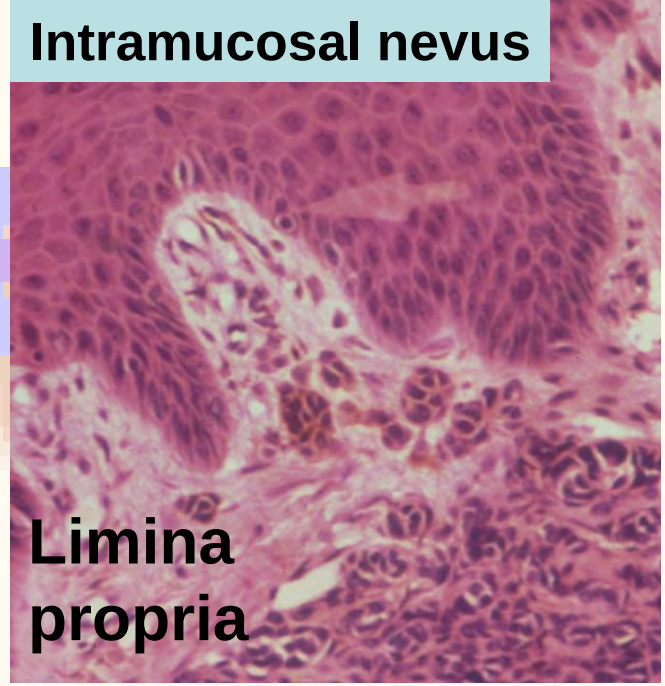
What is keratin plug?

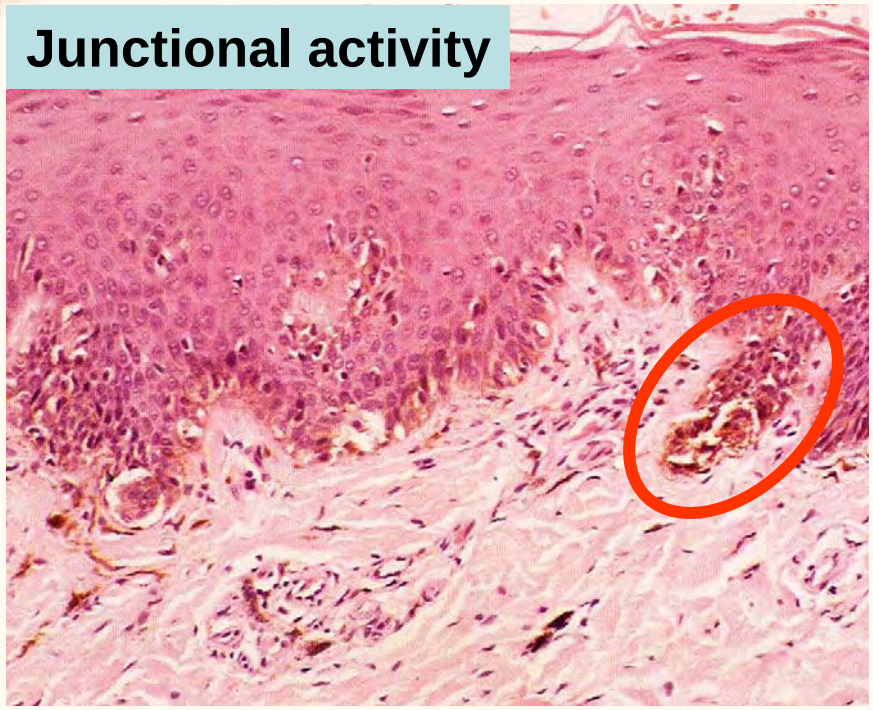


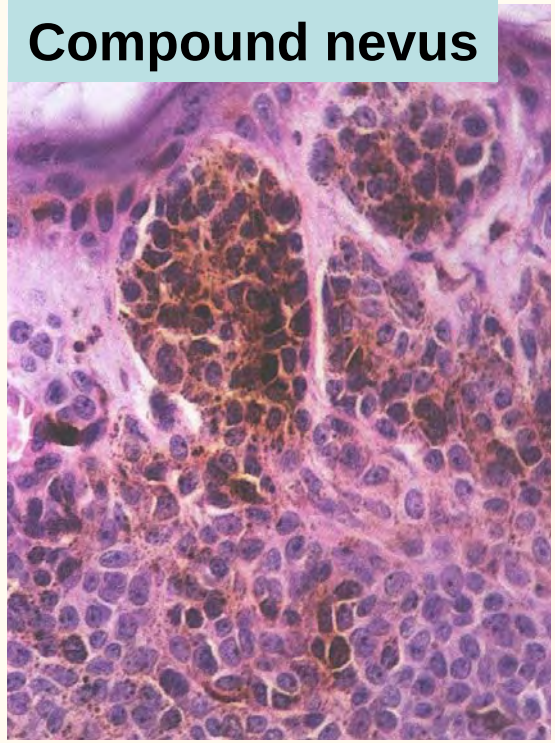

Normal
Lentigo simplex
Junctional activity
Compound: Junctional + Intramucosal
1
2
3
Compound nevus
Intramucosal nevus
Blue nevus
4
5
6


Intraoral


Cutaneous


Intramucosal nevus
Limina propria


Junctional activity

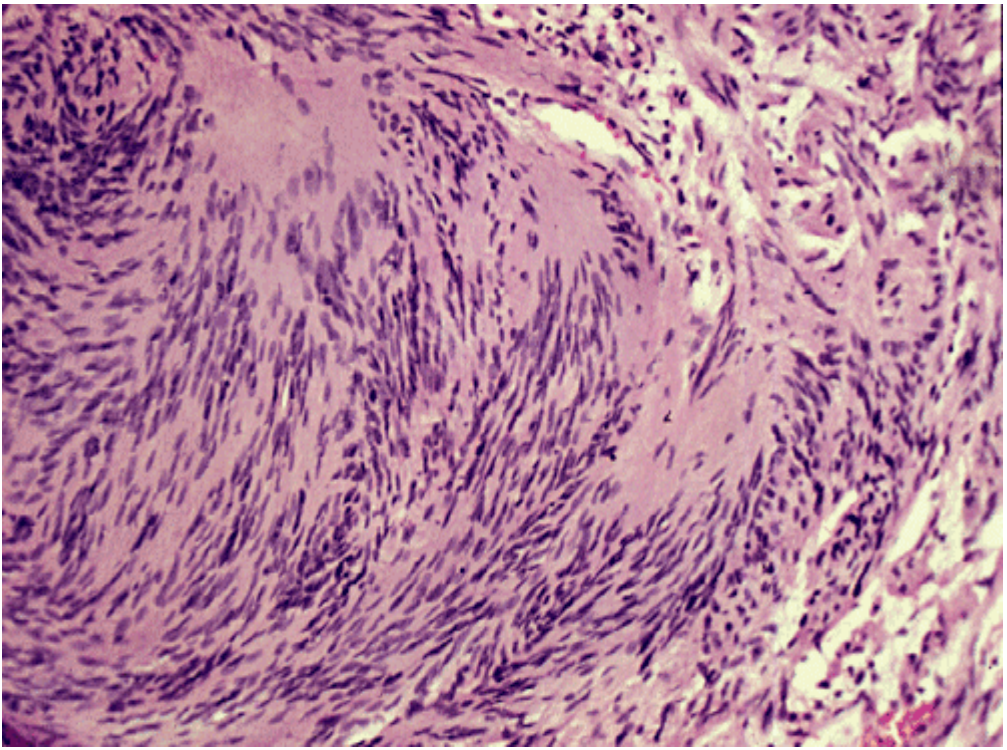

Compound nevus

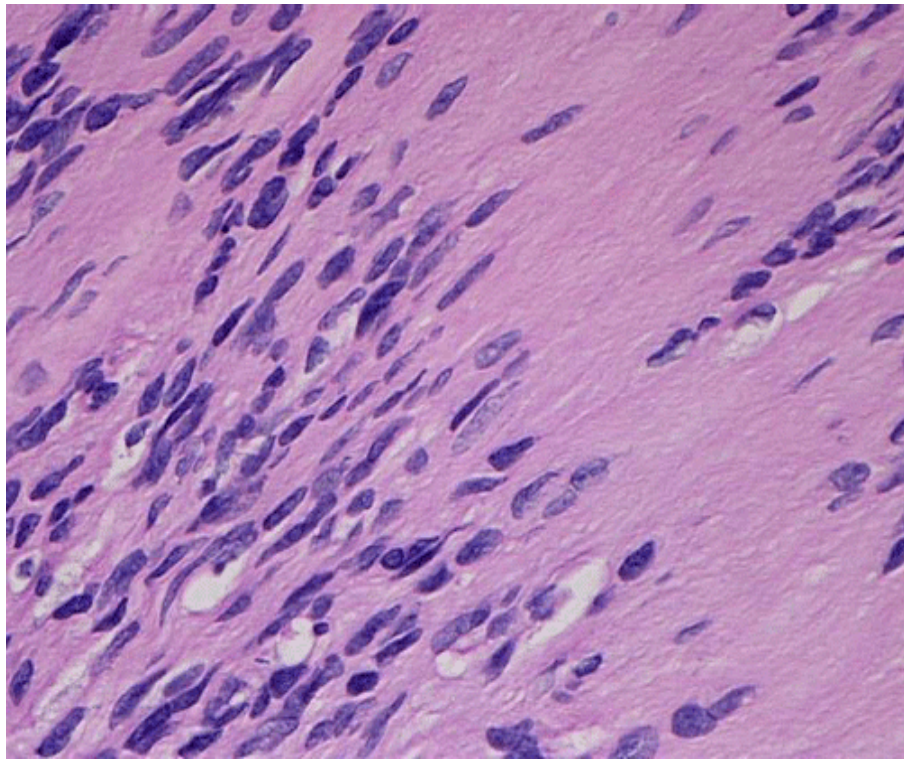
Neurilemmoma (Schwannoma)

Verocay Body: Acelluclar eosinophilic structures

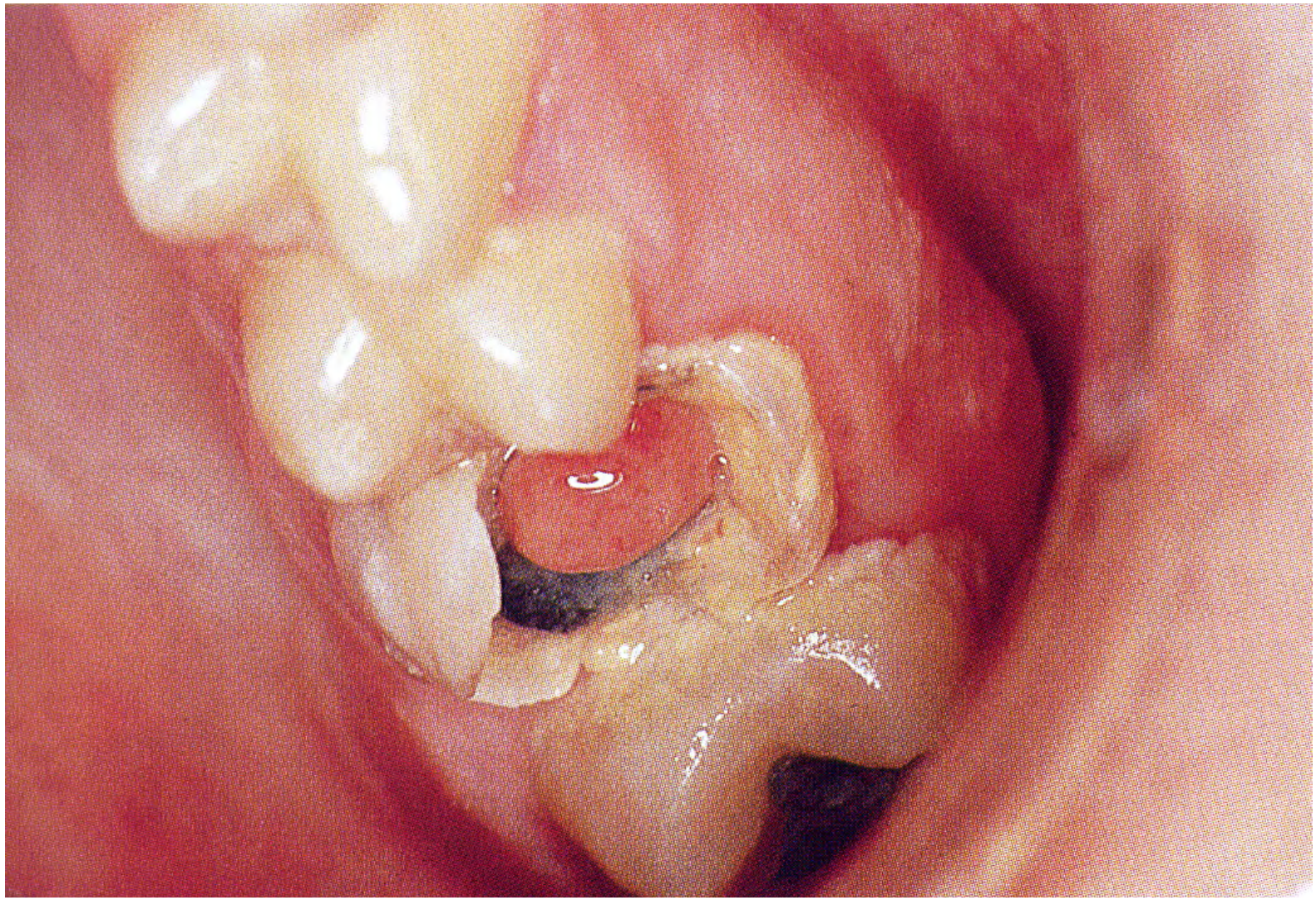
Antoni A Tissue: Elongated spindle-shaped cells with palisaded nuclei

Antoni B Tissue: Loose, scattered spindle cells

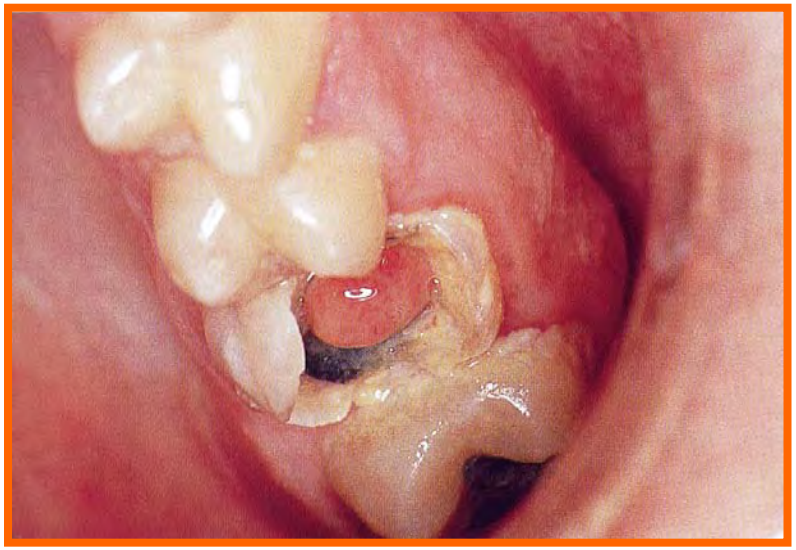


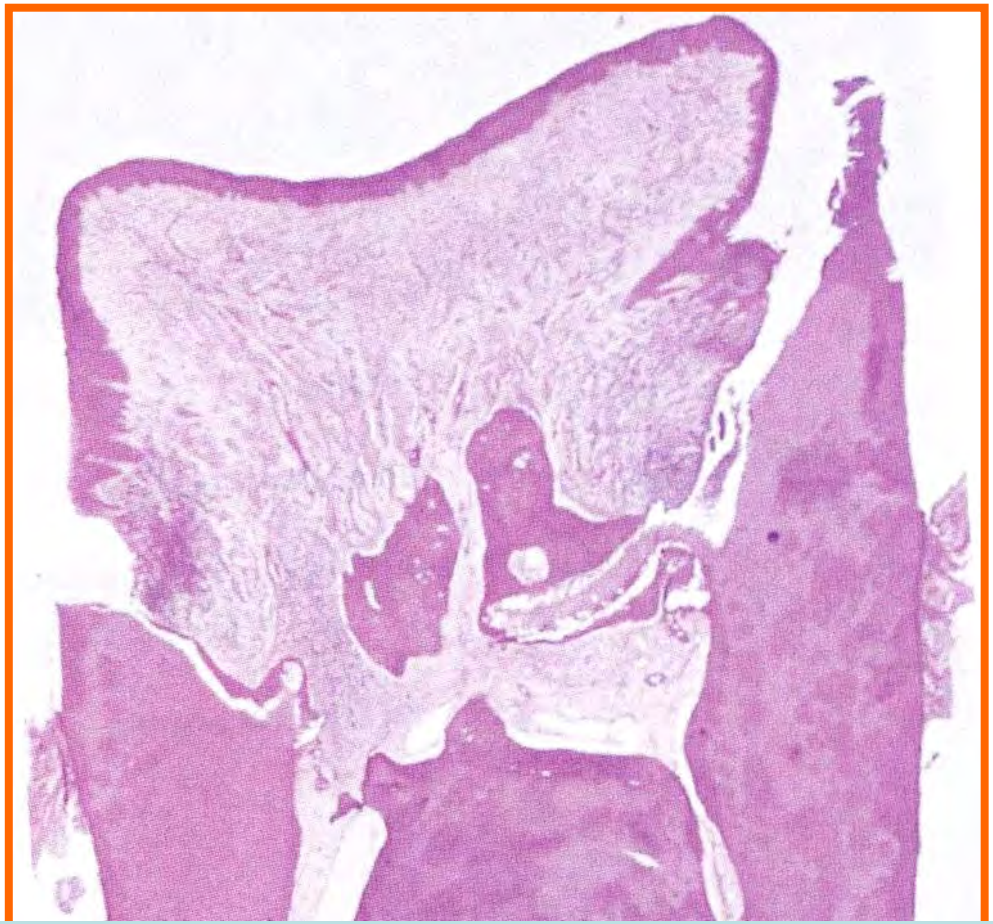


Pulp polyp (Open pulpitis, chronic hyperplastic pulpitis)



Pulp polyp (Open pulpitis, chronic hyperplastic pulpitis)

