Multiple myeloma

*Originates from cells of bone marrow=plasma cell

*Multicentric or single lesion meta widely

*53% of malig bone tumor,Mayo clinic

*Mand>max 95% in mand,hematopoietic

*Pain,swelling,numbness & mobility of teeth

*Pounched-out areas-vertèbrae,ribs,skull

Jaws,long bones,sites of hematopoiesis

Solitary plasma cell myeloma

*Only in single bone,excellent prognosis

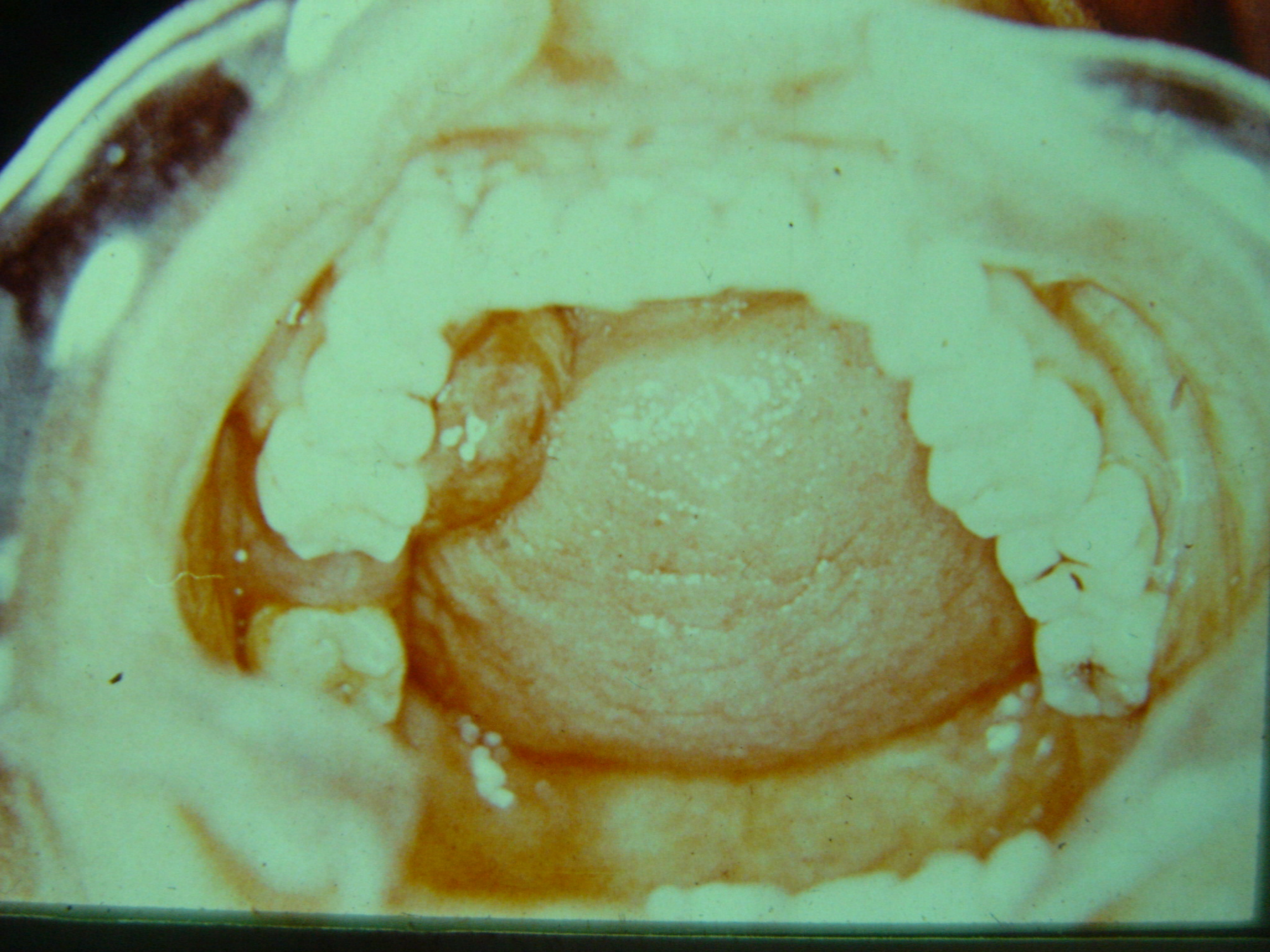
*Absence m.m.cells in bone marrow

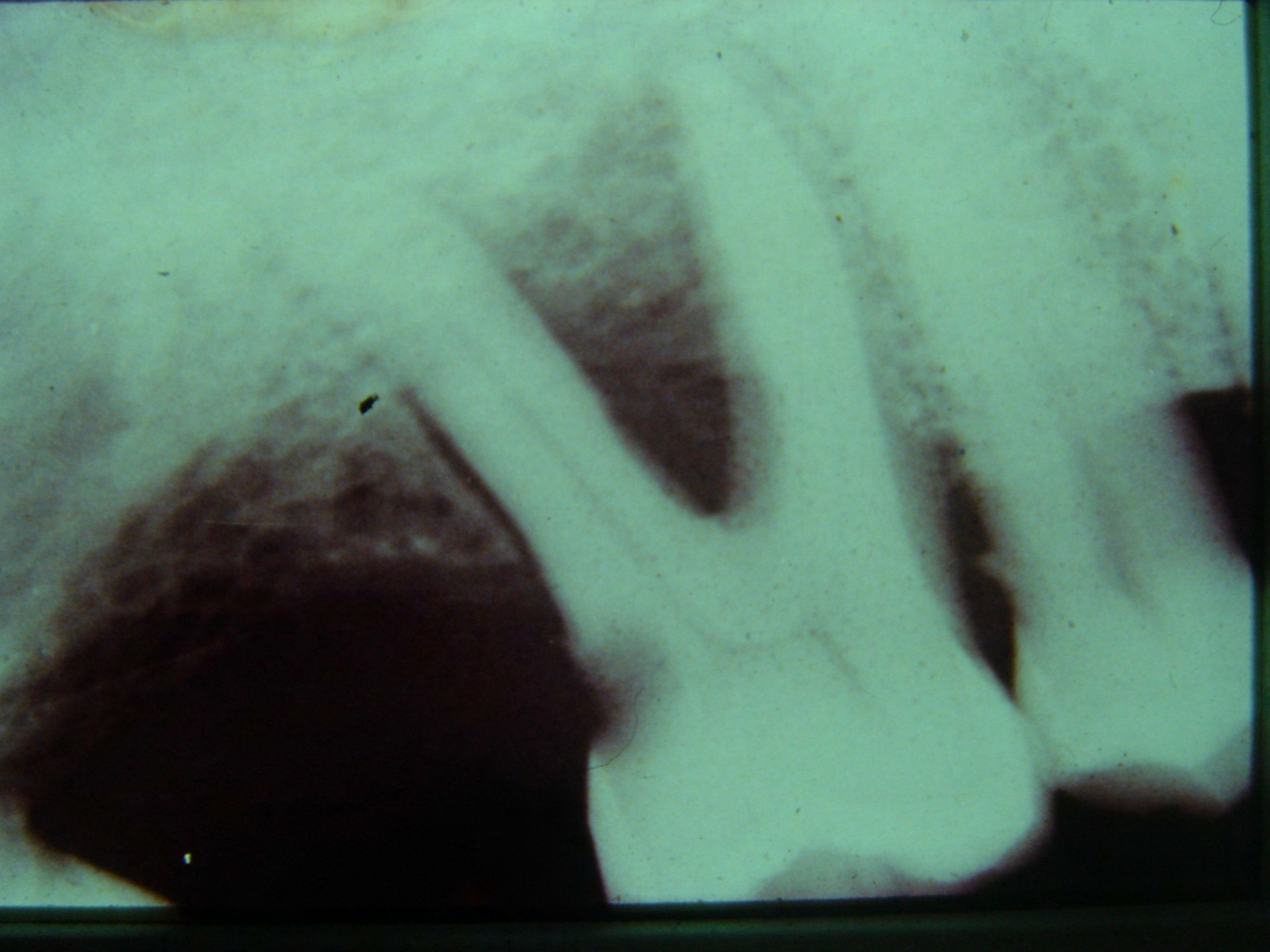
*No anemia,hypercalcemia,renal globulins