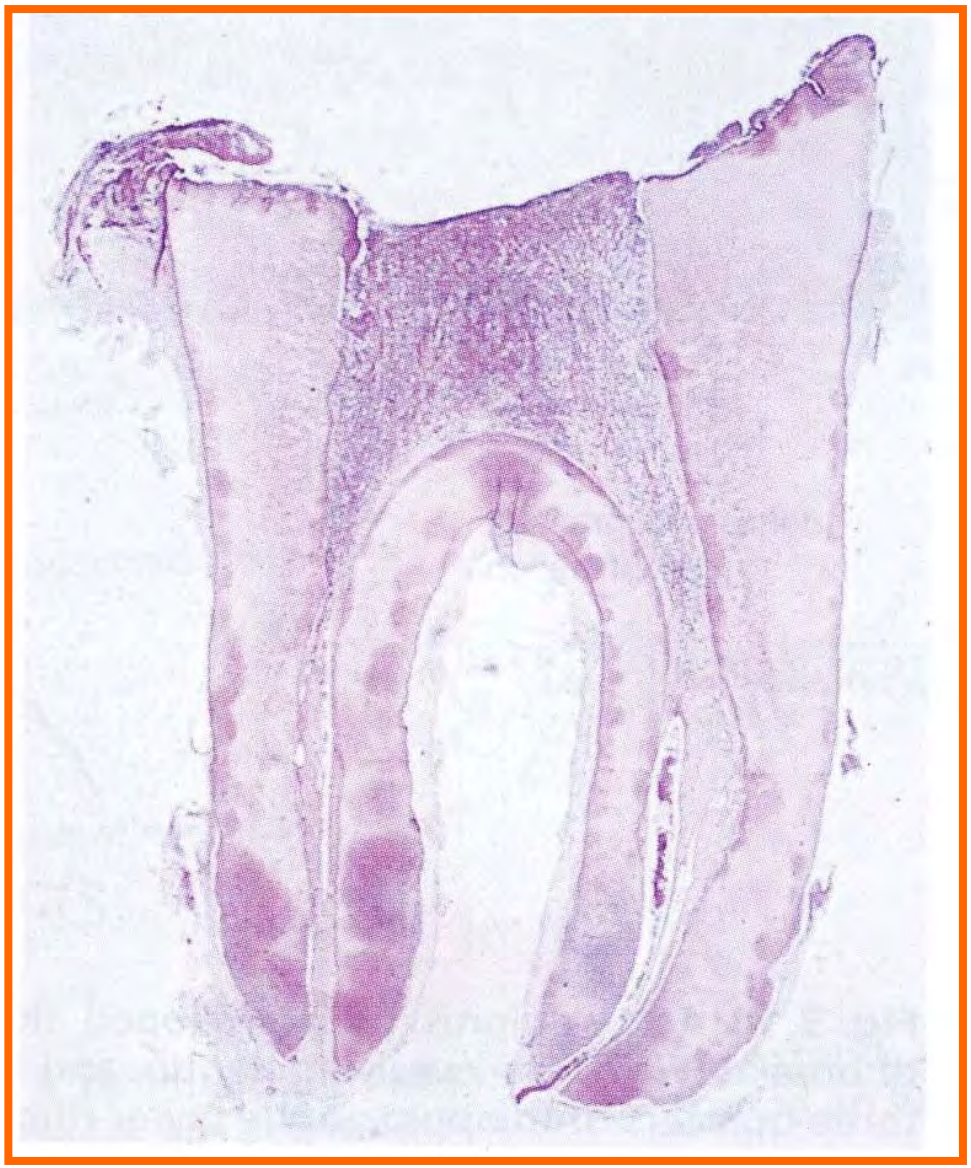




1/3 cases: covered with stratified squamous epithelium

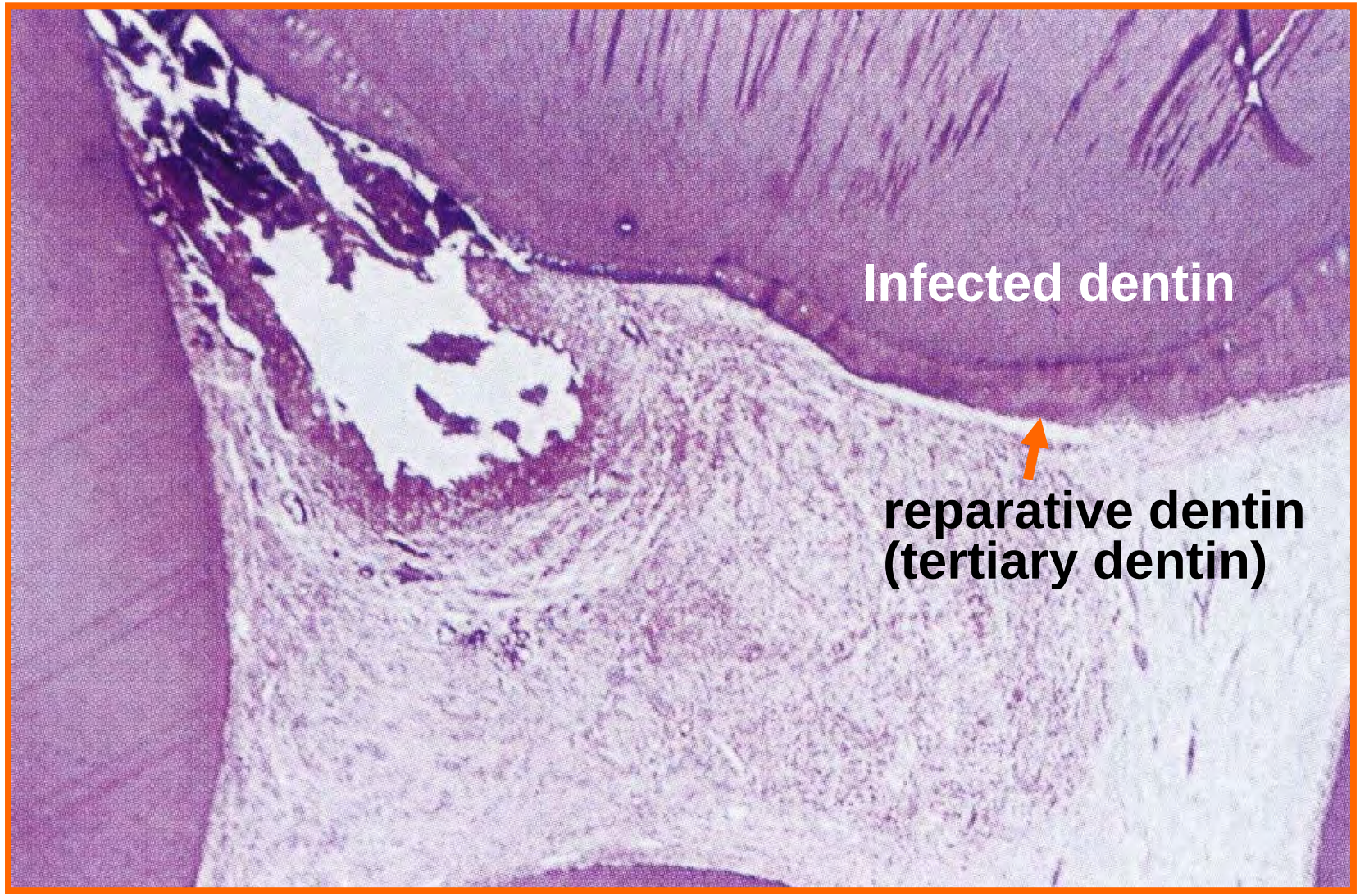
Possible sources of epithelium: (1) derived from stem cells of the pulp tissues; (2) migrated from the adjacent oral mucosa; (3) 半壞死之**keratinocytes**進入營養的環境內生長而成

Pulp polyp (Open pulpitis, chronic hyperplastic pulpitis)



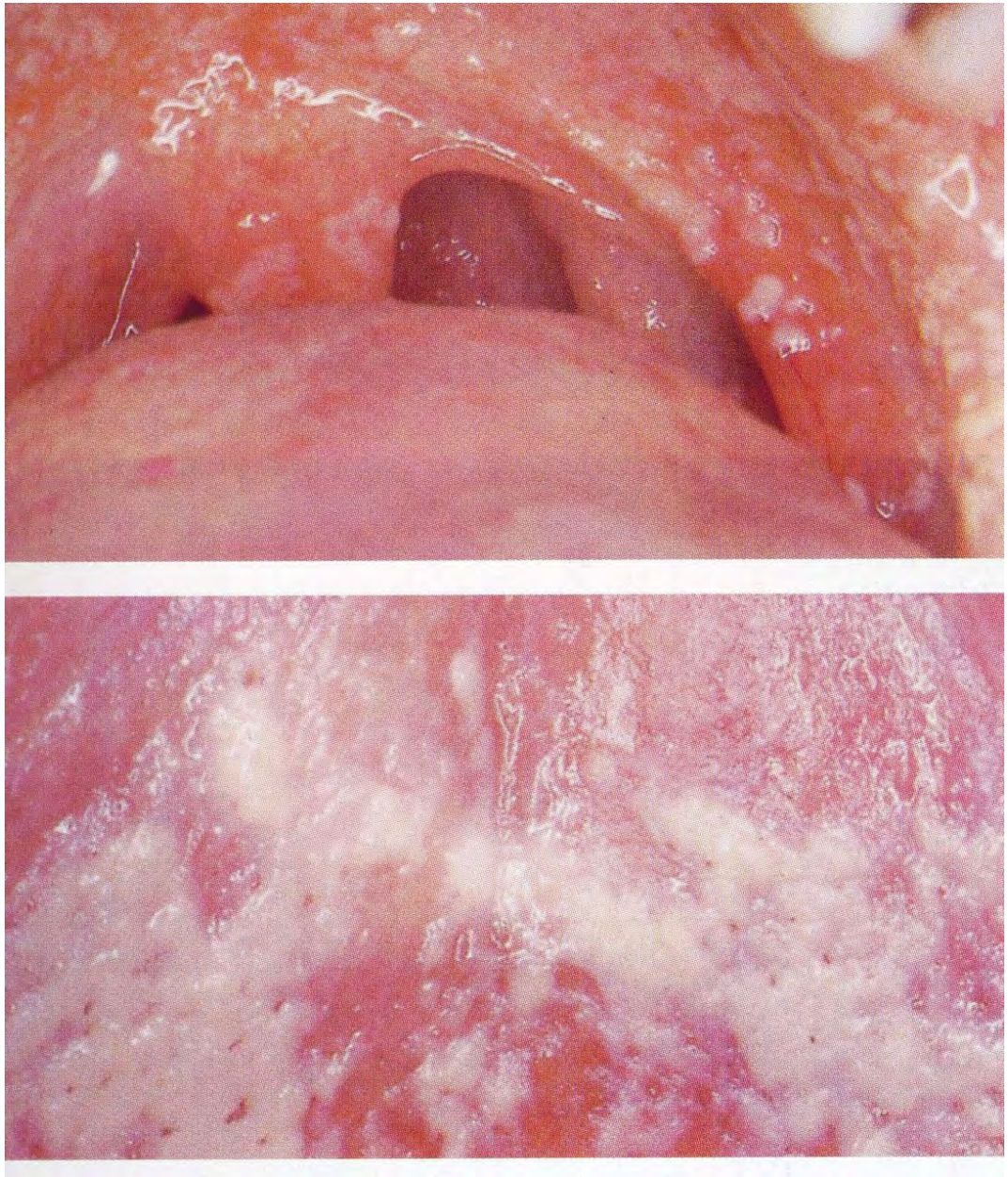
2/3 cases: without covered stratified squamous epithelium

Reparative dentin (tertiary dentin)

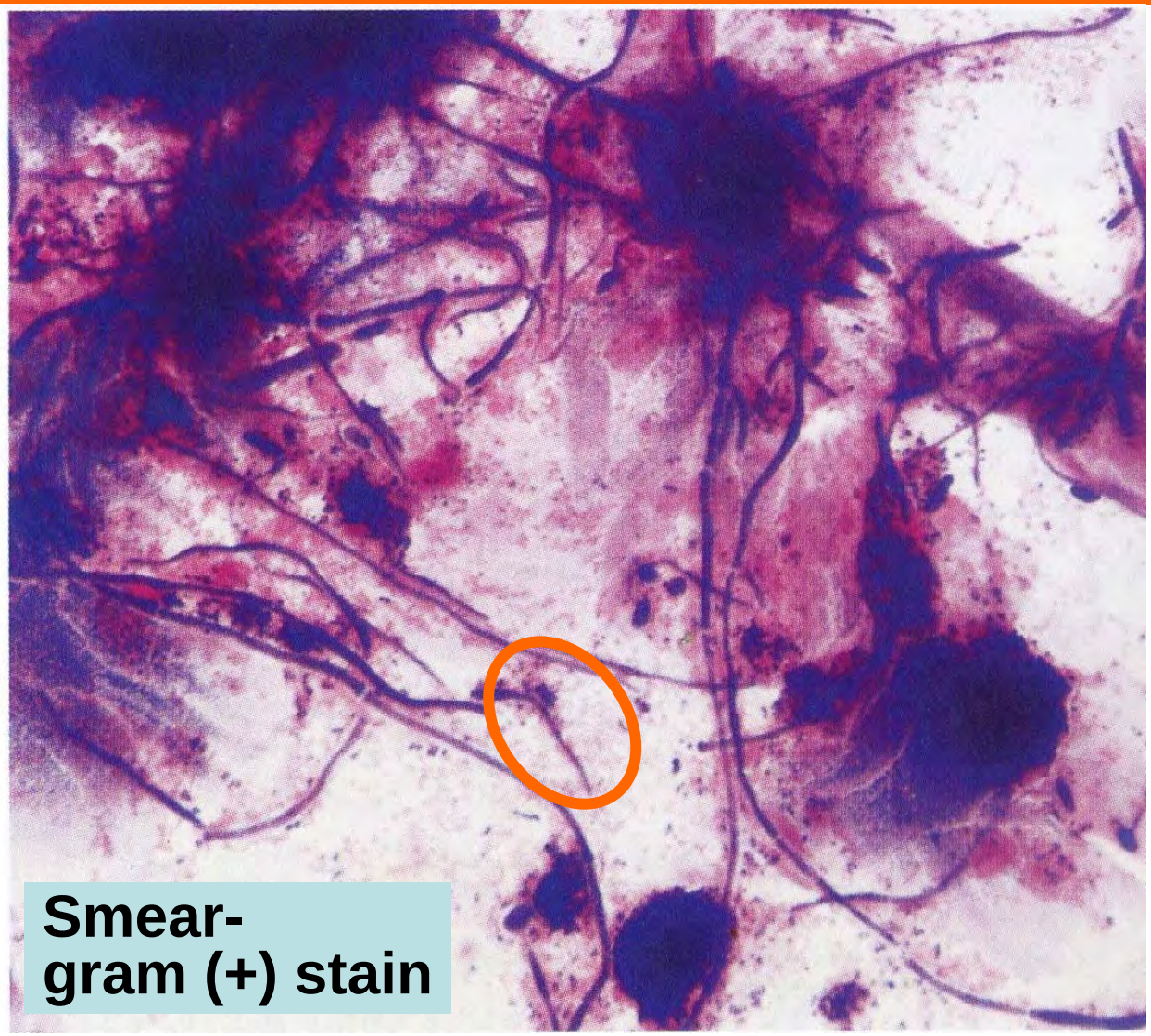


Primary & secondary dentin are normally formed & perhaps with reversal lines; tertiary dentin is formed due to infection

Candidiasis (Thrush, candidosis)



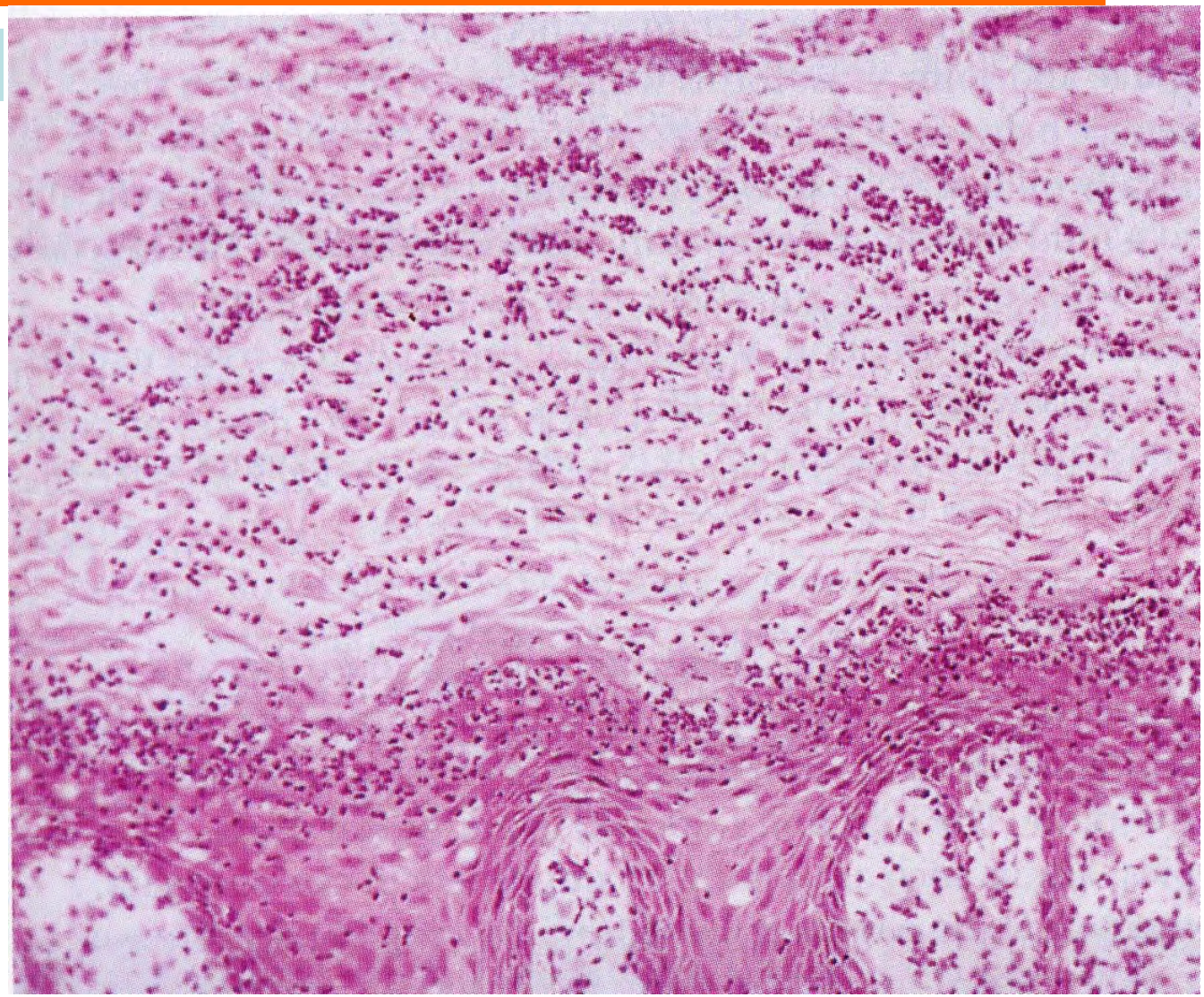
Candidiasis (Thrush, candidosis)



Long hyphae & occasional yeast cells

Candidiasis (Thrush, candidosis)

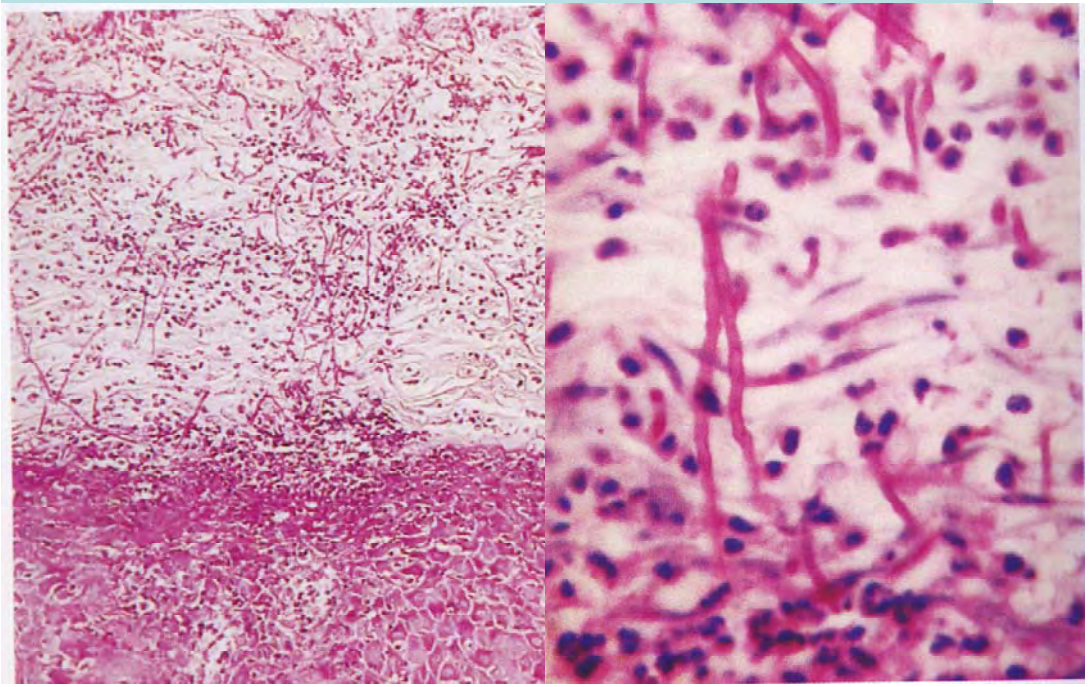
H&E stain



Hyphae : not easily to be observed

Candidiasis (Thrush, candidosis)

PAS (periodic acid-Schiff) stain



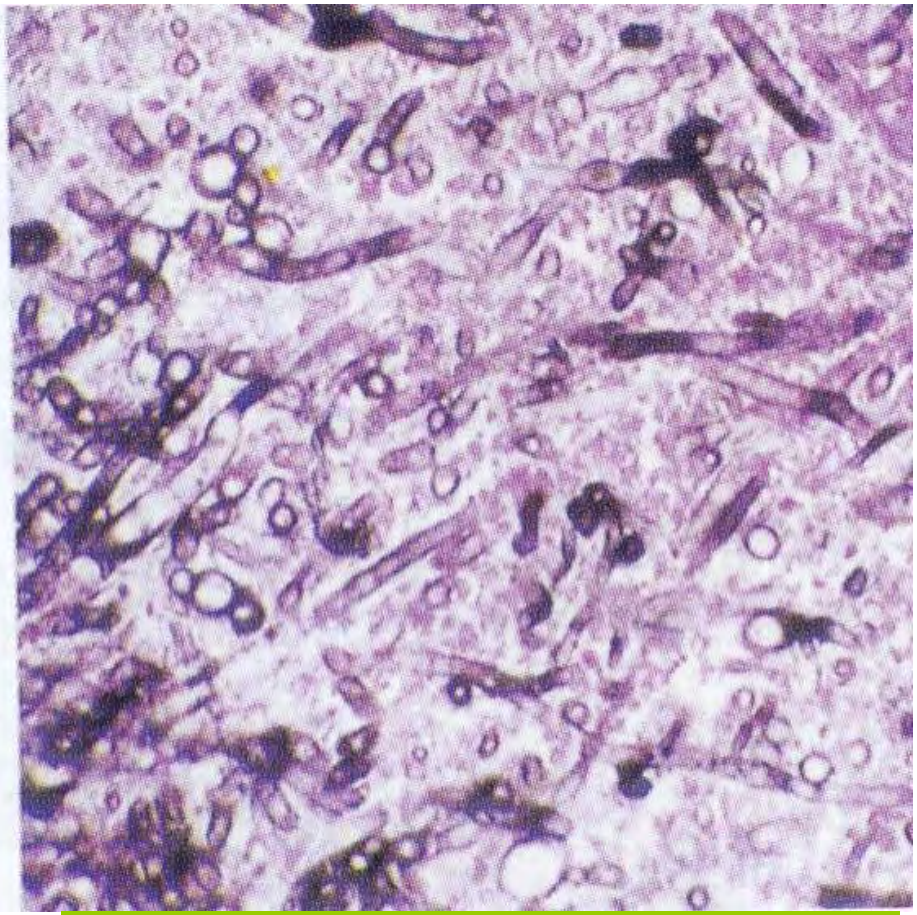
Hyphae: more easily to be observed (grow straight downward the epithelium)

Grocott stain: hyphae even more clearly

Apergillosis

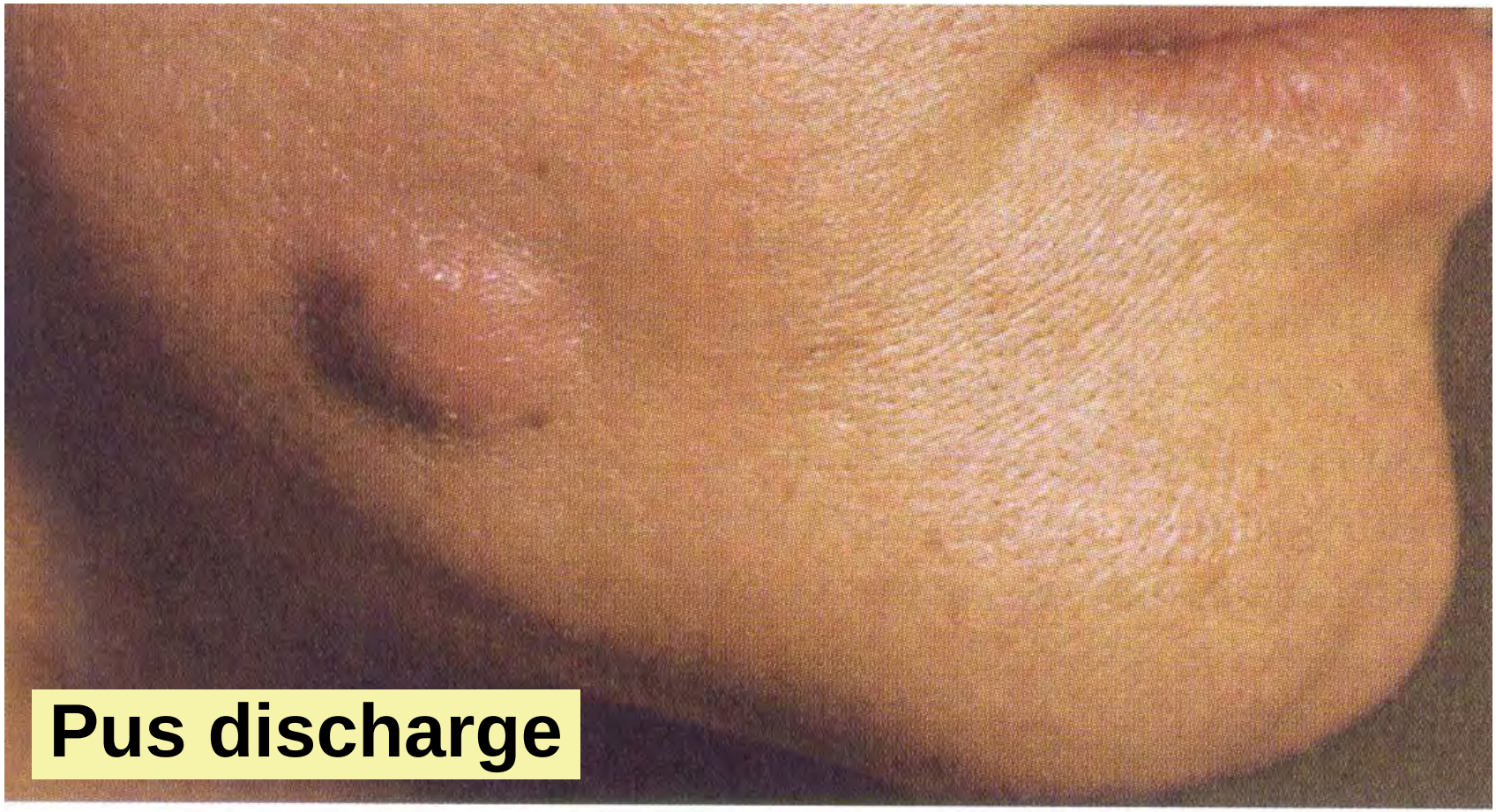
Methenamine silver stain)

Mass of hyphae (fungal ball)



Septate branching hyphae with even diameter

Actinomycosis

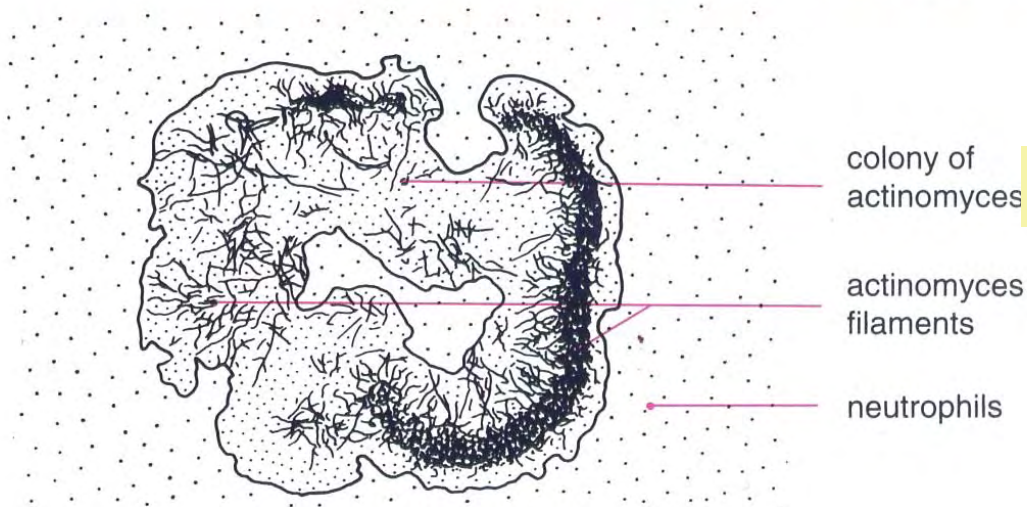


Actinomycosis

Gram stain

Gram (+) filament: radially (rosette) arranged

Gram (-) peripheral clubbing



(sulphur granules)

Tuberculosis

Definition of epithelioid cell

A nonepithelial cell, especially one derived from a macrophage, having characteristics resembling those of an epithelial cell, often found in granulomas associated with tuberculosis

Langhans giant cell ≠

Langerhans cells

Tuberculosis

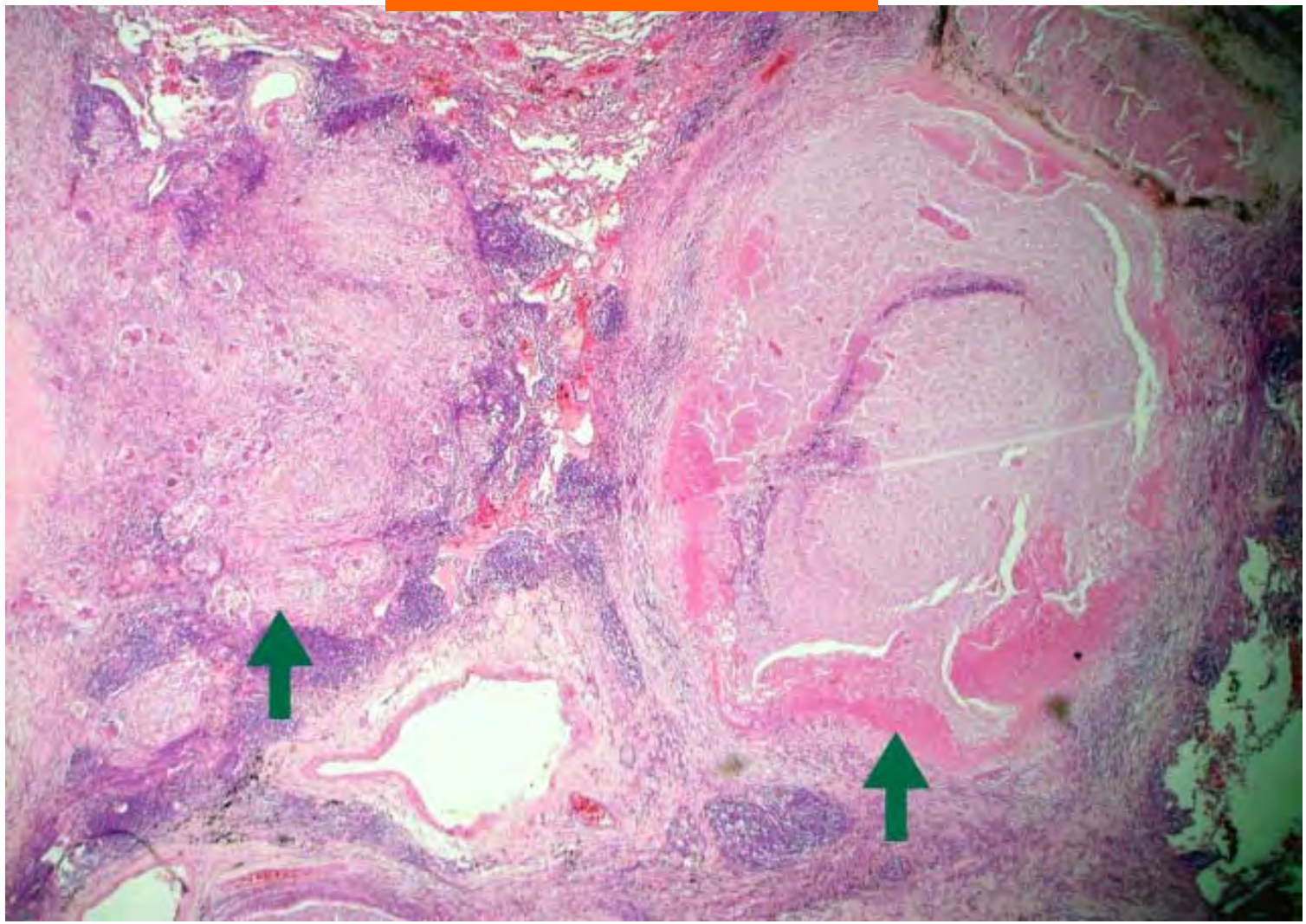


Fig. 1 Multiple granulomas (arrow) in the lung
The granulomas are various in size.

Tuberculosis

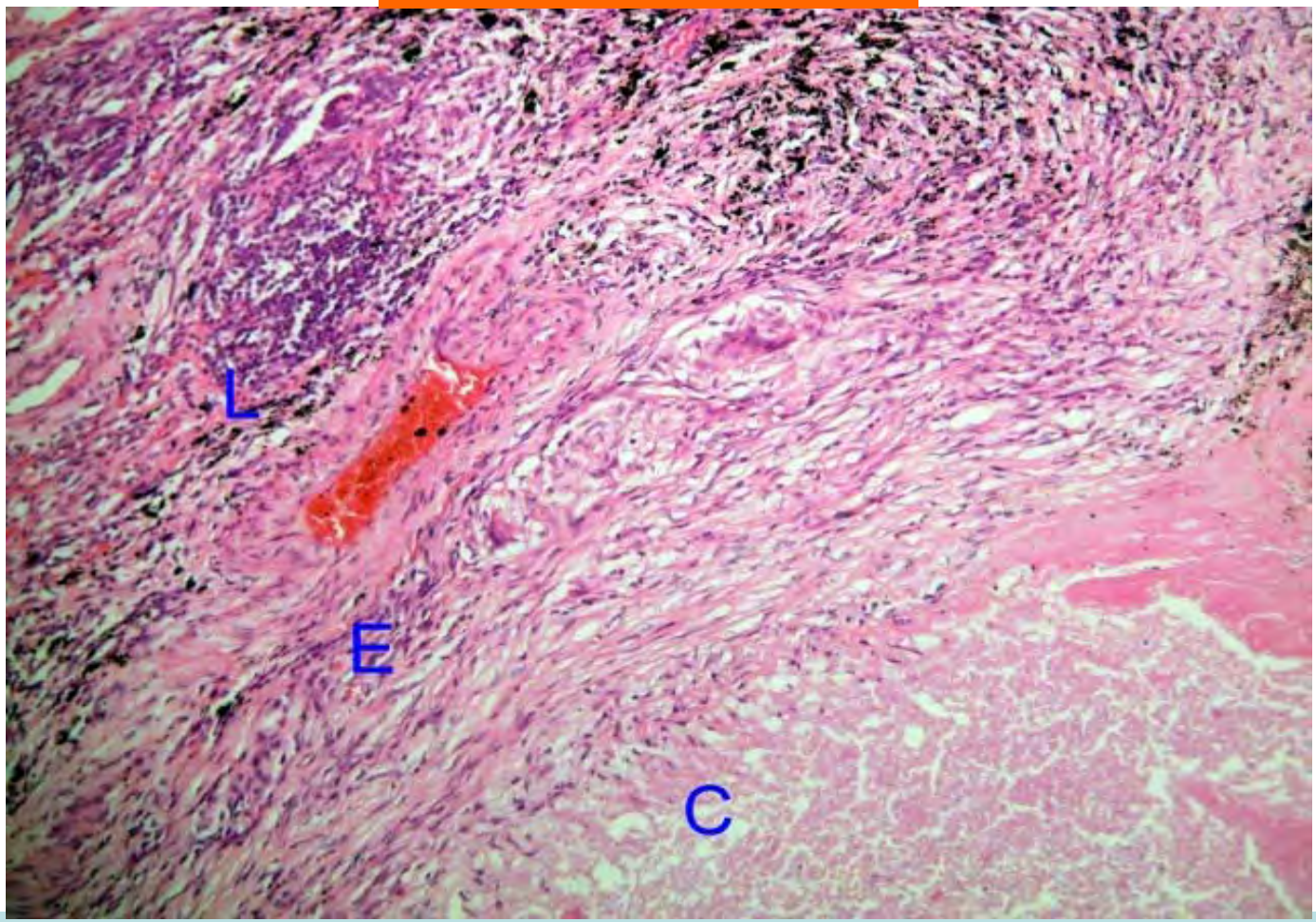


Fig. 2 The large granuloma with central caseous necosis (C) The caseous necrotic debris is surrounded by epithelioid macrophages (E). The outermost area of the granuloma is surrounded by lymphocytes (L).