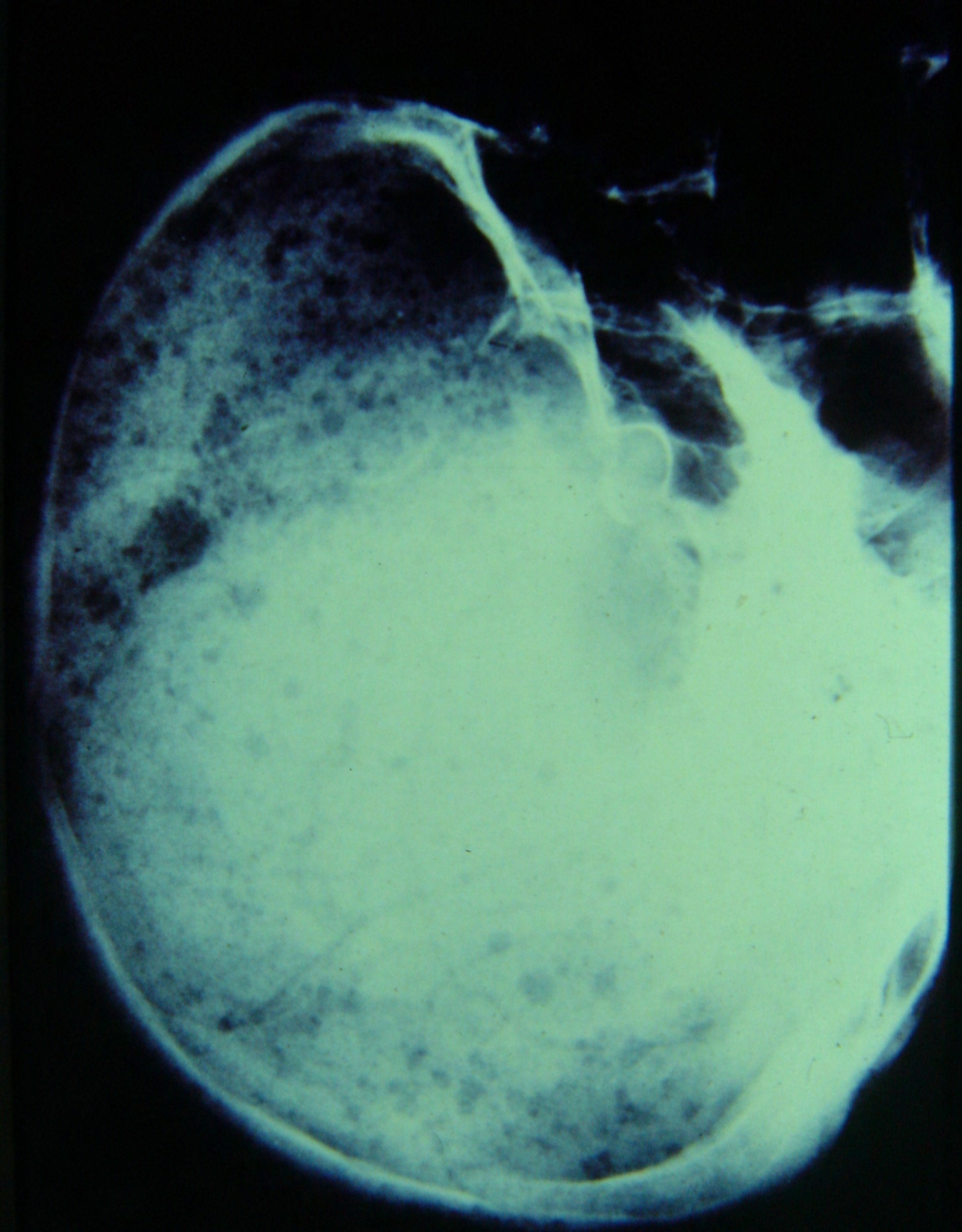
*Pain,swelling & pathologic fx

*Extramedullary solitary plasmacytoma

*Tx-surgery,x-ray radiation,excellent prognosis







Histology(multiple myeloma)