Tuberculosis

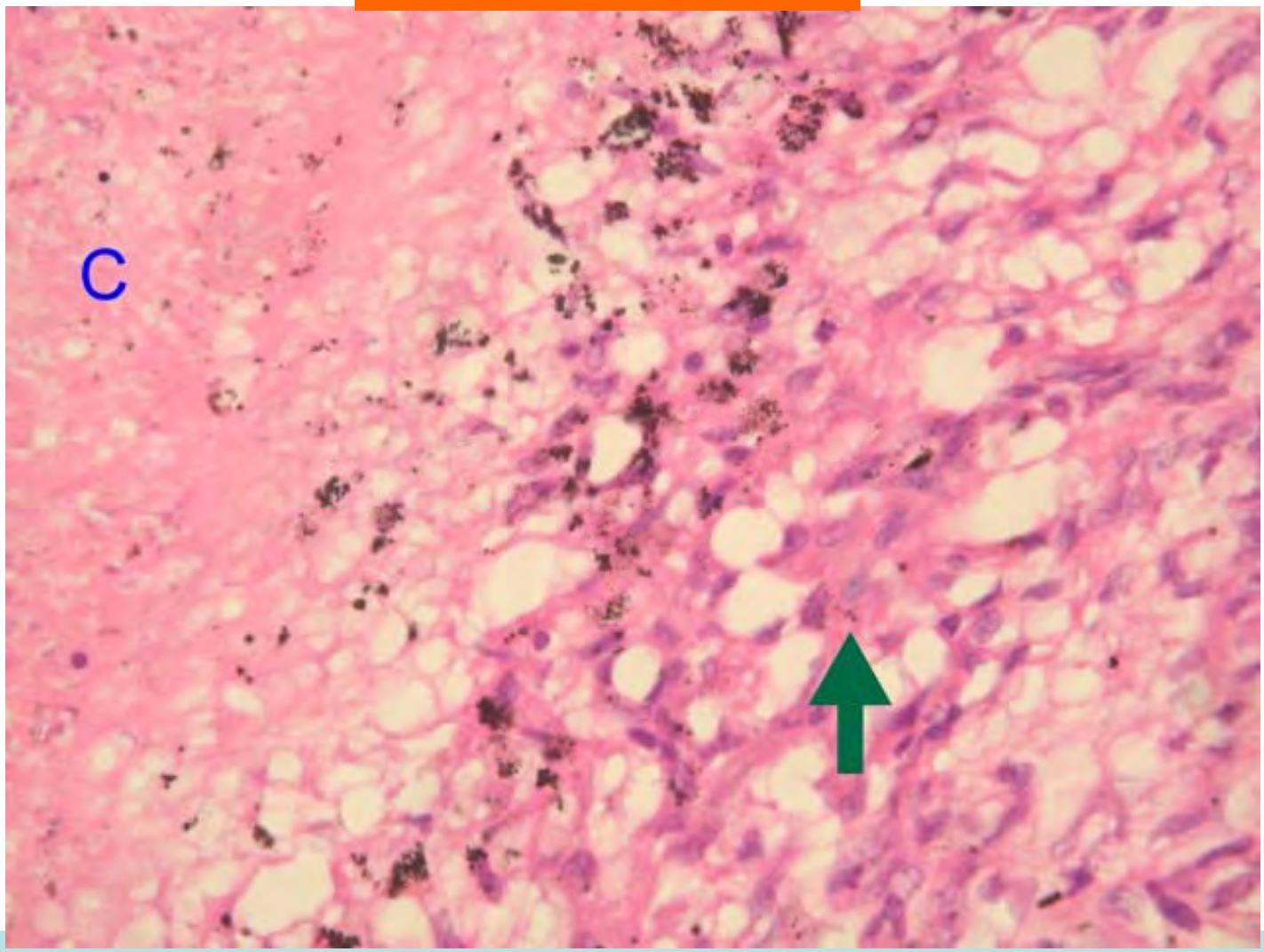


Fig. 3 Caseous necrosis (C) surrounded by epithelioid macrophages (arrow). The epithelioid macrophages have abundant eosinophilic cytoplasm & kidney-shaped nuclei

Tuberculosis

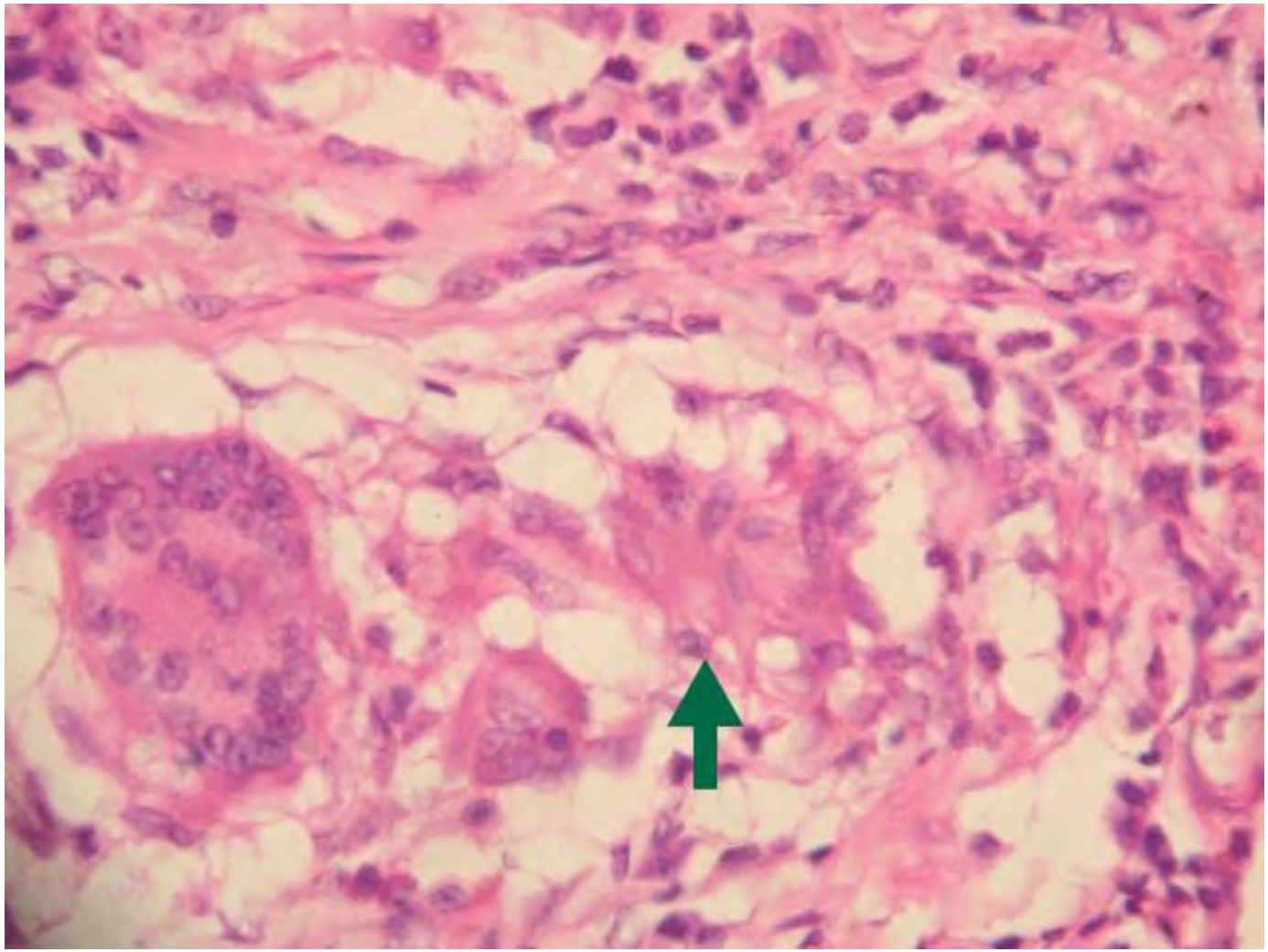


Fig. 4 Epithelioid macrophages (arrow). The macrophages have abundant cytoplasm & kidney-shaped nuclei. They are ovoid in shape

Tuberculosis

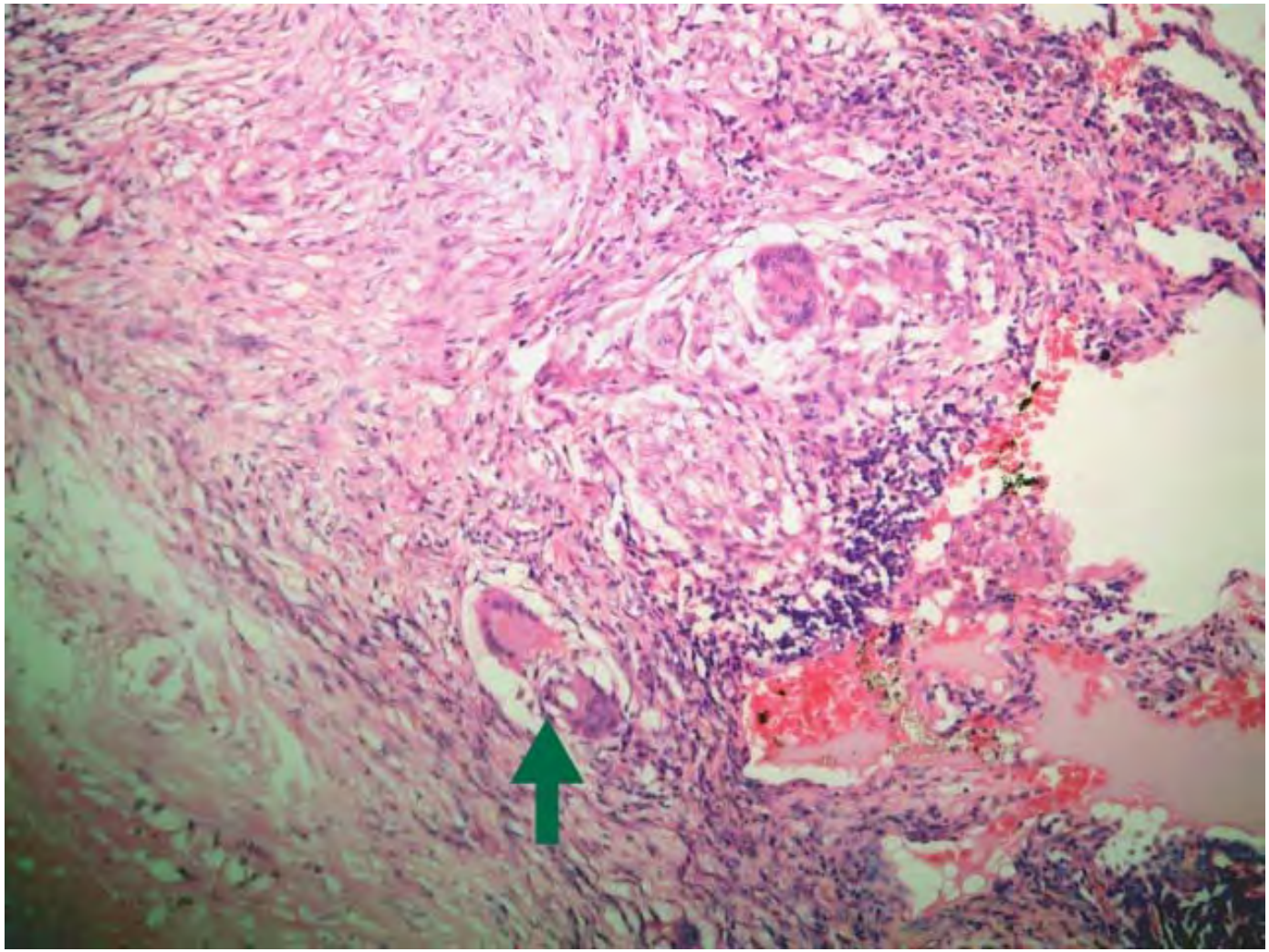


Fig. 5 Langhans giant cell (arrow) has multiple nuclei These nulcei are arranged in the periphery of cytoplasm

Tuberculosis

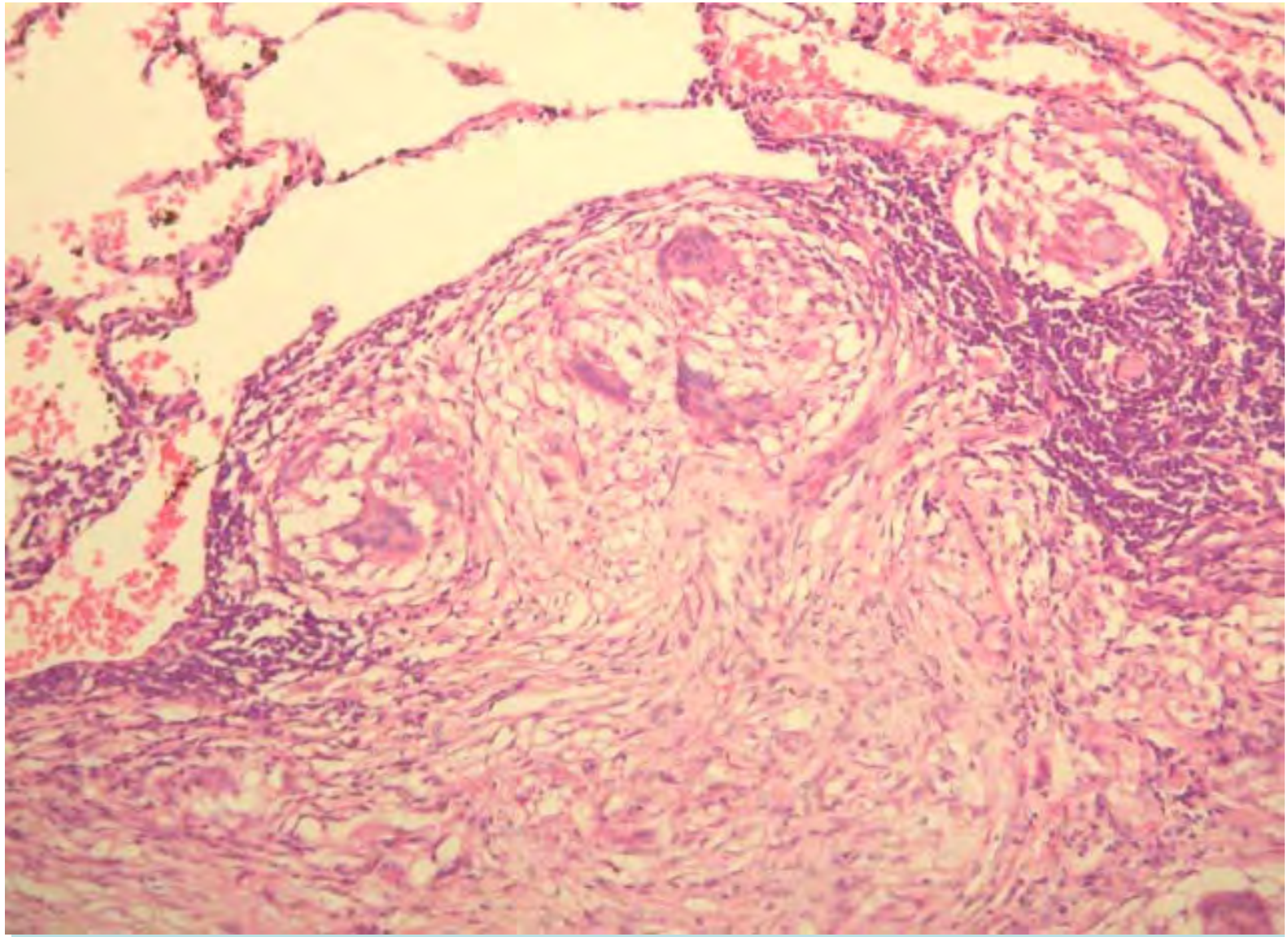
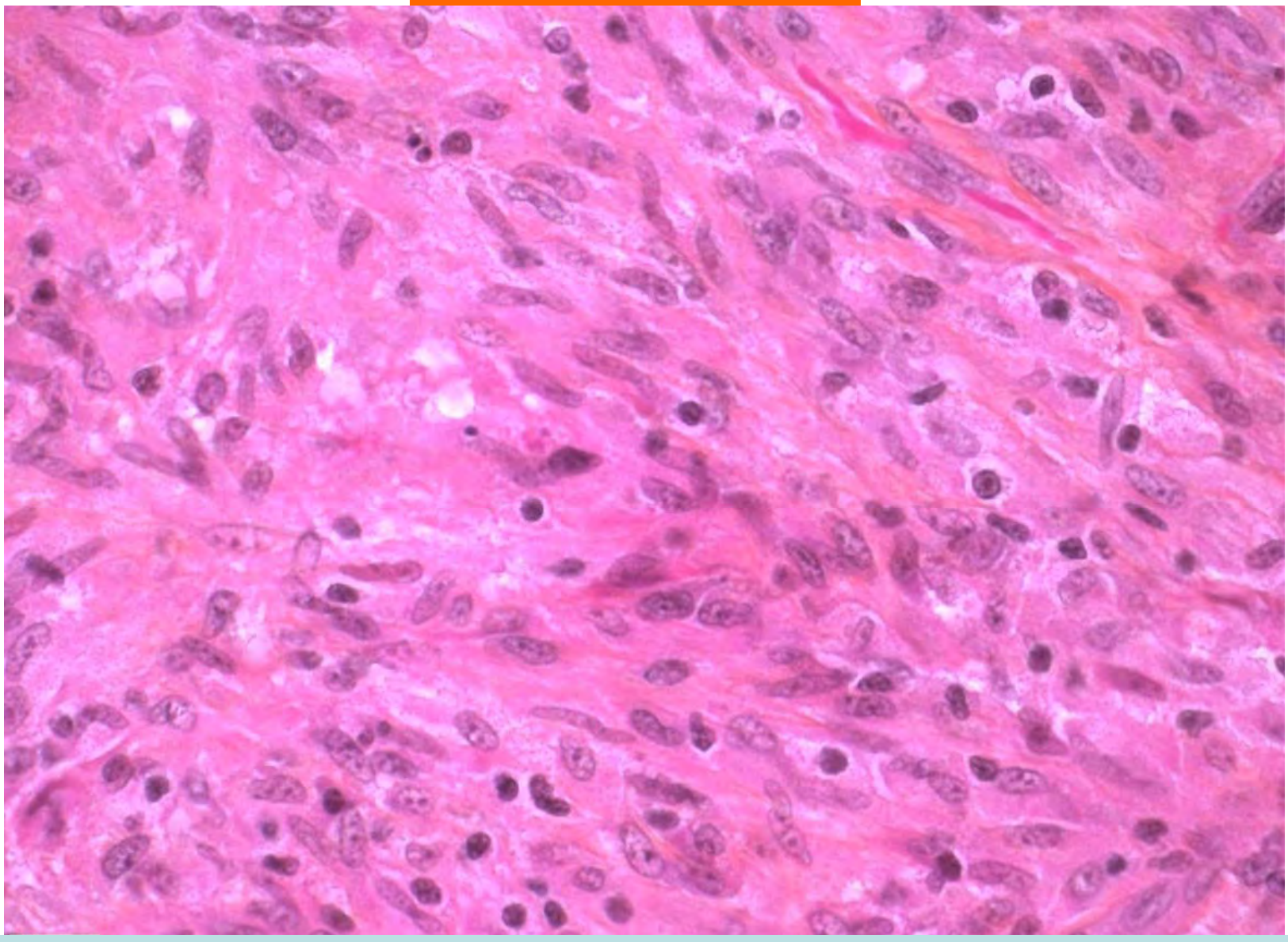