*Sheets of closely packed cells≒plasma cells

*Russel bodies,atypical plasma

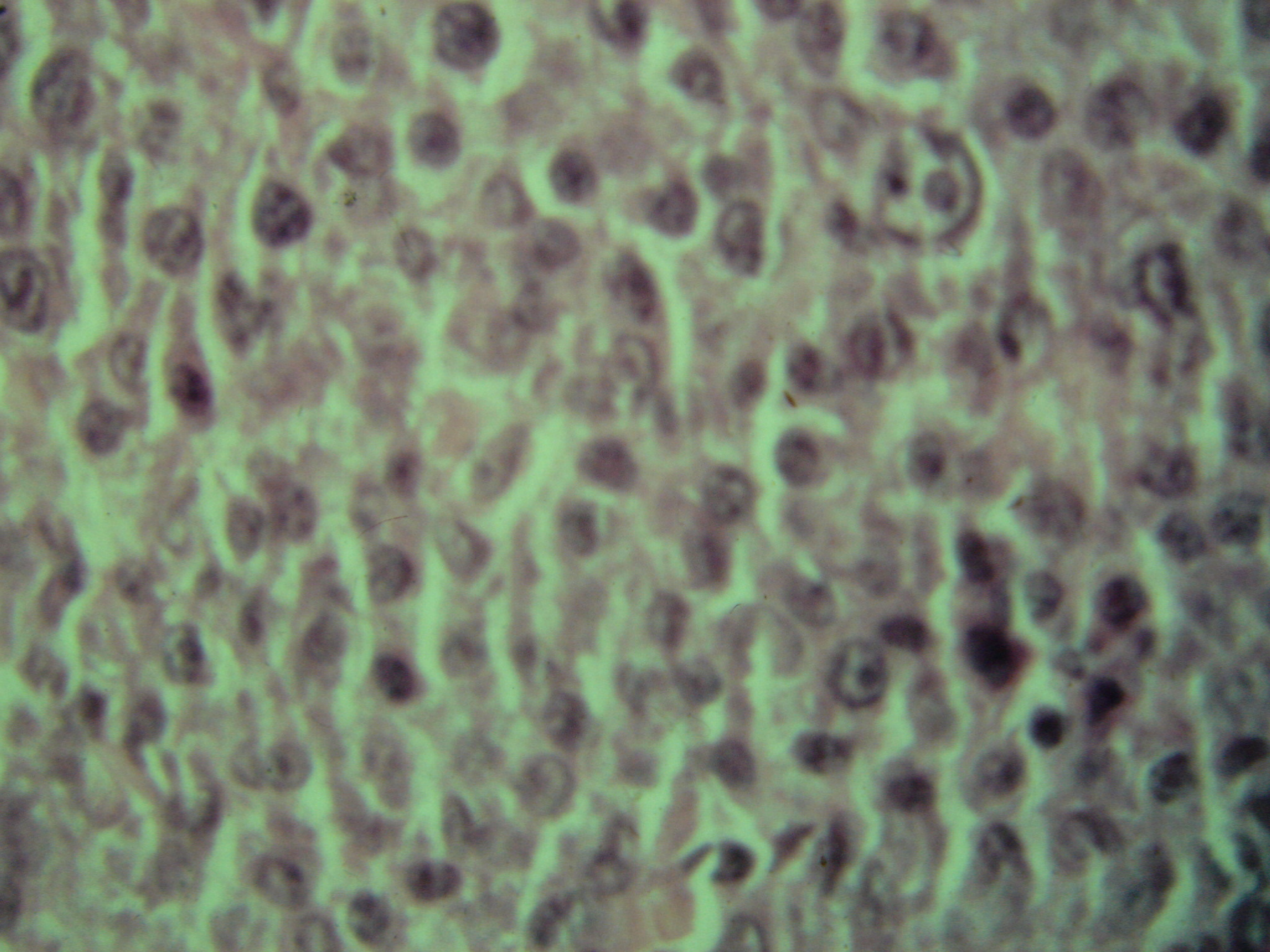
*E.M. mitochondria & Golgi complex↑

*Polyclonal stain-inflam'monoclonal-neoplasia

*Chemotherapy,radiation Rx

*Infection,anemia,kidney failure-causes of death

32



BENIGN TUMORS OF MUSCLE TISSUE ORIGIN