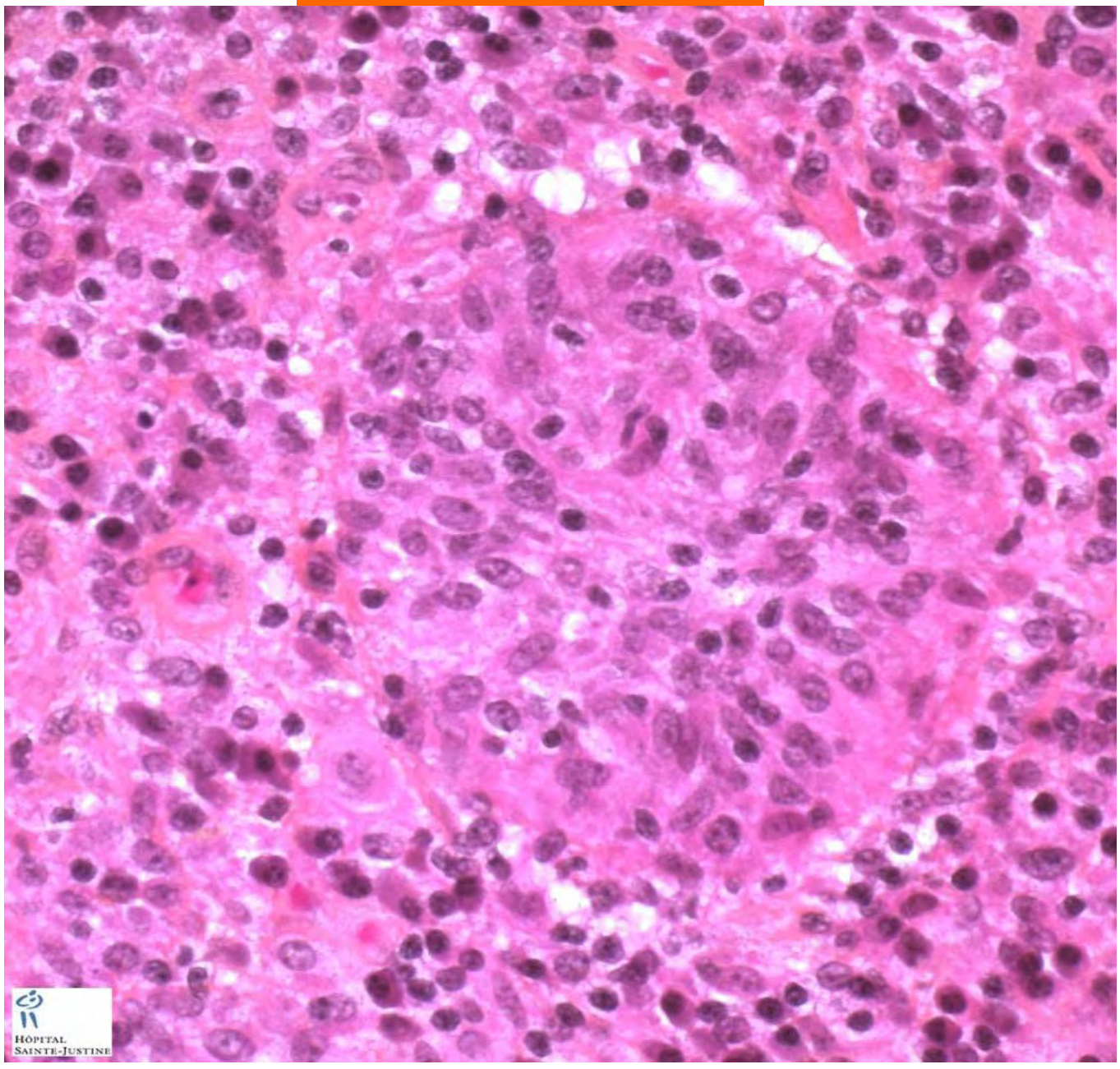
Fig. 6 Small granuloma without caseous necrosis.

Tuberculosis

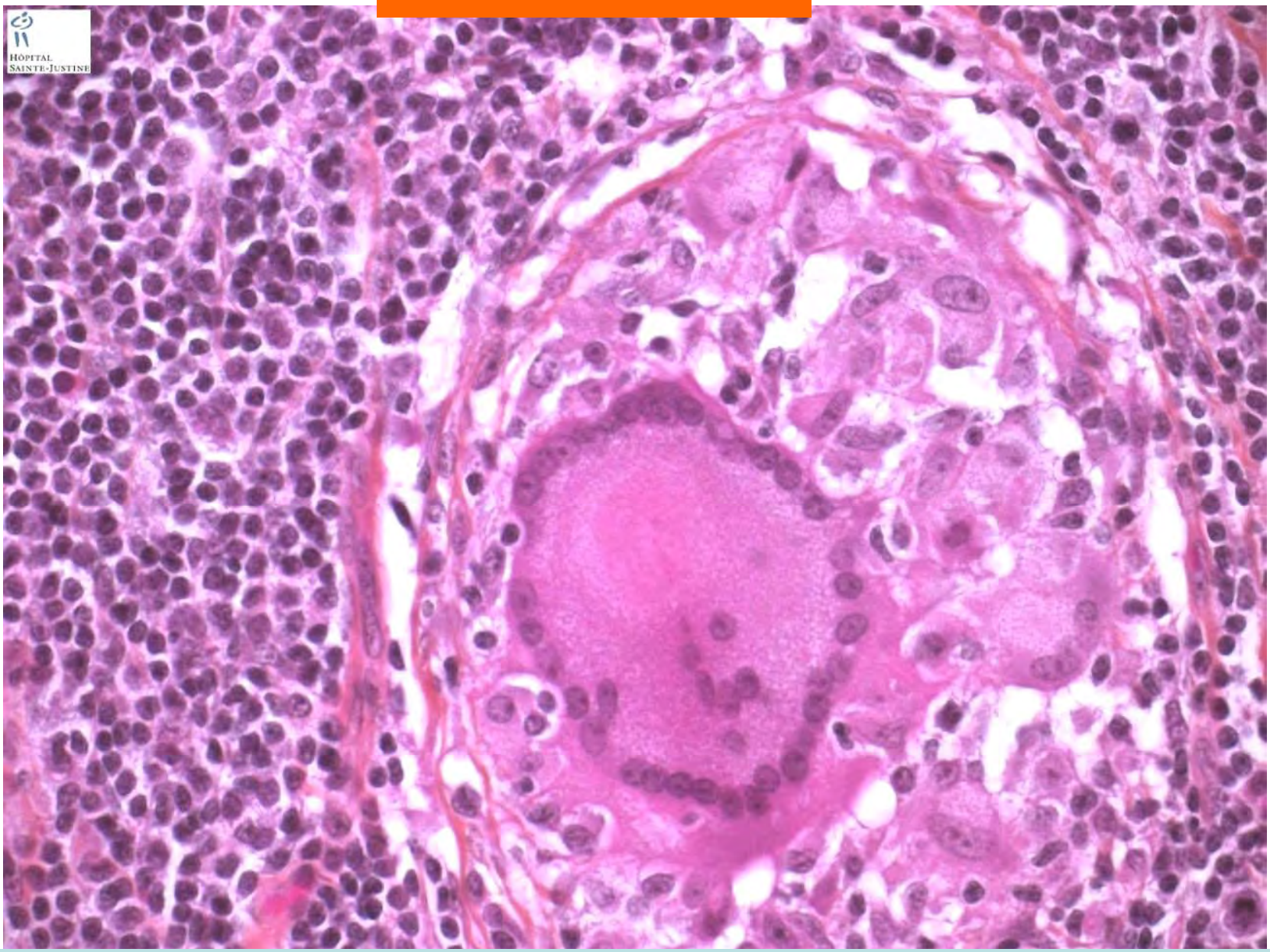


Confluent of epithelioid macrophages with indistinct cell boundary

Tuberculosis

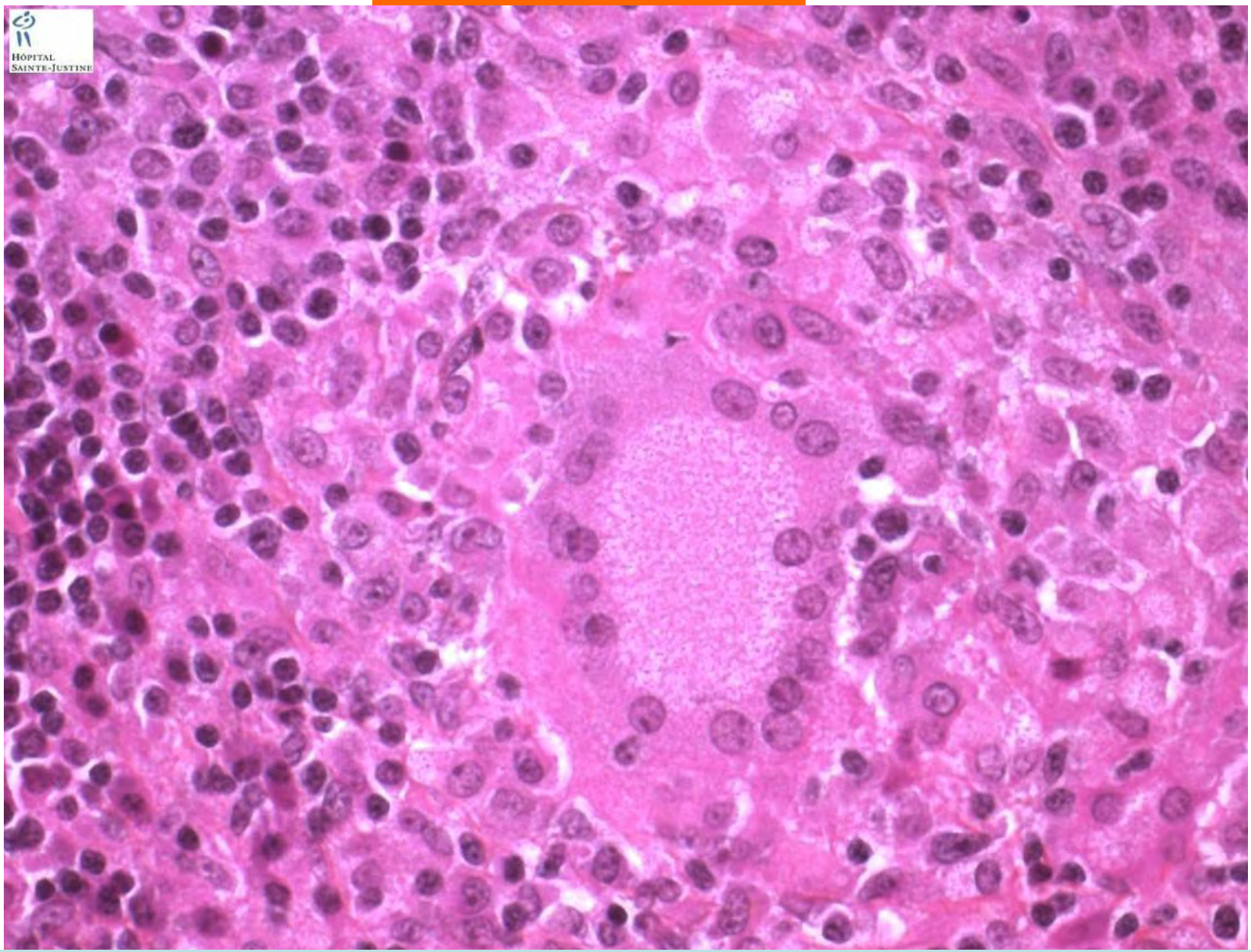


Tuberculosis



Accumulation of epithelioid macrophages give rise to LC

Tuberculosis



Accumulation of epithelioid macrophages give rise to LC

Radicular cyst

Cholesterol cleft:

- **found in the cyst wall**
- **release from the membrane of the RBC**

Hyaline body (Rushton body):

- **a secretory product from odontogenic epithelium**
- **found in the epithelium**

Odontogenic keratocyst

Microscopic criteria:

- **epithelium is of uniform thickness (7-10 cells thick without rete ridges)**
- **in parakeratotic type, the epithelium has a palisaded layer of tall basal cells, is often much folded**
- **in orthokeratotic type, basal cell layer is cuboidal or flattened. There is a conspicuous granular cell layer and keratin may fill the cyst cavity**
- **corrugated epithelium**

Odontogenic keratocyst

Microscopic criteria:

- **epithelium is weakly attached to and readily separates from fibrous wall**
- **daughter cyst or epithelial islands are occasionally present in the cyst wall**
- **if inflammation exists, the characteristics appearance of epithelium are lost, so that the lining resembles radicular cyst**

Gorlin cyst

Ghost cell (swollen, keratinized, anucleate):

- derived from coagulation necrosis of epithelium
- aberrant keratinization of epithelial cells
- found within the epithelium or large masses extending into and filling the cavity
- may also extend into the cystic wall
- may mineralized into calcified mass of various size

dentinoid substance may be formed under the induction of the epithelium

Fibrous dysplasia

Monostotic:

- **80-85% of all cases**

Polyostotic:

- **Jeffe type**
- **Jeffe type + cutaneous pigmentation (café au lait spots) + sexual precocity (female) (McCune Albright syndrome)**

Bone trabeculae assume curvilinear shapes, so like Chinese script writing

Fibrous tissues replace the bone; bone trabeculae are formed by fibrous metaplasia but may undergo progressive mauration to a lesion consisting oflamellar bone

Fibrous dysplasia

What is the difference between fibrous dysplasia and ossifying fibroma?

- **Microscopically, fibrous dysplasia does not have capsule whereas ossifying fibroma is encapsulated**

- **Radiographically, fibrous dysplasia is ill- defined while ossifying fibroma is well-defined**

Woven bone = Immature bone

Fibrous dysplasia-X ray

Orange peel; ill defined

Ossifying fibroma-X ray

Ostogenic sarcoma

Most are central type

Rarely, peripheral type (extraskeletal) is also occurred in the oral soft tissue (primary or metastatic)

Figure 1 Macroscopic appearance of the left mandibular retromolar mass.

Figure 2 Panoramic radiography showing a retromolar mass (arrow) in the left mandibular ramus.

Figure 3 Periapical radiograph demonstrating a poorly circumscribed lesion with no bone destruction.

Figure 4 Incisional biopsy of the lesion.

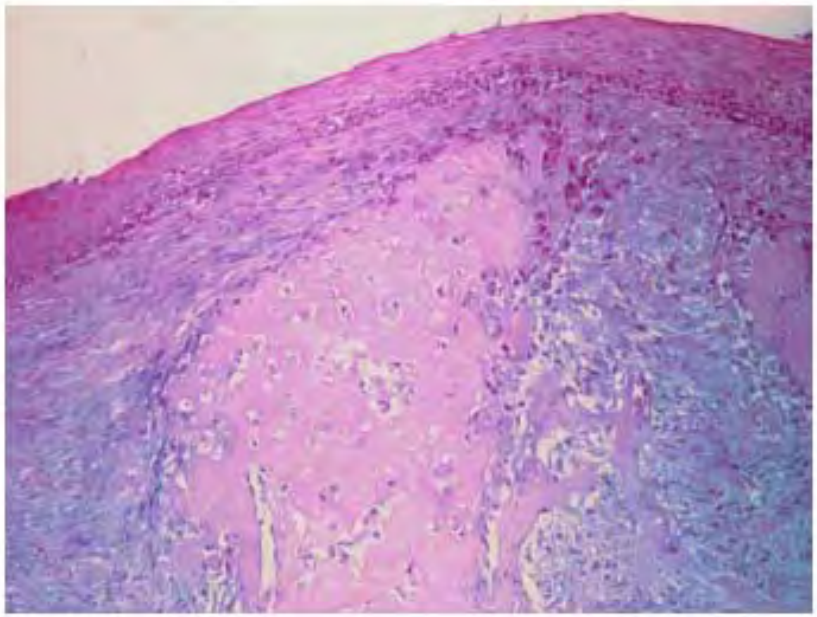


Figure 5 Epithelioid tumor, invading the submucosal tissue, with osteoid formation.

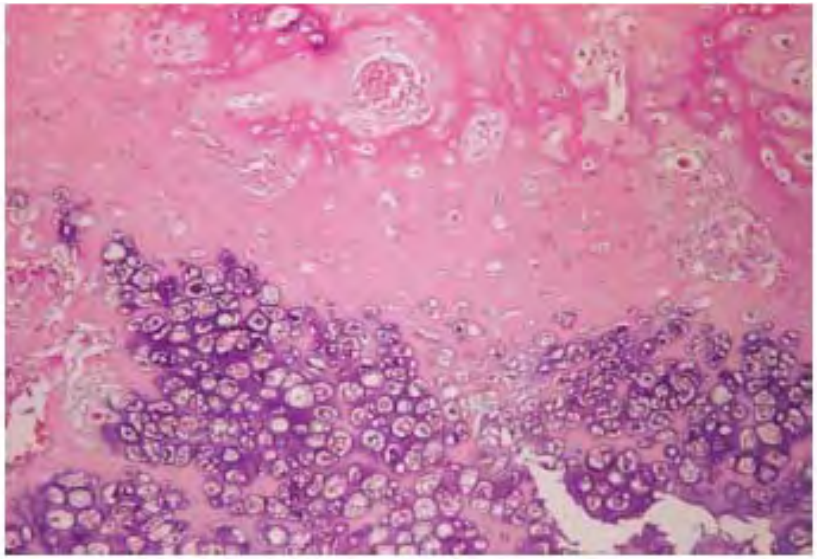


Figure 6 Areas of the tumor, with extensive bone and cartilage deposits.

Figure 7 Surgical resection of the left mandibular retromolar mass.