*Leiomyoma

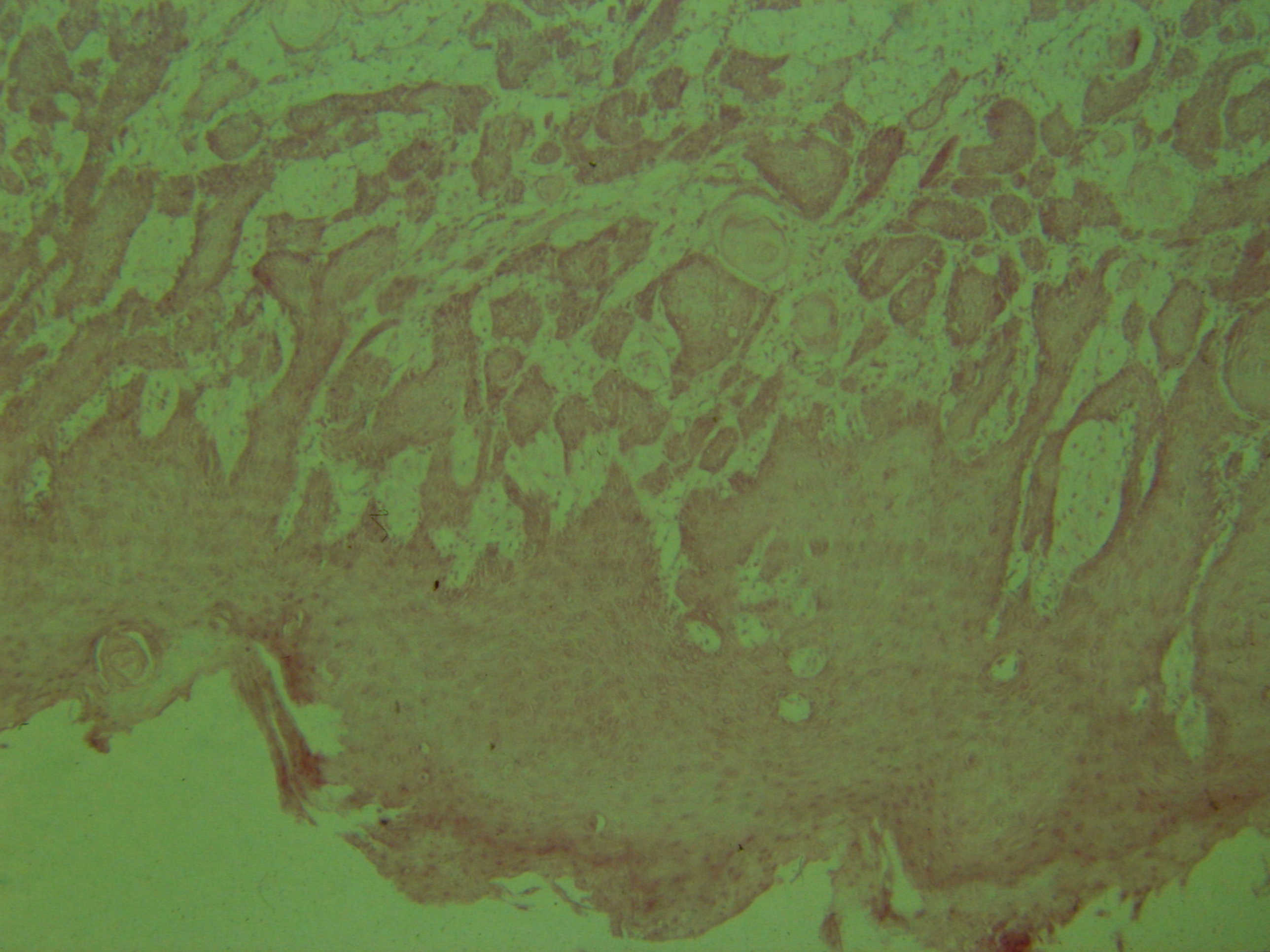
*Angiomyoma

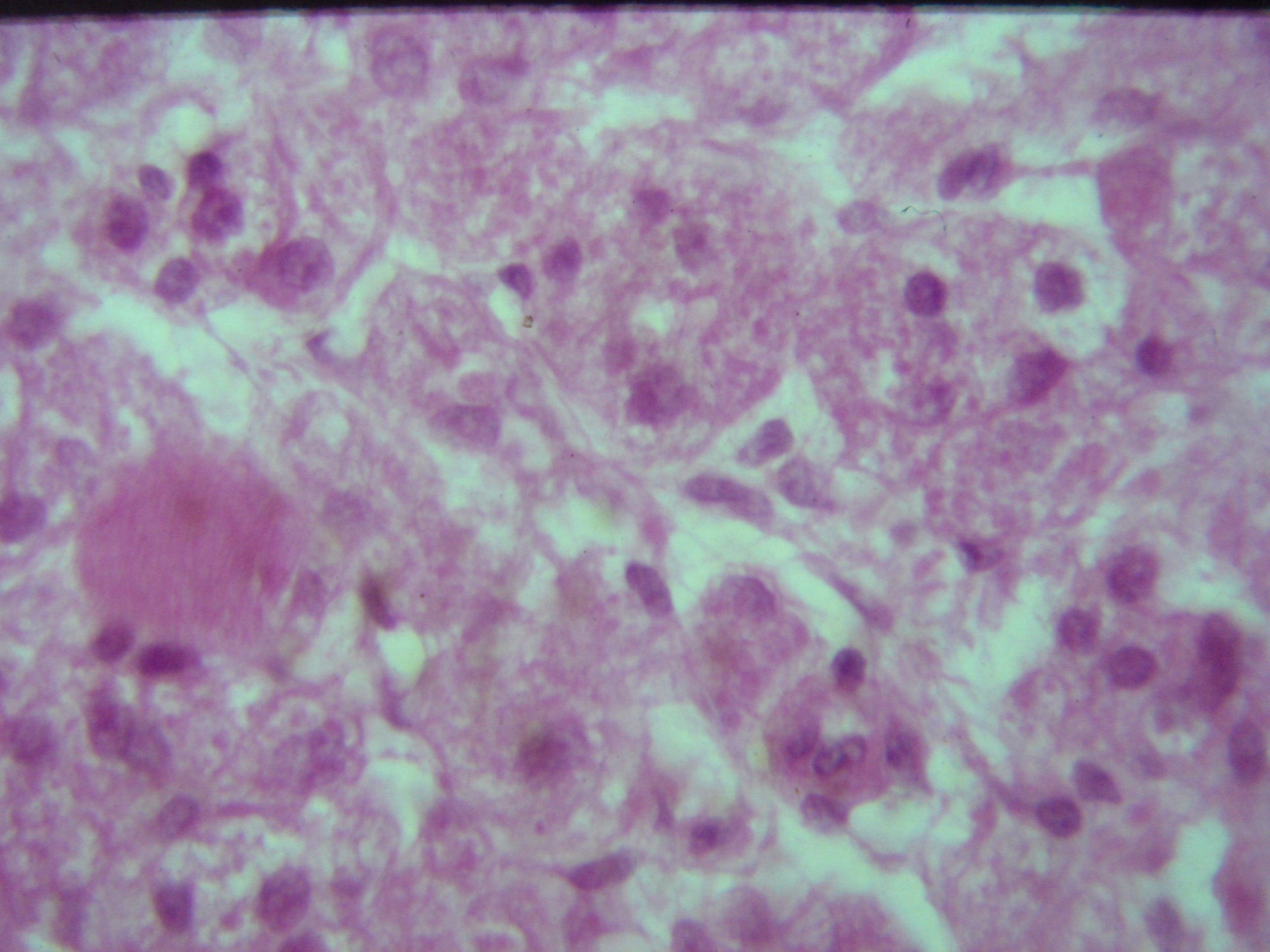
*Rhabdomyoma

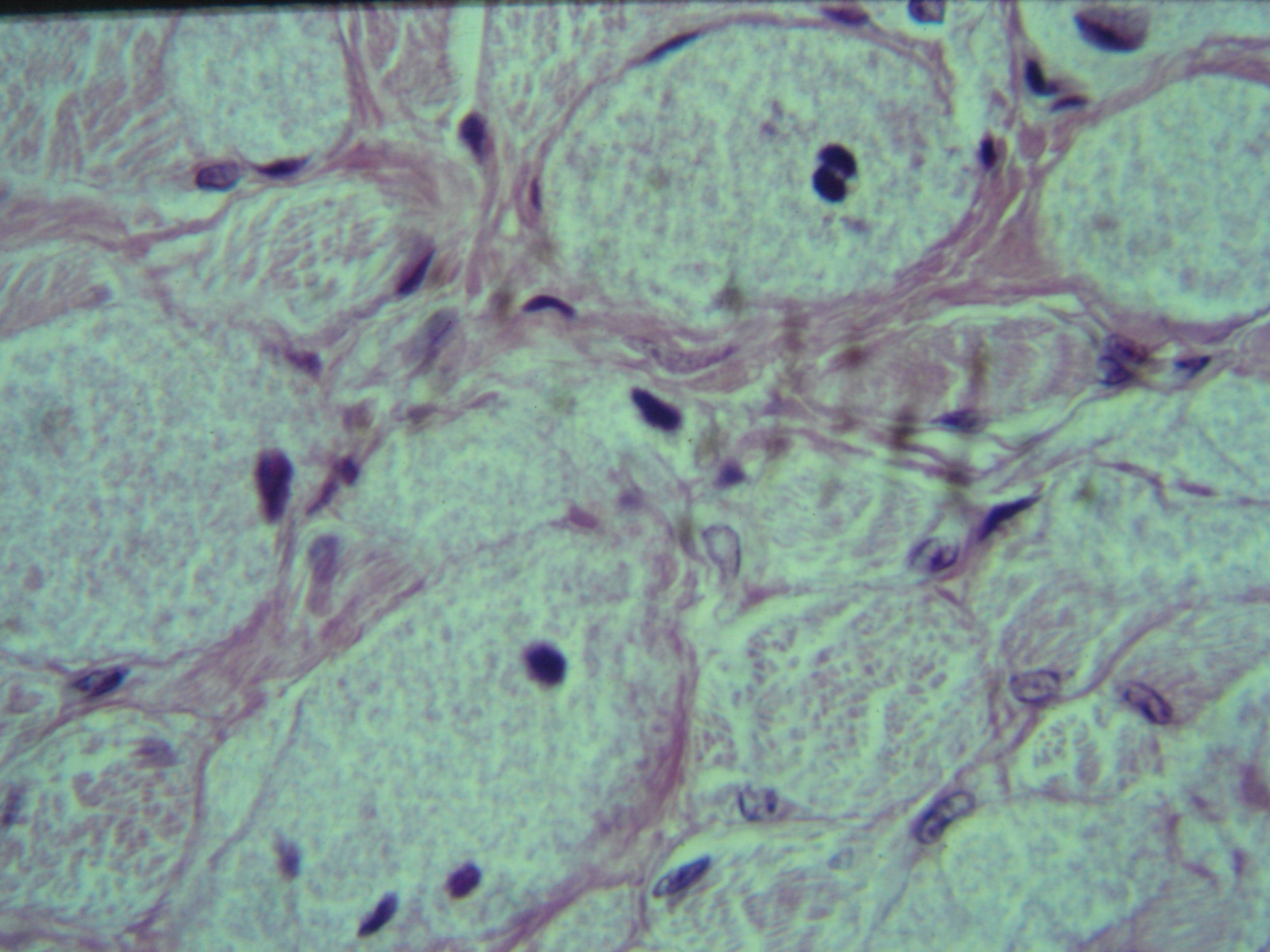
*Granular cell myoblastoma

*Congenital epulis of the newborn

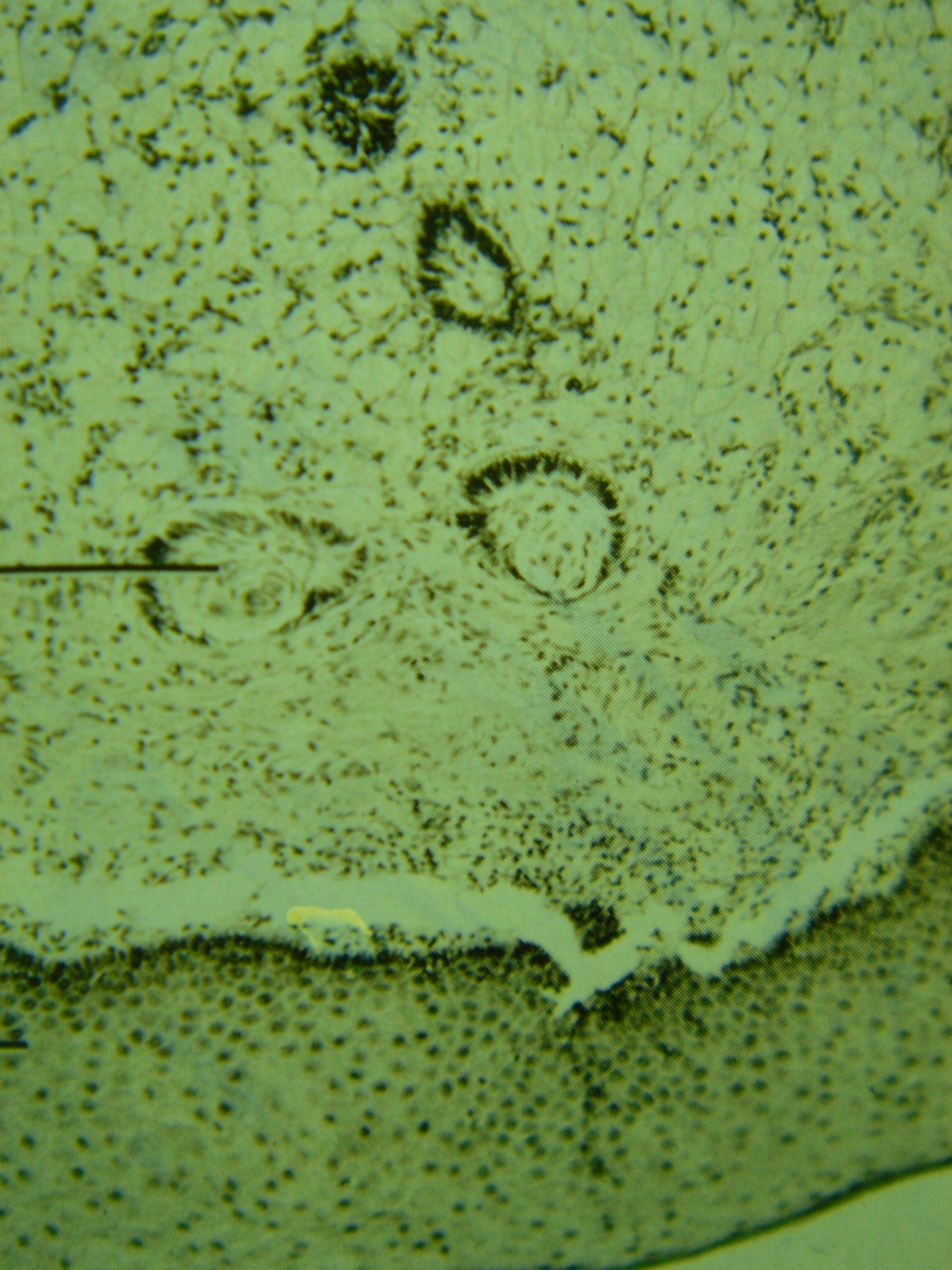












Rhabdomyoma:

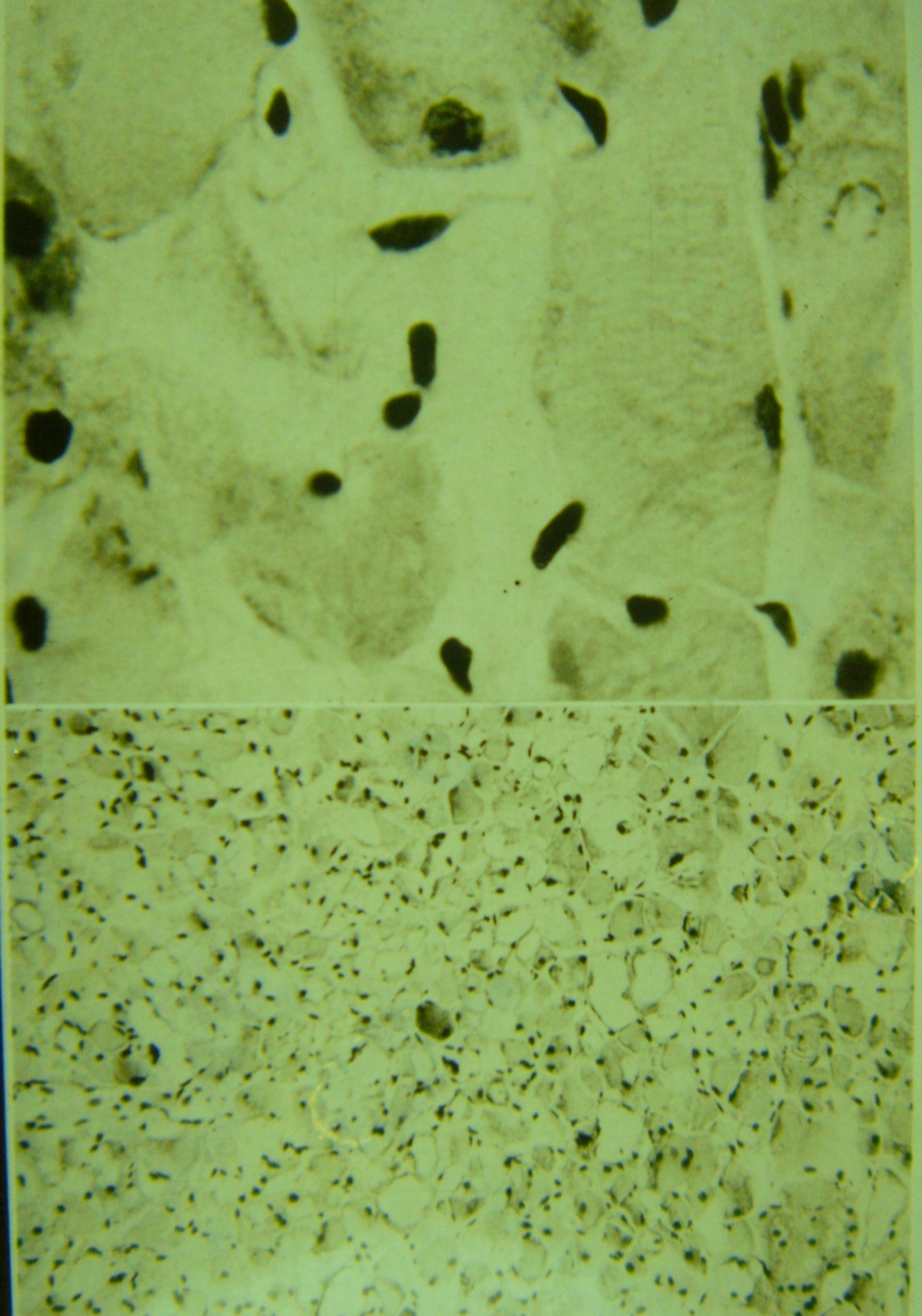
*painless masses

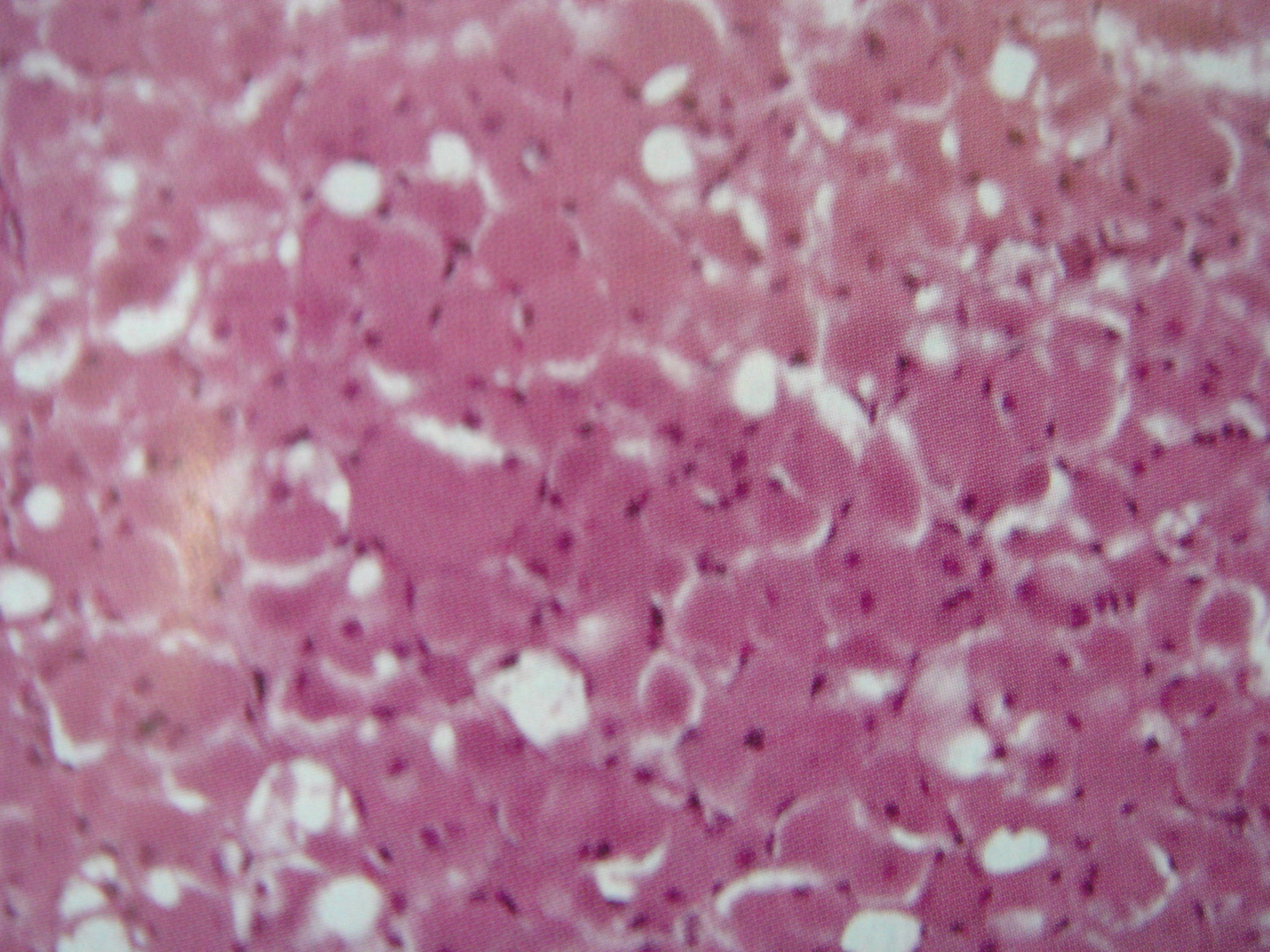
*duration:several years

*encapsulated or sharply circumscribed

*cytologic evidence of malignancy is absent

*cells resemble those of striated muscle
& granular cell myoblastoma
*cells are large, demonstrate cross striations
have granular, highly eosinophilic cytoplasm





*D.D. from granular cell myoblastoma in that

1. glycogen & glycoprotein may be observed in rhabdomyoma
2. granules of granular cell myoblastoma are fatty P.A.S.(+)

Neoplasms

Leiomyoma and Leiomyosarcoma

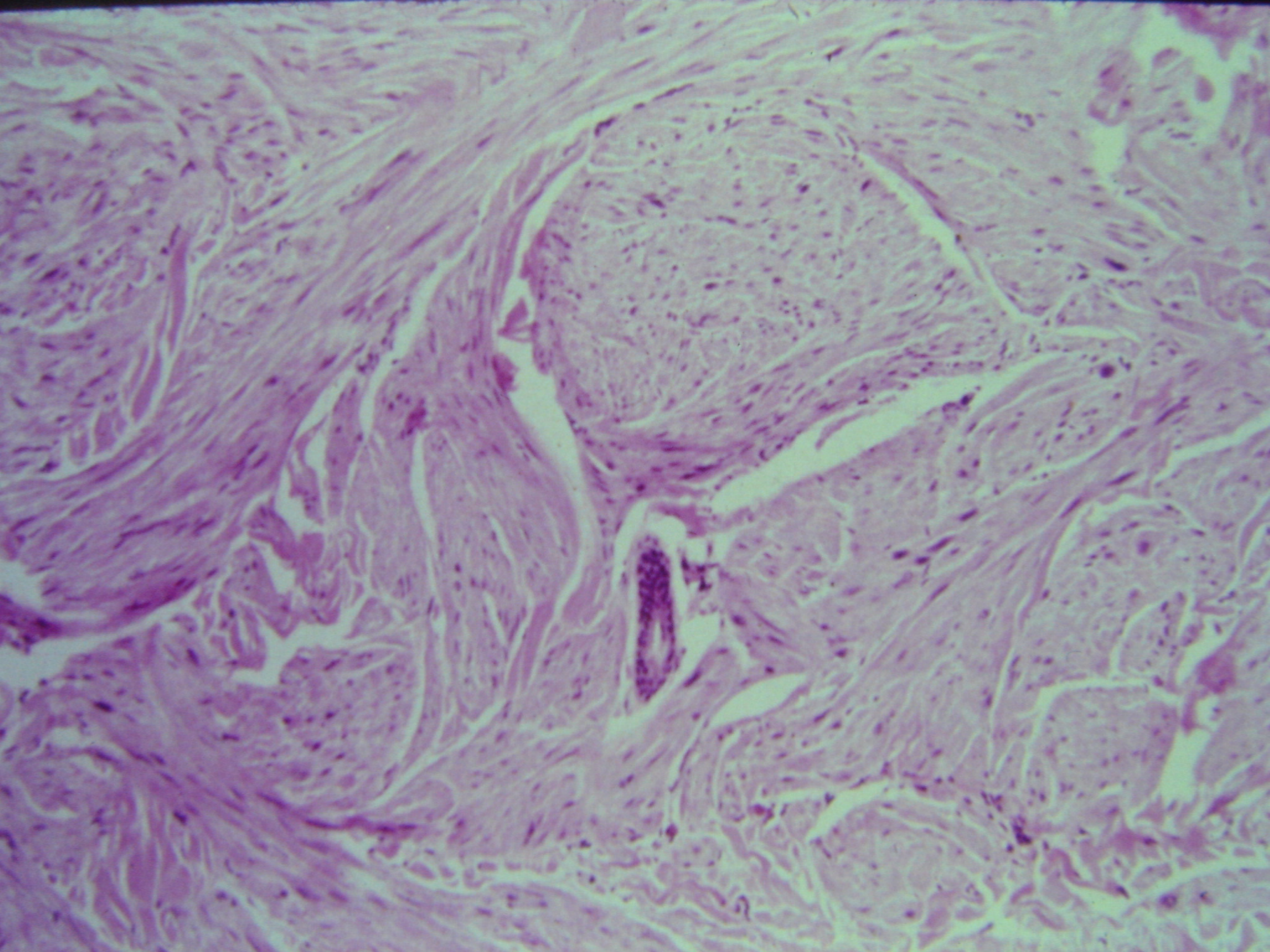
Smooth muscle neoplasms, in general, are relatively common. They may arise anywhere in the body from muscle cells or their precursors in the media of blood vessels, in the muscularis layer of the gut, and in the body of the uterus. In the oral cavity, these neoplasms are rarely encountered.