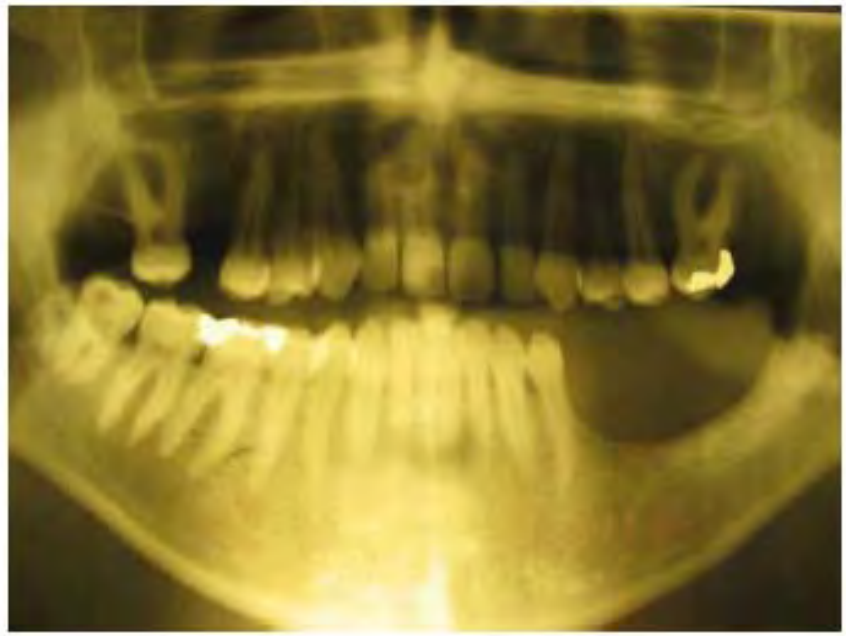
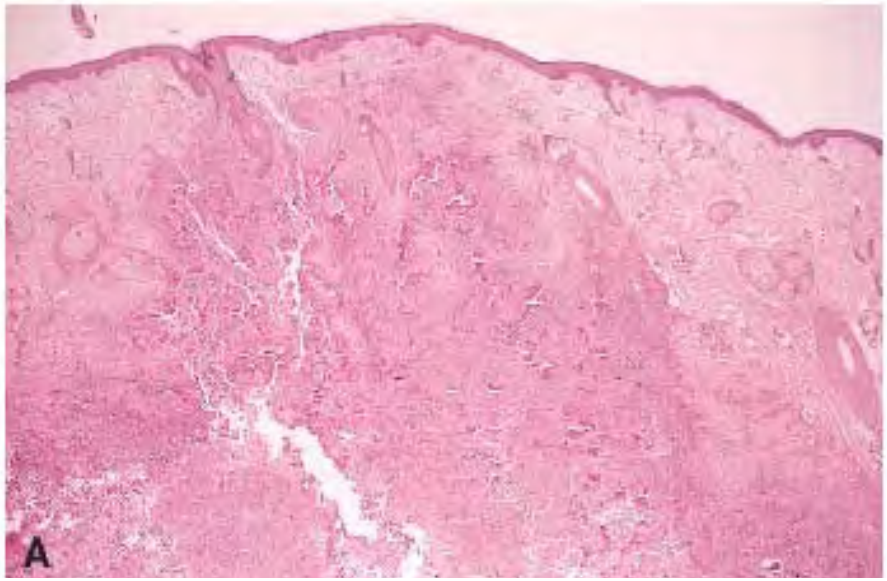
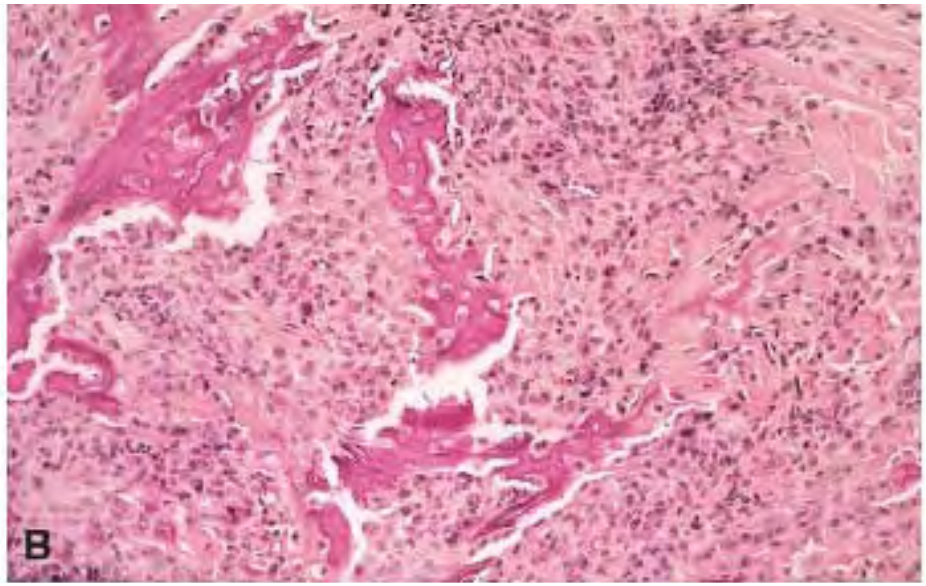


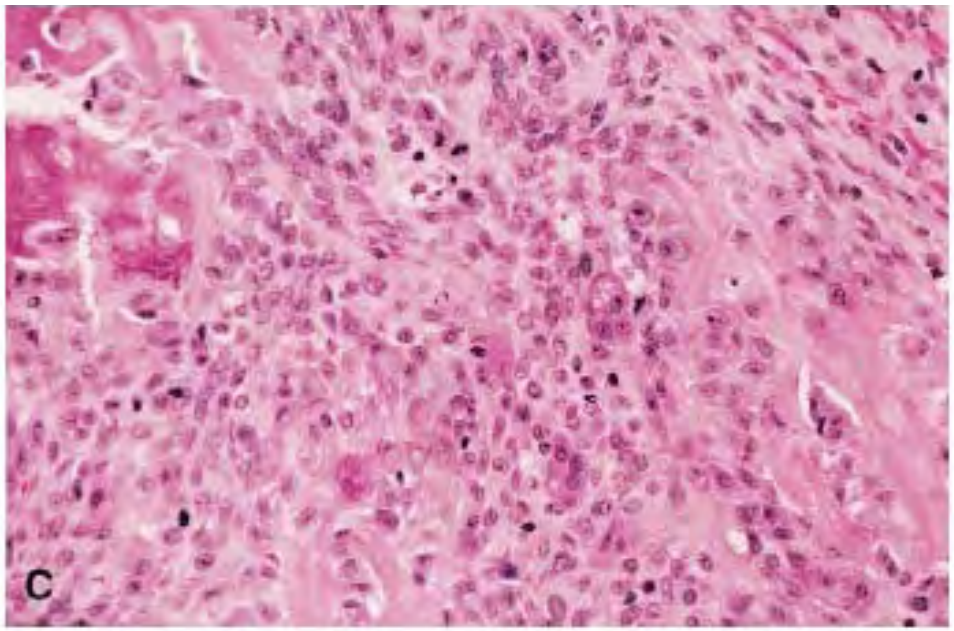
Figure 8 Panoramic radiograph after surgical resection of the left mandibular retromolar mass.

A case of extraskeletal osteosarcoma with metastasis to the skin

Fig 1. Erythematous tender nodule on posterior aspect of scalp.


A


B


C

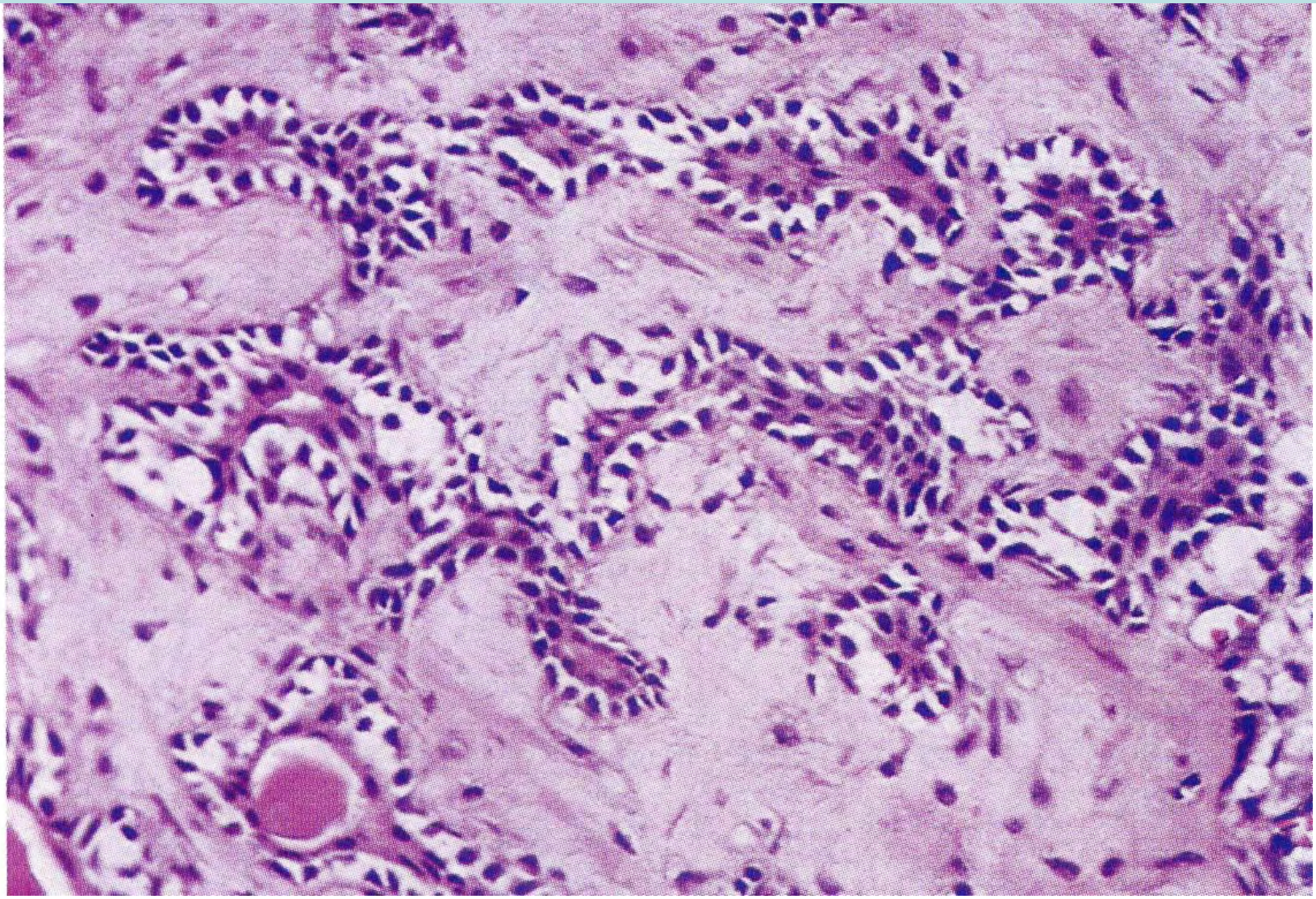
Mucocele

Is mucus the same as mucin?

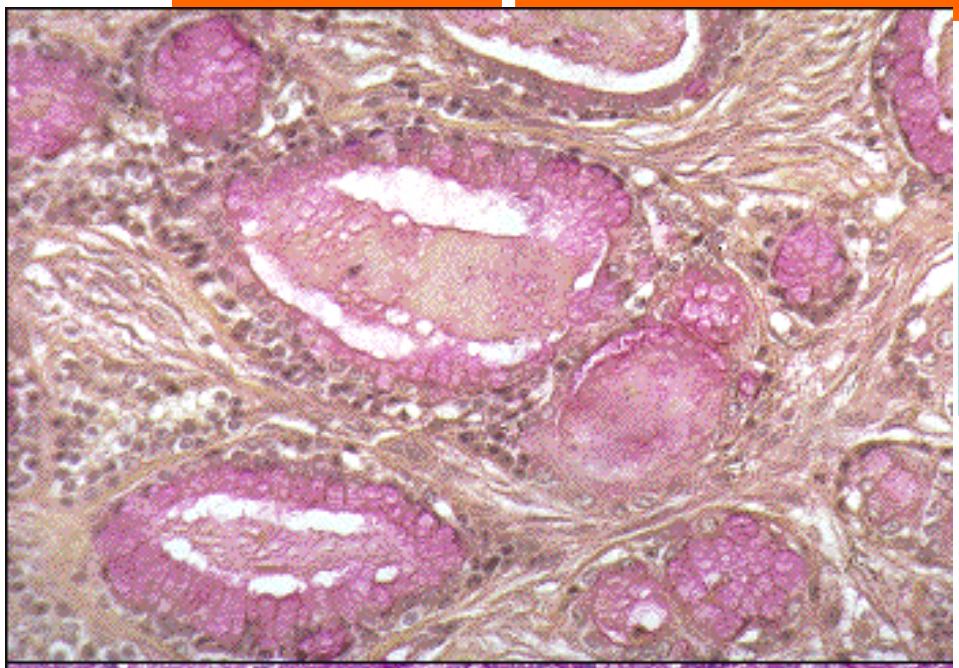
Only when special stain such as mucicarmine or PAS stains is positive, the eosinophic substance is called mucin; otherwise it is called mucus

Pleomorphic adenoma

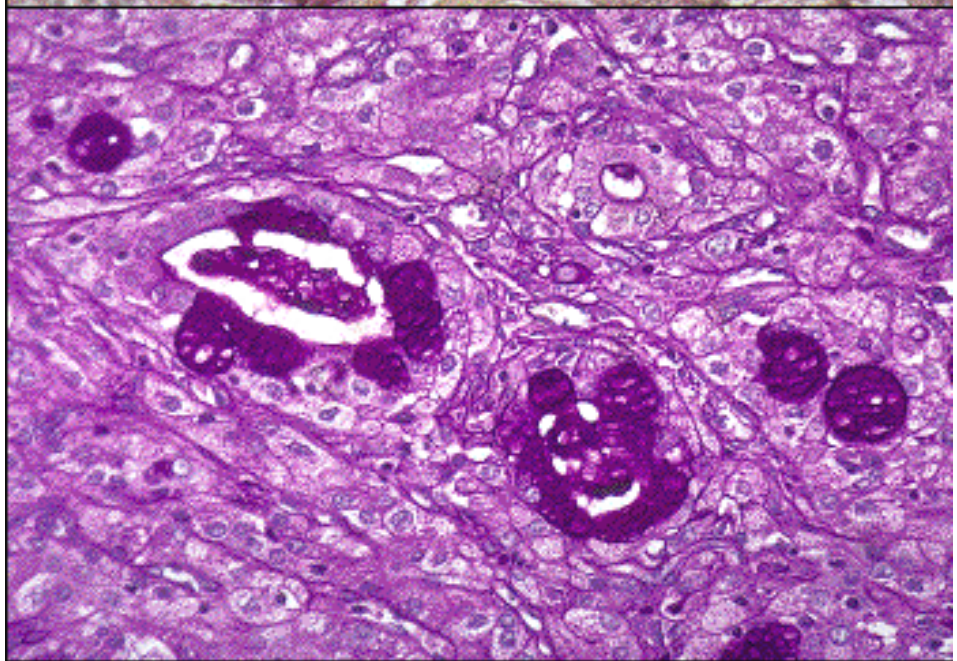
Double layer with myoepithelial cells surround the ductal epithelial cells