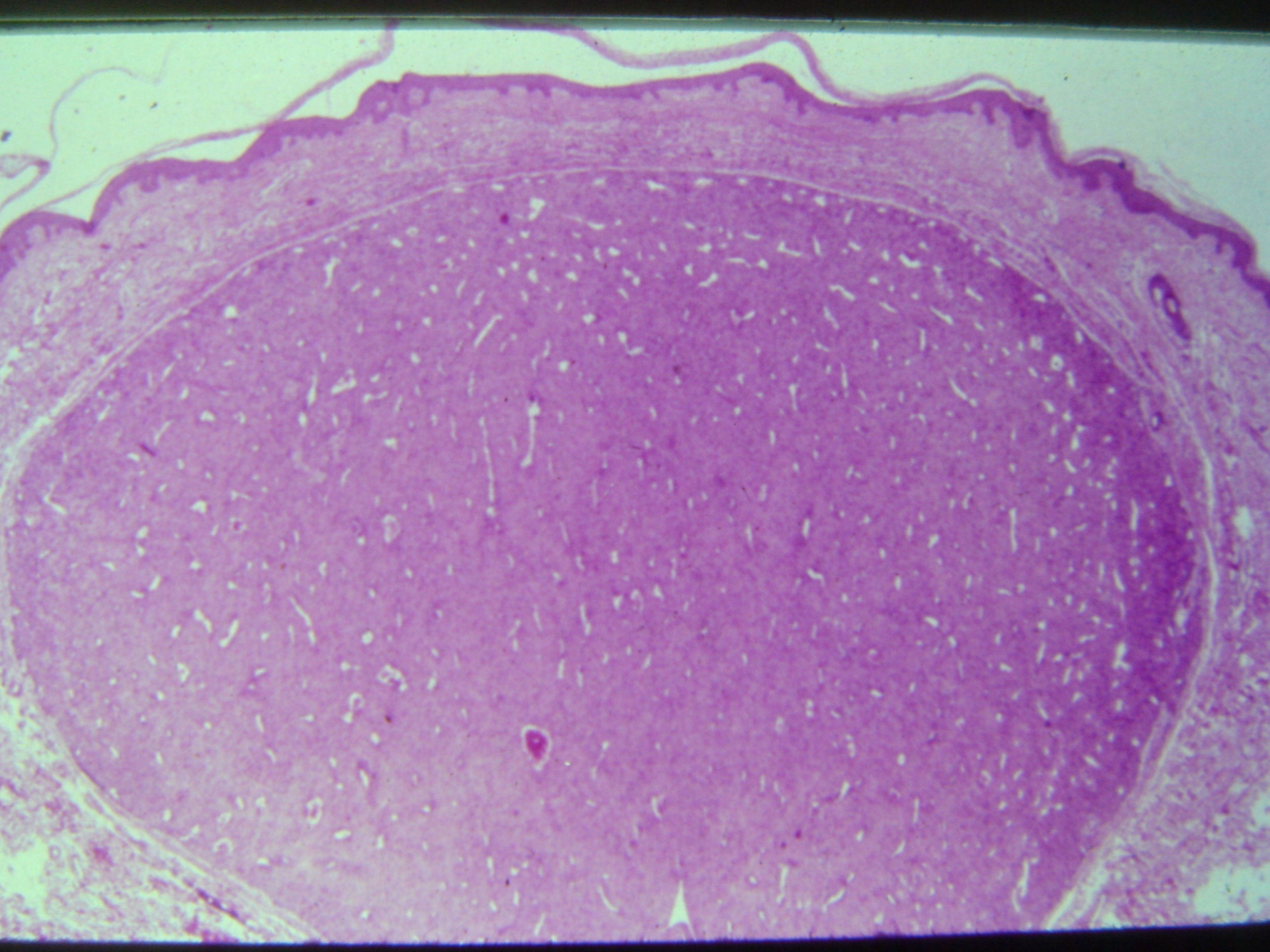
Oral *leiomyomas* present as slow-growing, asymptomatic submucosal masses, usually in the tongue, hard palate, or buccal mucosa. They may be seen at any age and are usually discovered when they are 1 to 2 cm in diameter.

Microscopic diagnosis may occasionally be difficult because the spindle cell proliferation has many similarities with neurofibroma, schwannoma, and fibromatosis (Fig. 7–39). Special stains that identify collagen may be helpful in distinguishing these lesions. Ultrastructural demonstration of myofilaments and immunohistochemical staining of desmin-type

intermediate filaments or actin and myosin antigens may also be useful in establishing a definitive diagnosis. A microscopic subtype known as *vascular leiomyoma* has numerous thick-walled vessels associated with well-differentiated smooth muscle cells. Leiomyomas are surgically excised, and recurrence is unexpected.

Oral *leiomyosarcomas* have been reported in all age groups and most intraoral regions. Microscopic diagnosis is a considerable challenge because of similarities to other spindle cell sarcomas. As with the benign neoplasms, electron microscopy and immunohistochemistry can be valuable diagnostic tools. This malignancy is usually treated with wide surgical excision. Metastasis to lymph nodes or lung is not uncommon.





MALIGNANT TUMORS OF MUSCLE TISSUE

ORIGIN

*Leiomyosarcoma

*Rhabdomyosarcoma

*Alveolar soft-part sarcoma

Rhabdomyosarcoma

*malignant tumor of voluntary muscle
(70 cases reported since 1854)

*frequent site-head & neck

*affected oral lesion:tongue, soft palate,
hard palate, buccal mucosa

*characteristically present as rapid growin

*painless masses in children & young adult

*mean age:20

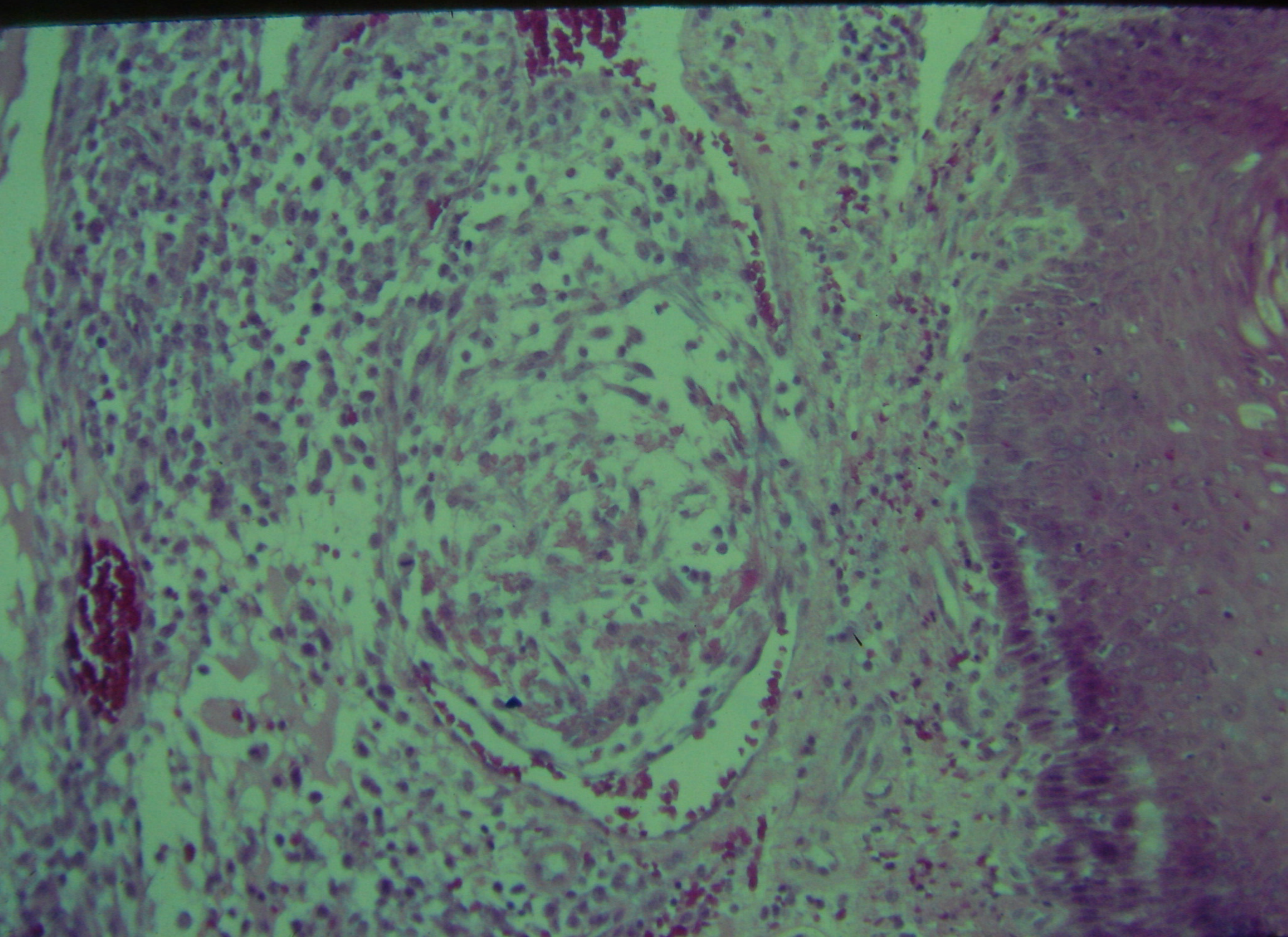
*male:female=1.5:1

*duration of symptoms:1-6 months

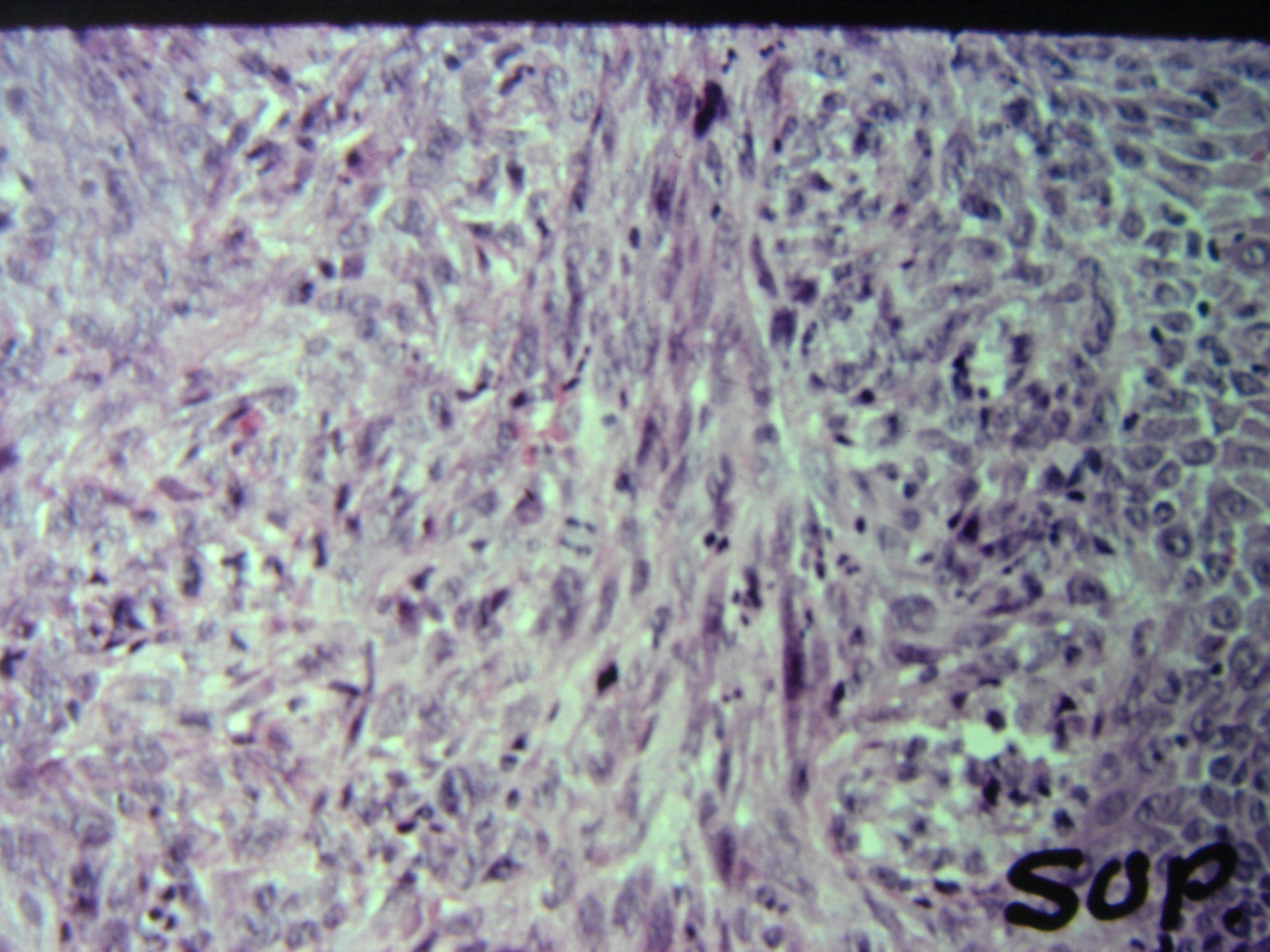
*except botryoid form, there is no gross feature in clinical diagnosis