Mucoepidermoid carcinoma

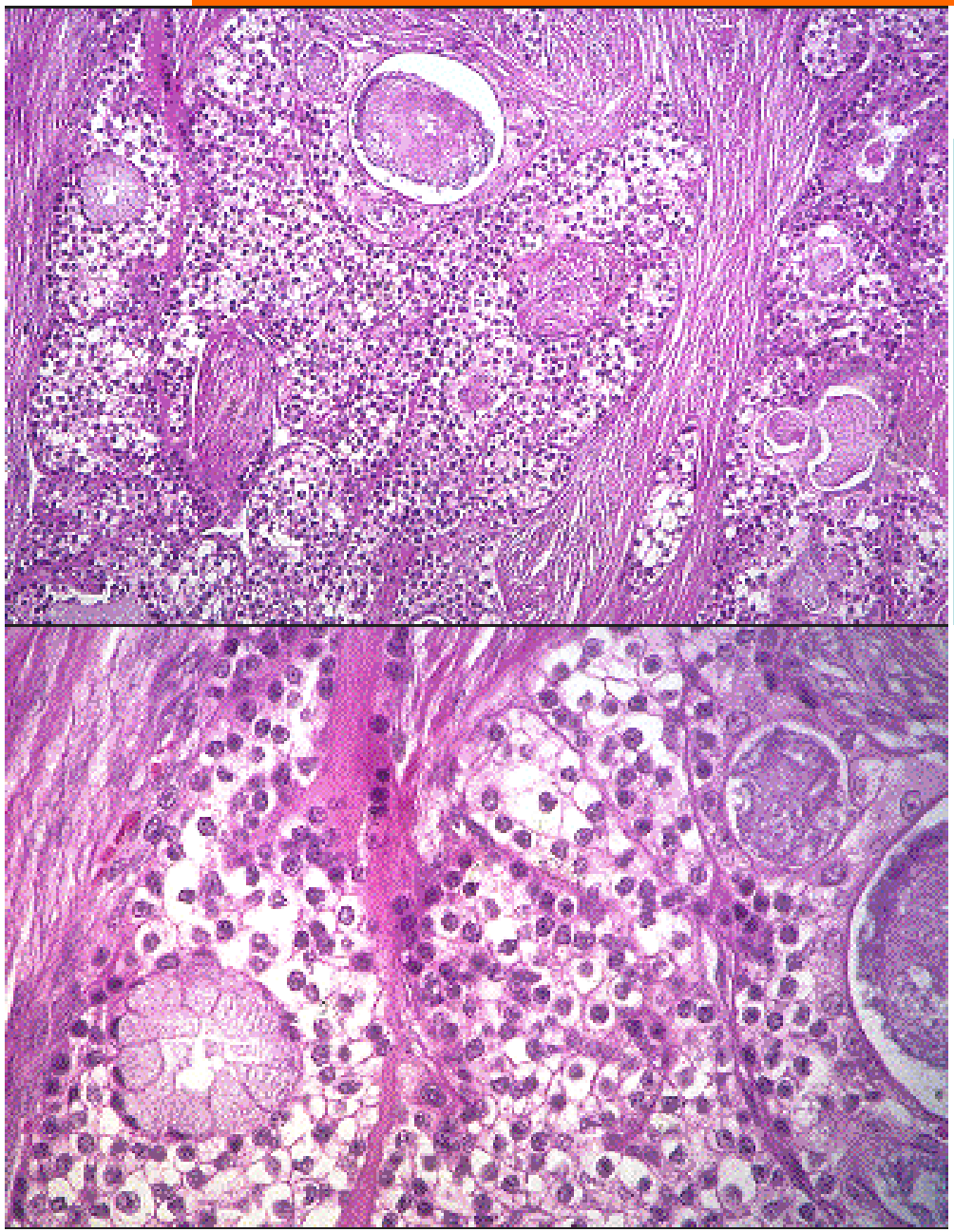


Mucicarmine stain



PAS stain

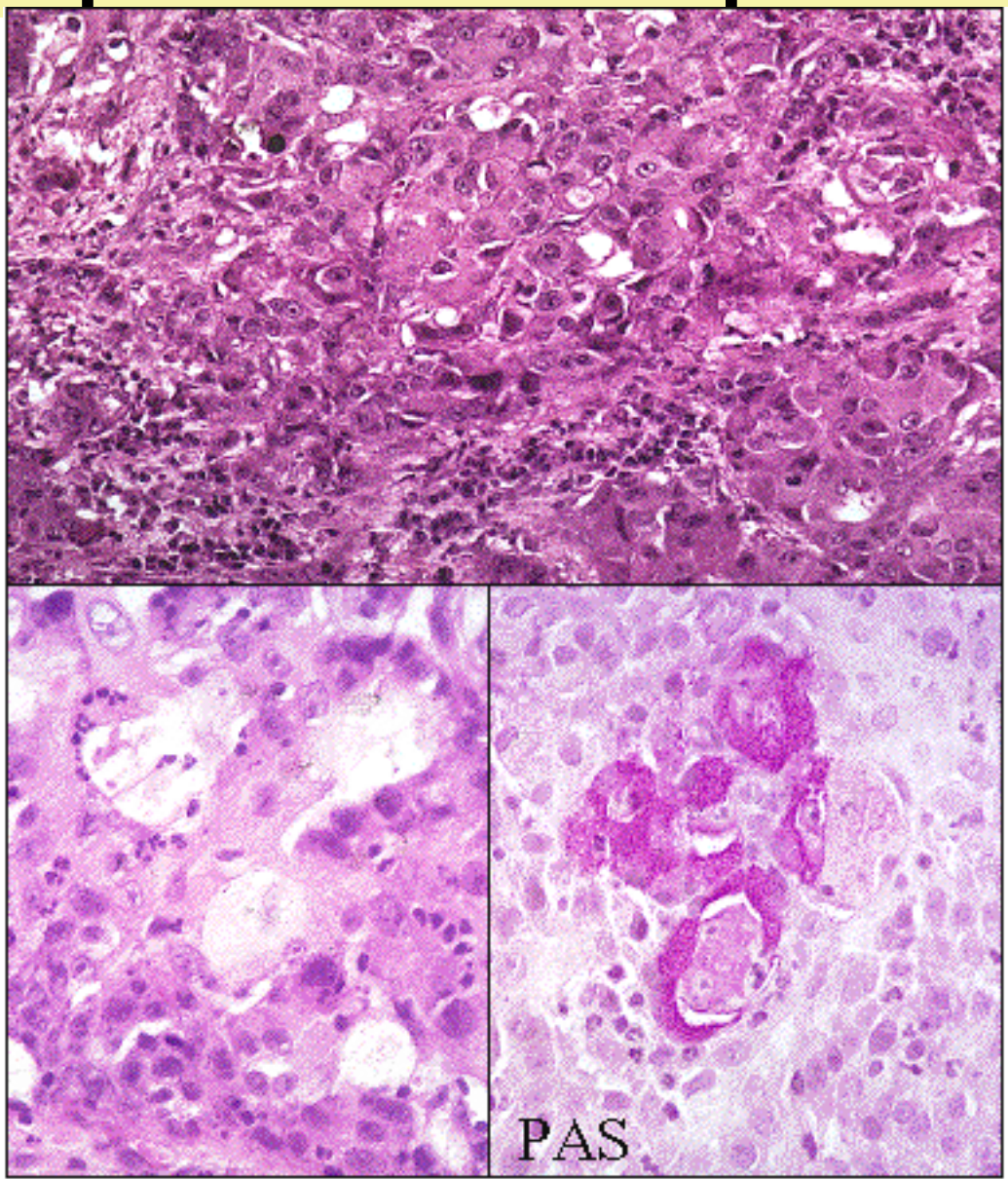
Mucoepidermoid carcinoma



Clear cell : stain negatively for mucin, fat and glycogen

Mucoepidermoid carcinoma

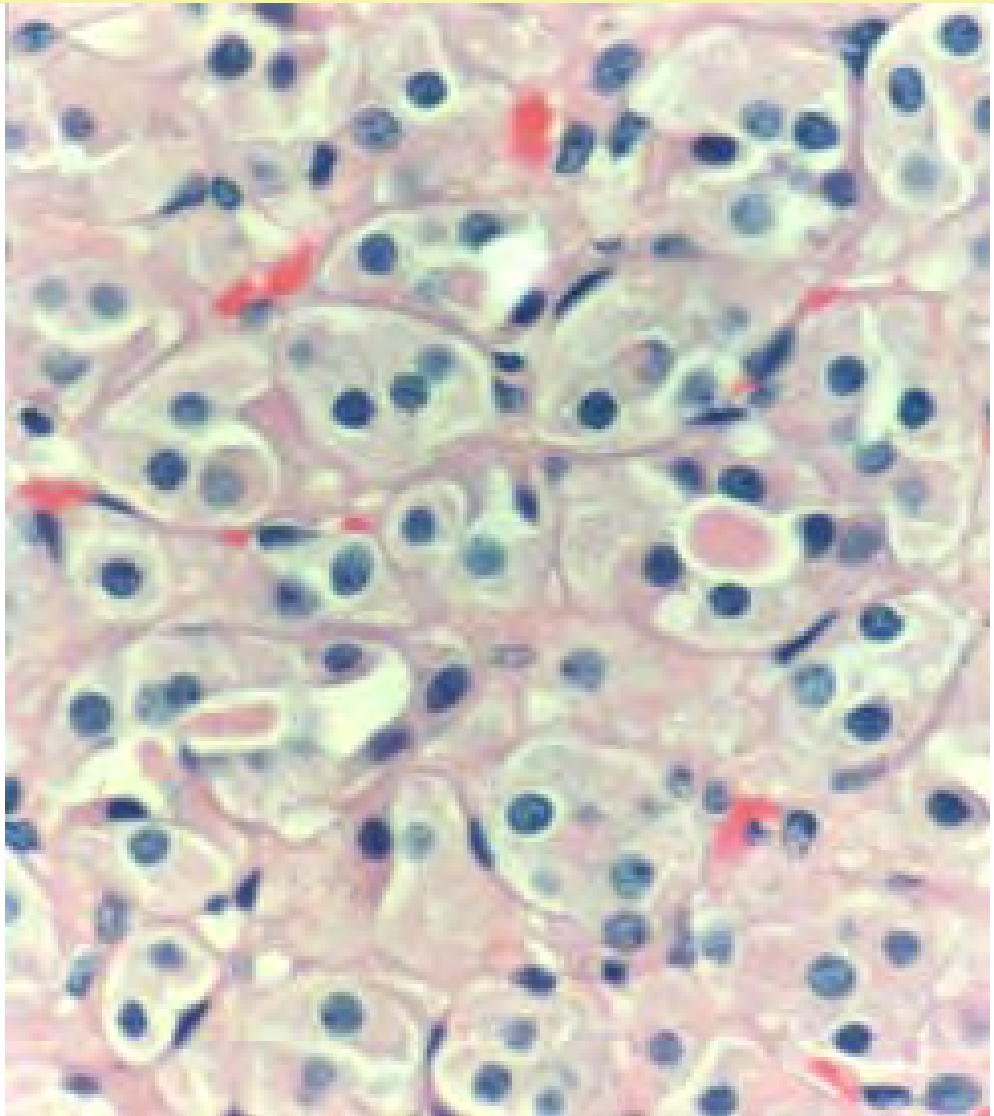
Squamous cell = epidermoid cells



Intermediate cell : smaller than the mucous or epidermoid cells; have small darkly staining nuclei & scanty pale eosinophilic cytoplasm

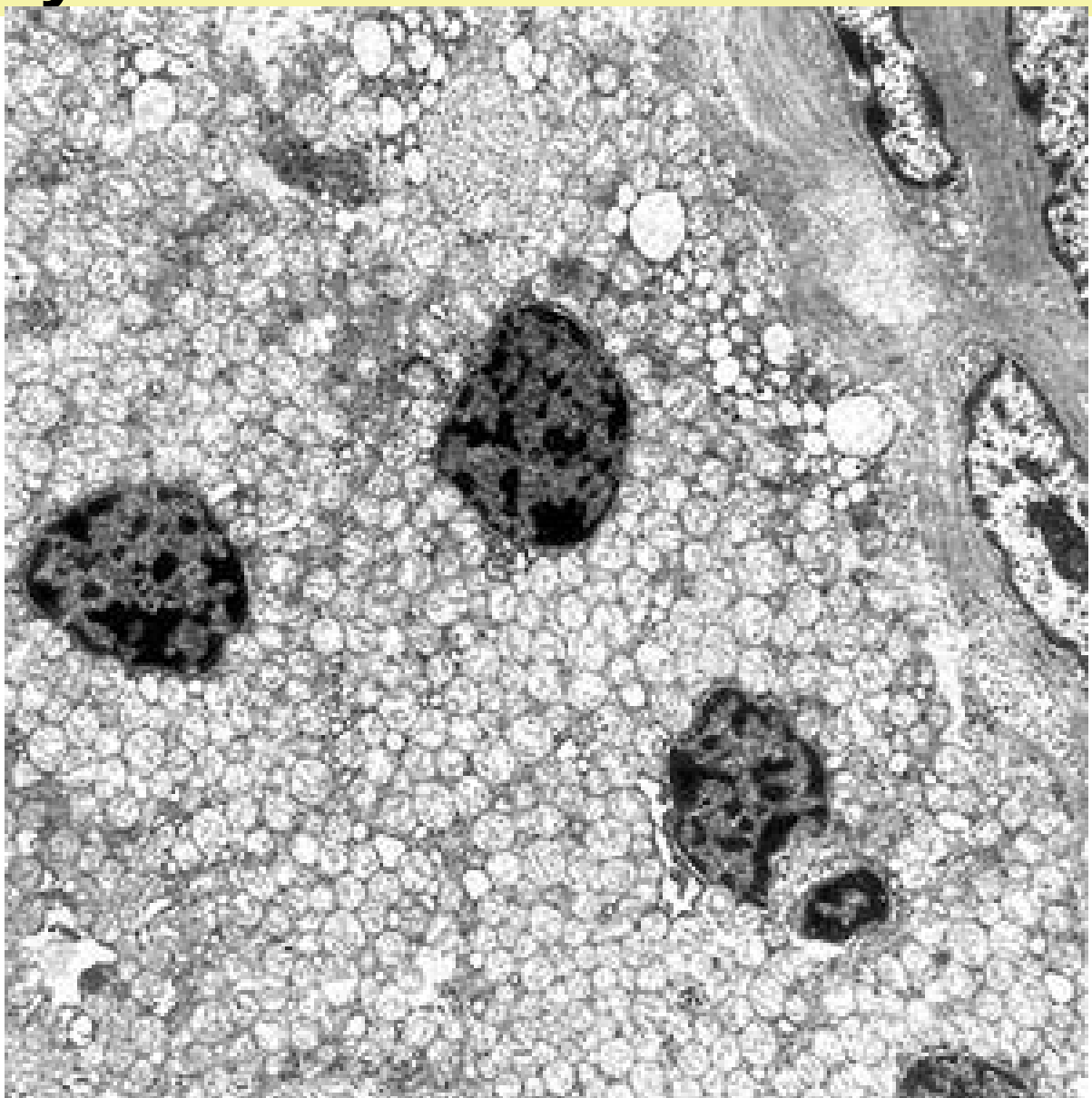
Oncocytoma

Oncocytic cells are senile changes of the acinus cells



Oncocytoma

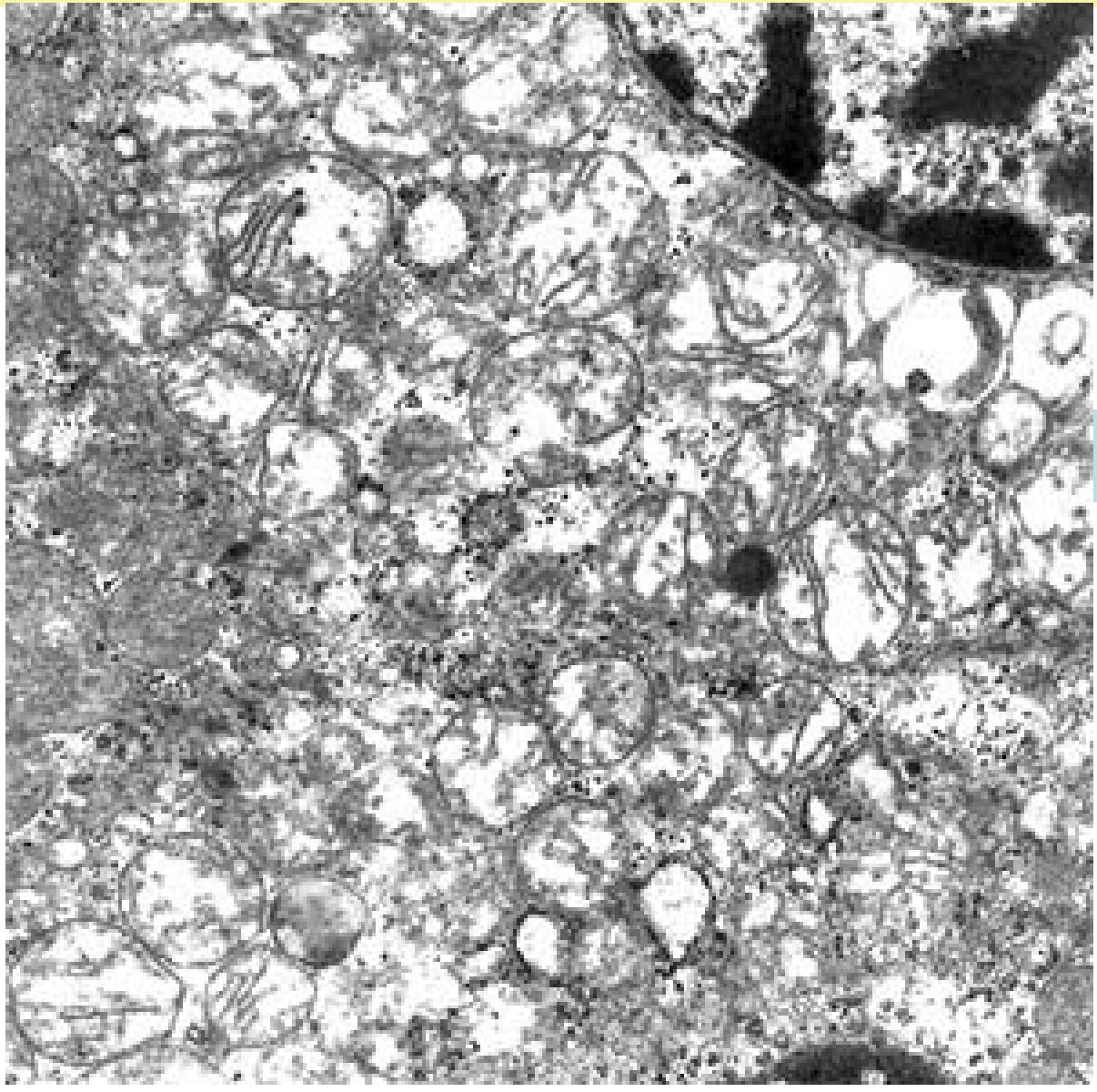
Oncycytes have abundant of mitochondria



EM

Oncocytoma

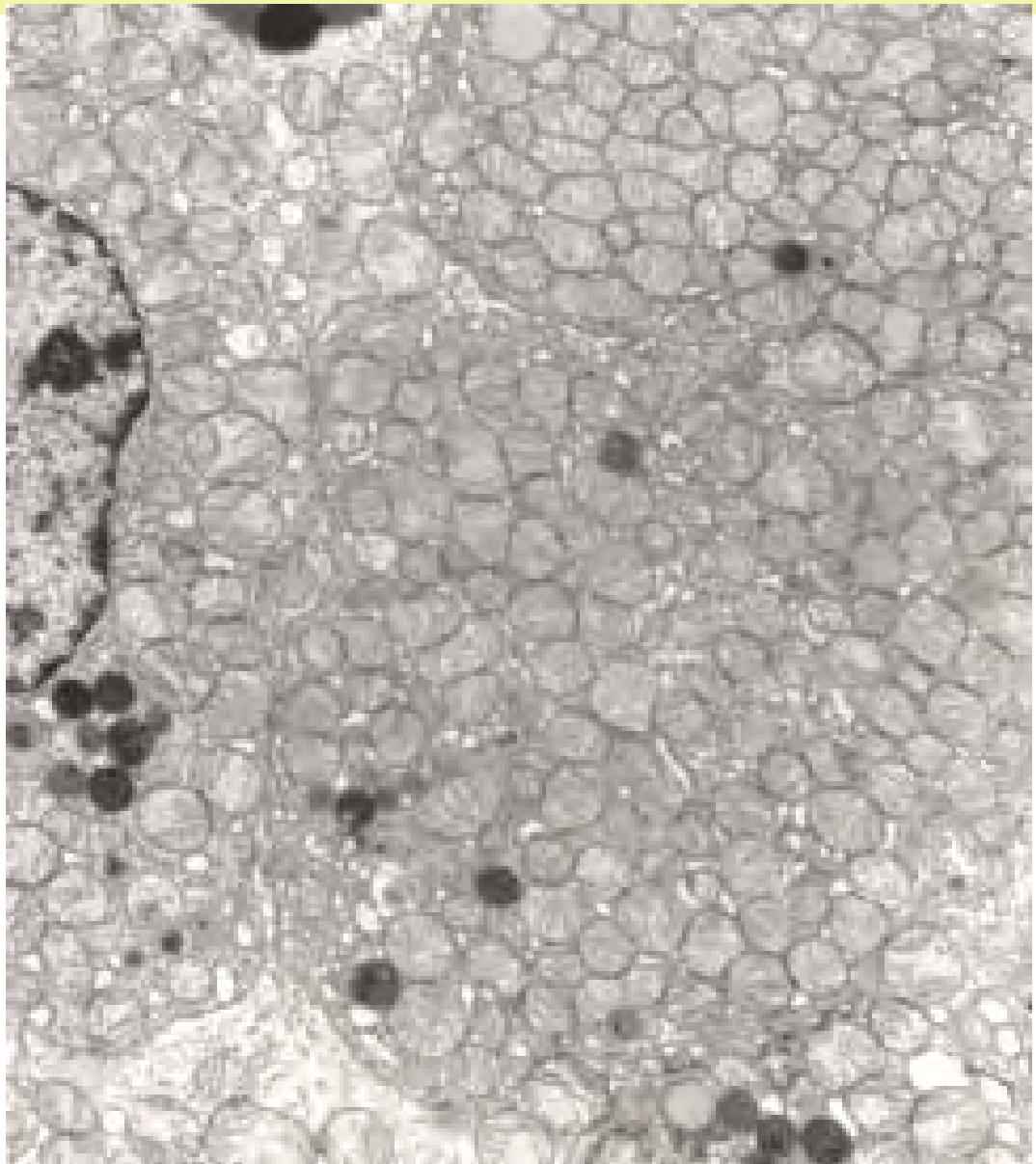
Oncycytes have abundant of mitochondria



EM

Oncocytoma

Oncycytes have abundant of mitochondria



EM

Adenocytic carcinoma (adenoid cystic carcinoma)

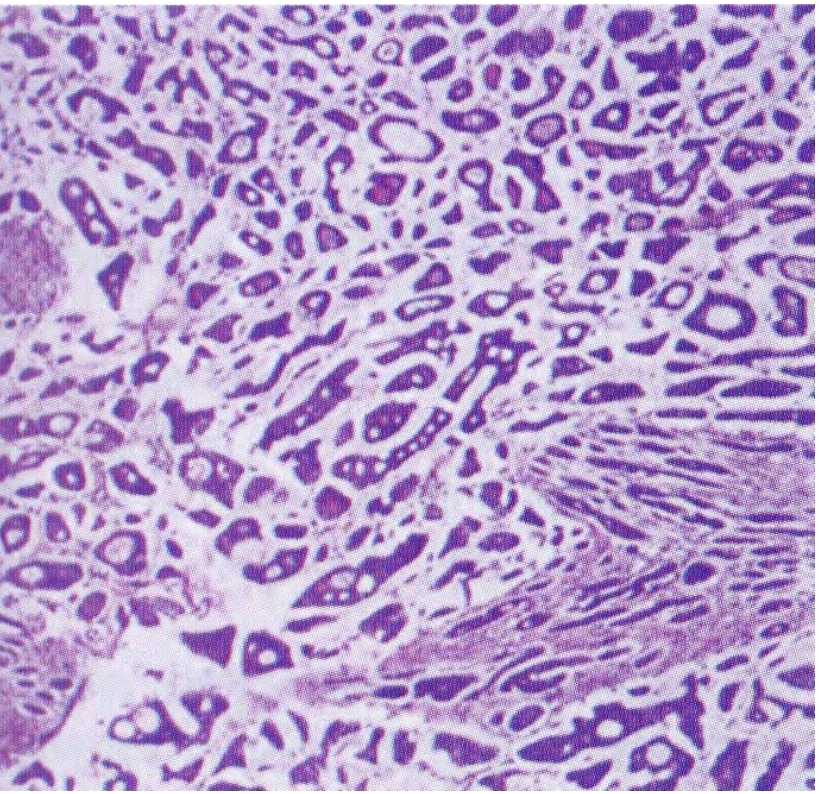
Must observe for whether there is nerve invasion

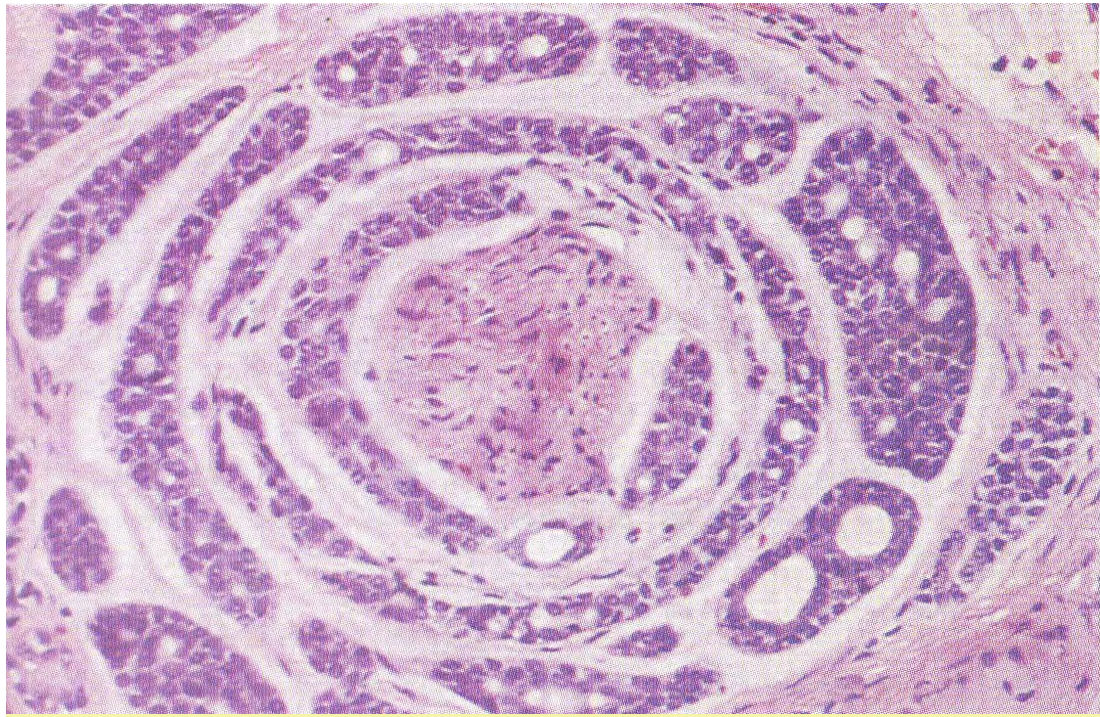
Solid type usually has central necrosis

Another salivary malignancy is polymorphous low grade adenocarcinoma (PLGA) may also have nerve invasion

Rarely, oncocytoma may also have nerve invasion. Inconsistent with its benign behaviour

Adenocytic carcinoma (adenoid cystic carcinoma)





Neural invasion

Polymorphous low grade adenocarcinoma

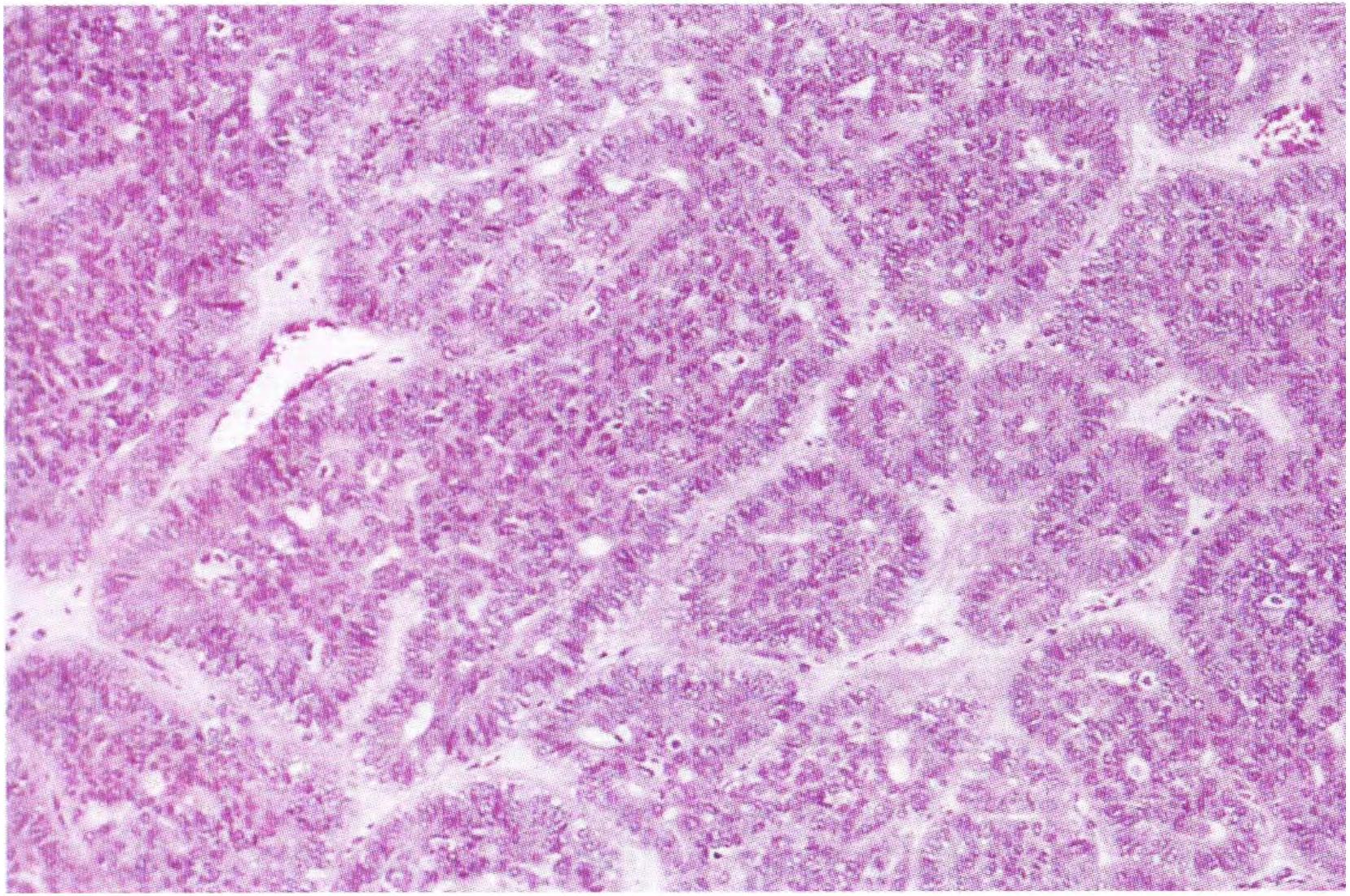


Fig. 16.77 Polymorphous low grade adenocarcinoma: solid lobular area.

Polymorphous low grade adenocarcinoma

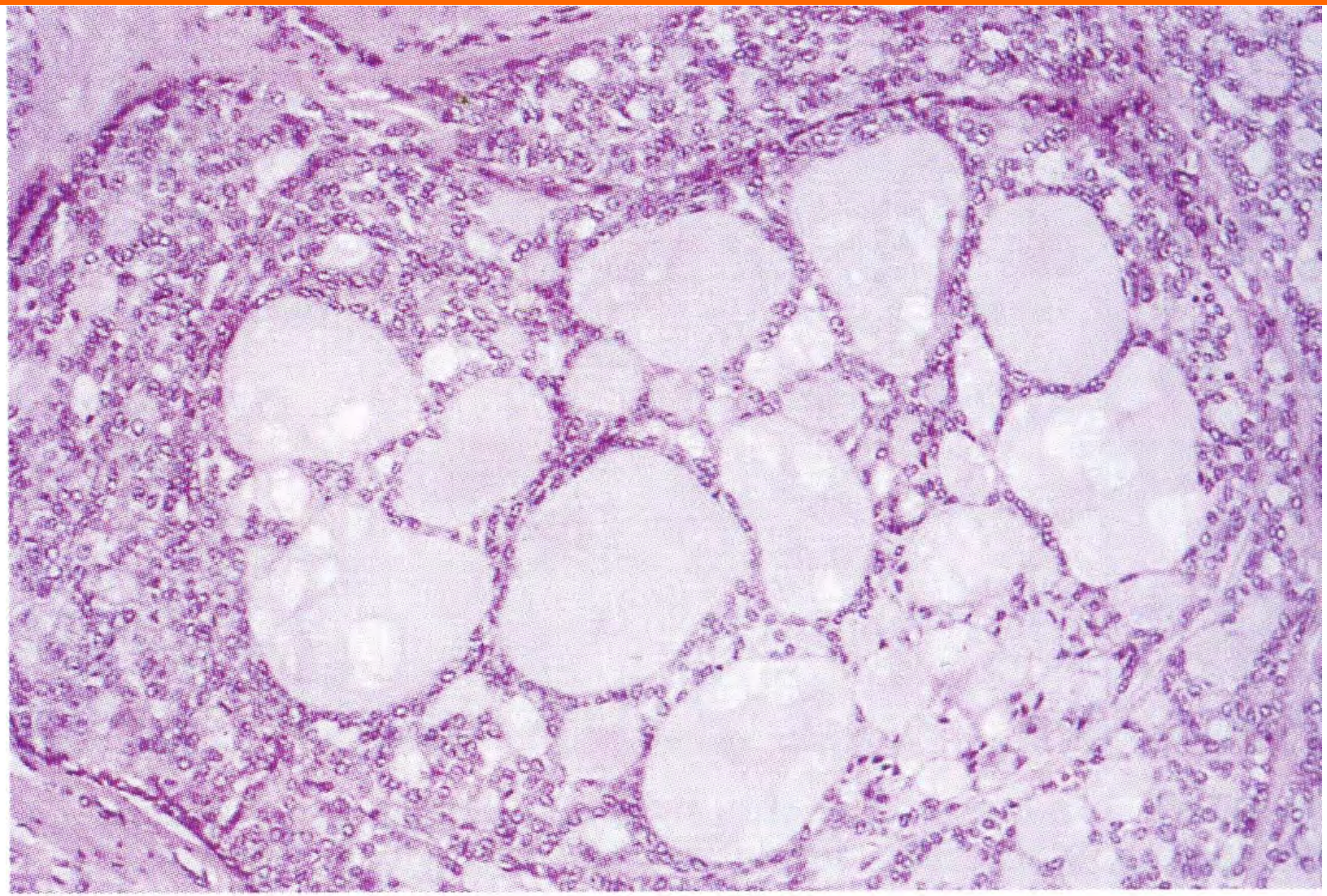


Fig. 16.78 Polymorphous low-grade adenocarcinoma: cribriform areas.

Polymorphous low grade adenocarcinoma

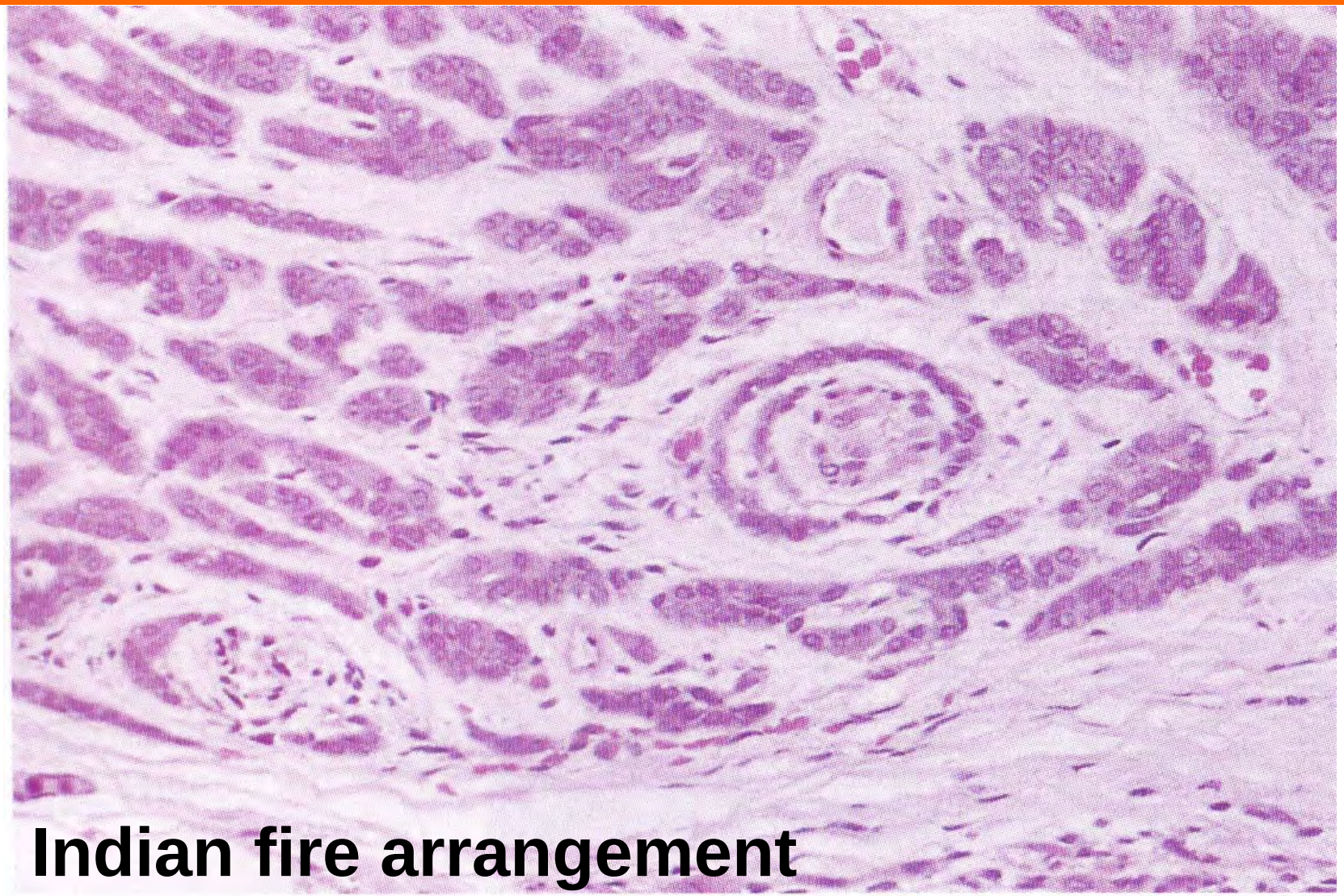


Fig. 16.79 Polymorphous low-grade adenocarcinoma: strands of cells and perineural whorling infiltration.

Polymorphous low grade adenocarcinoma

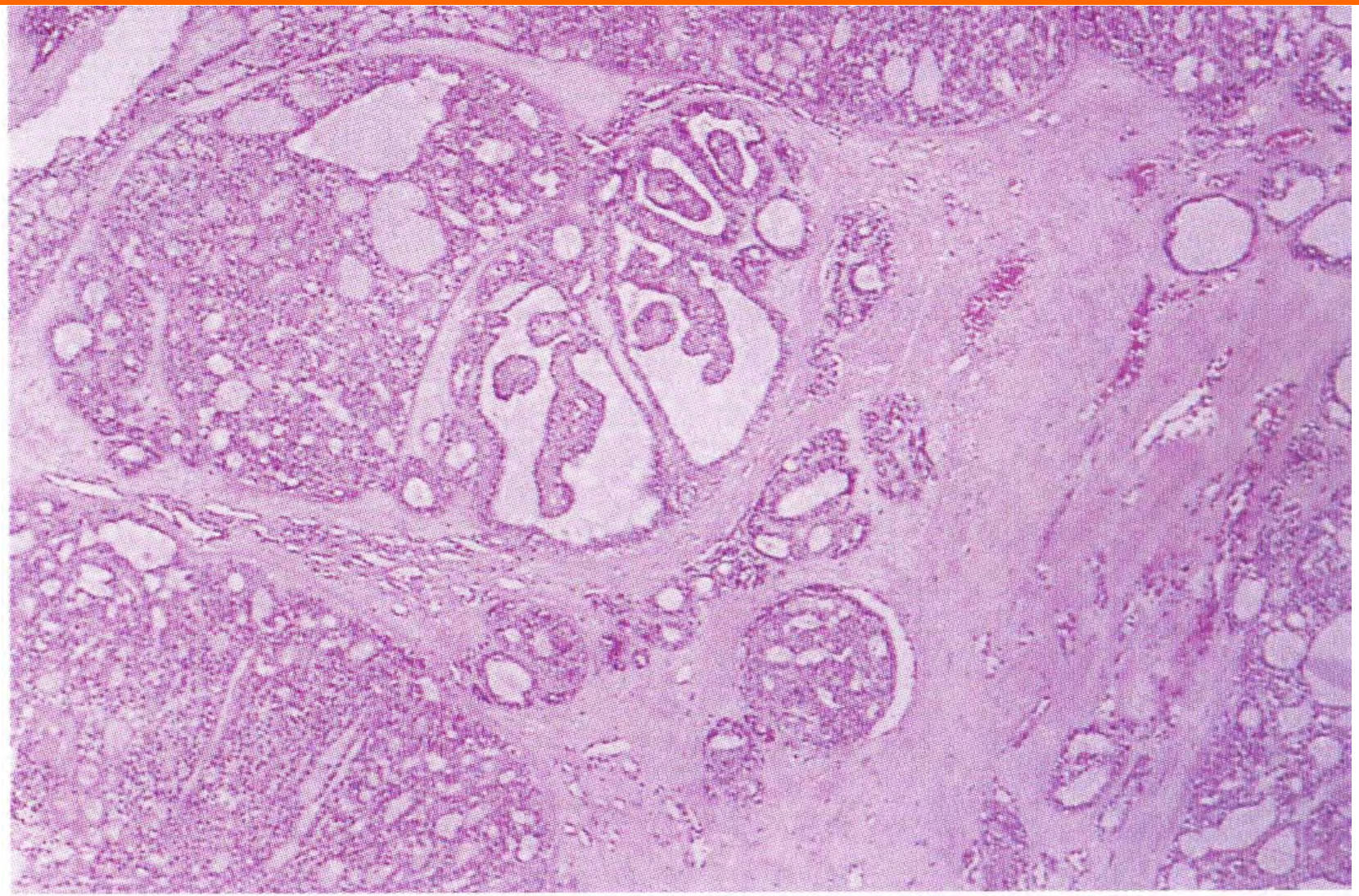


Fig. 16.80 Polymorphous low-grade adenocarcinoma: tubular and papillary cystic areas.