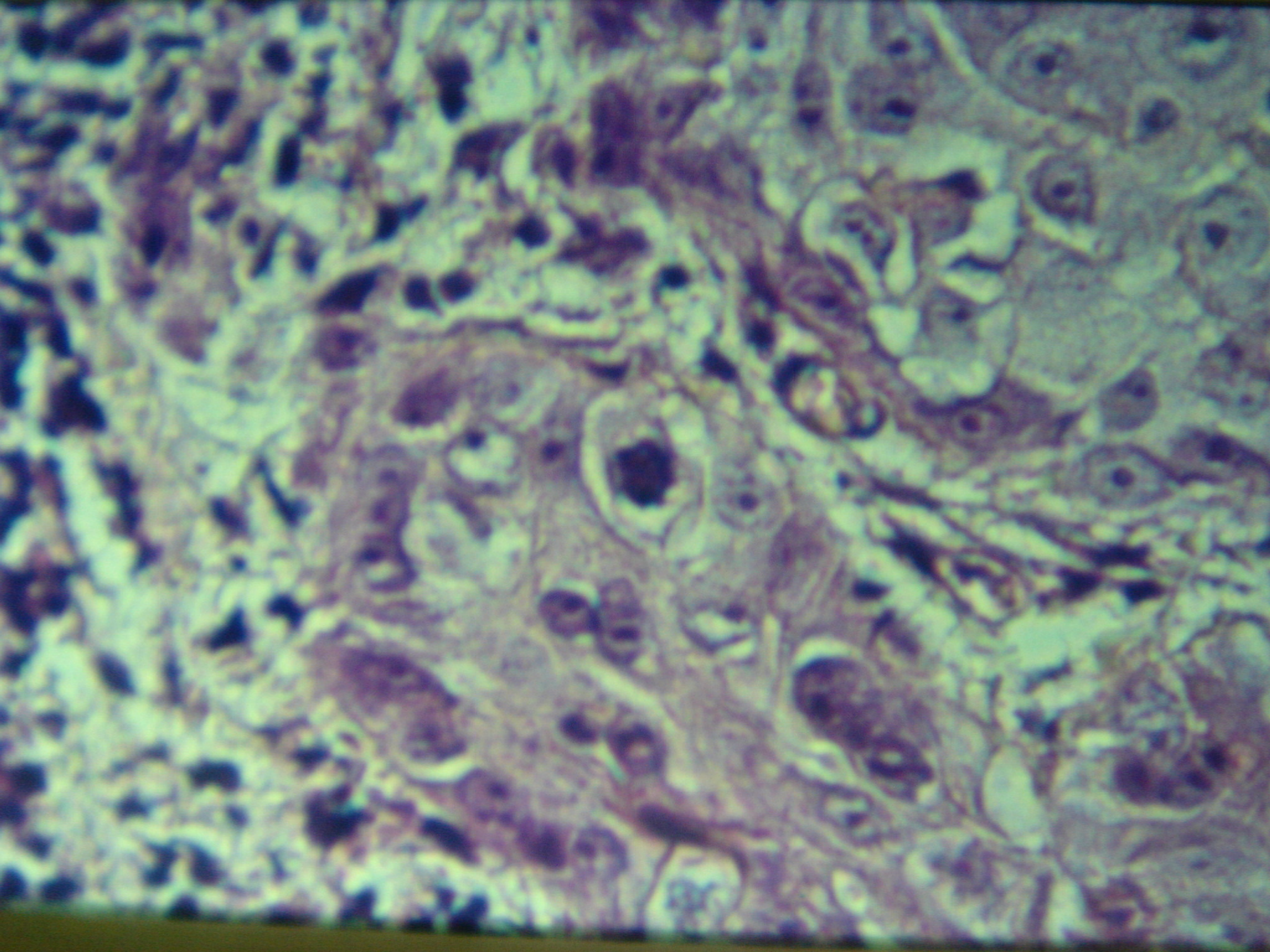









sup



Microscopic divide 4 types:

1. alveolar

2. pleomorphic

3. embryonal

4. botyroid

*Many these tumor demonstrate combination of histomorphologic types

*The majority of these tumors are type 3

*Myomatous cytoplasm,finely granular & eosinophilic

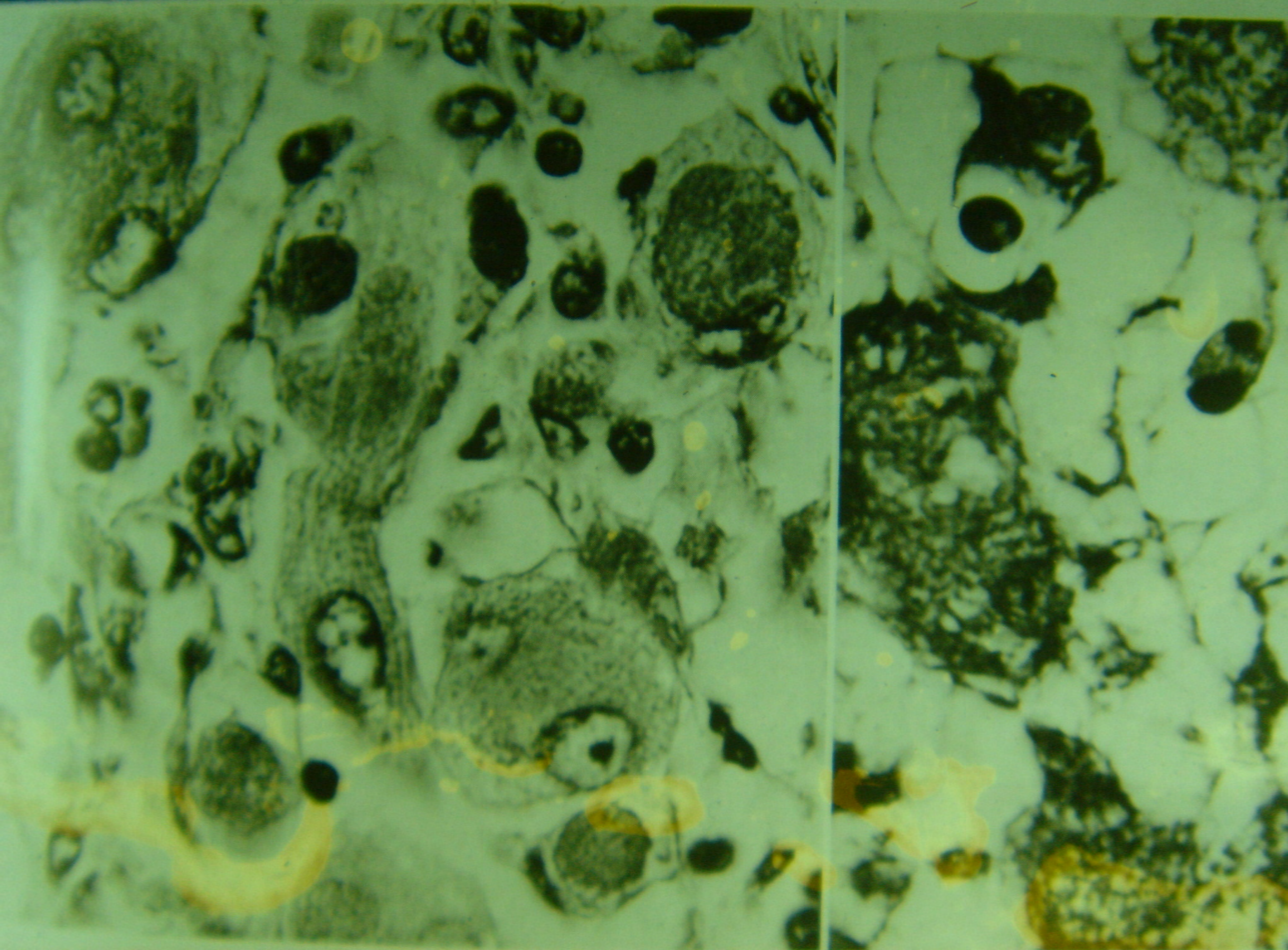
Fig. 20.50. Rhabdomyosarcoma.

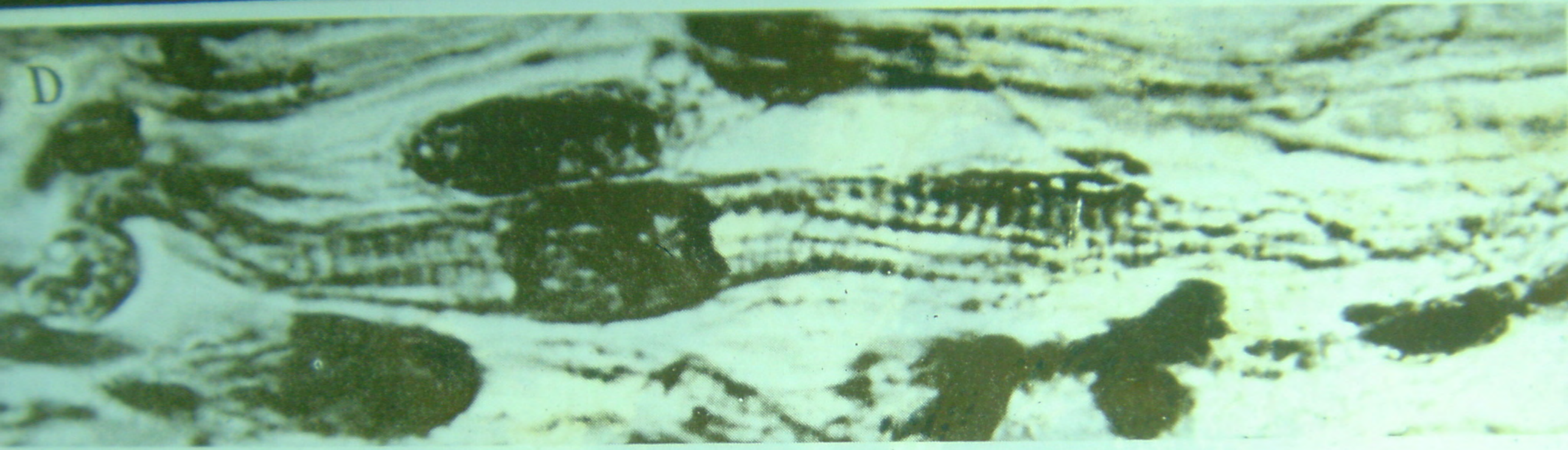
Fig. 20.51. Embryonal rhabdomyosarcoma. Lesion from thorax of 5-year-old girl.

Fig. 20.52. Alveolar rhabdomyosarcoma.

*Fasciculation & cross striations also afford evidence of muscle cell derivation

*Giant tumor cells, with giant or multiple nuclei, myomatous cytoplasm & bizarre shapes suggest muscle cell differentiation




D

Prognosis

1. 25% or fewer of p't with R.S. survive for 5 years
2. after treatment, metastasis of oral examples by lymphatic & blood vessels occurs to lymph nodes, lung, bones, brain & the other side

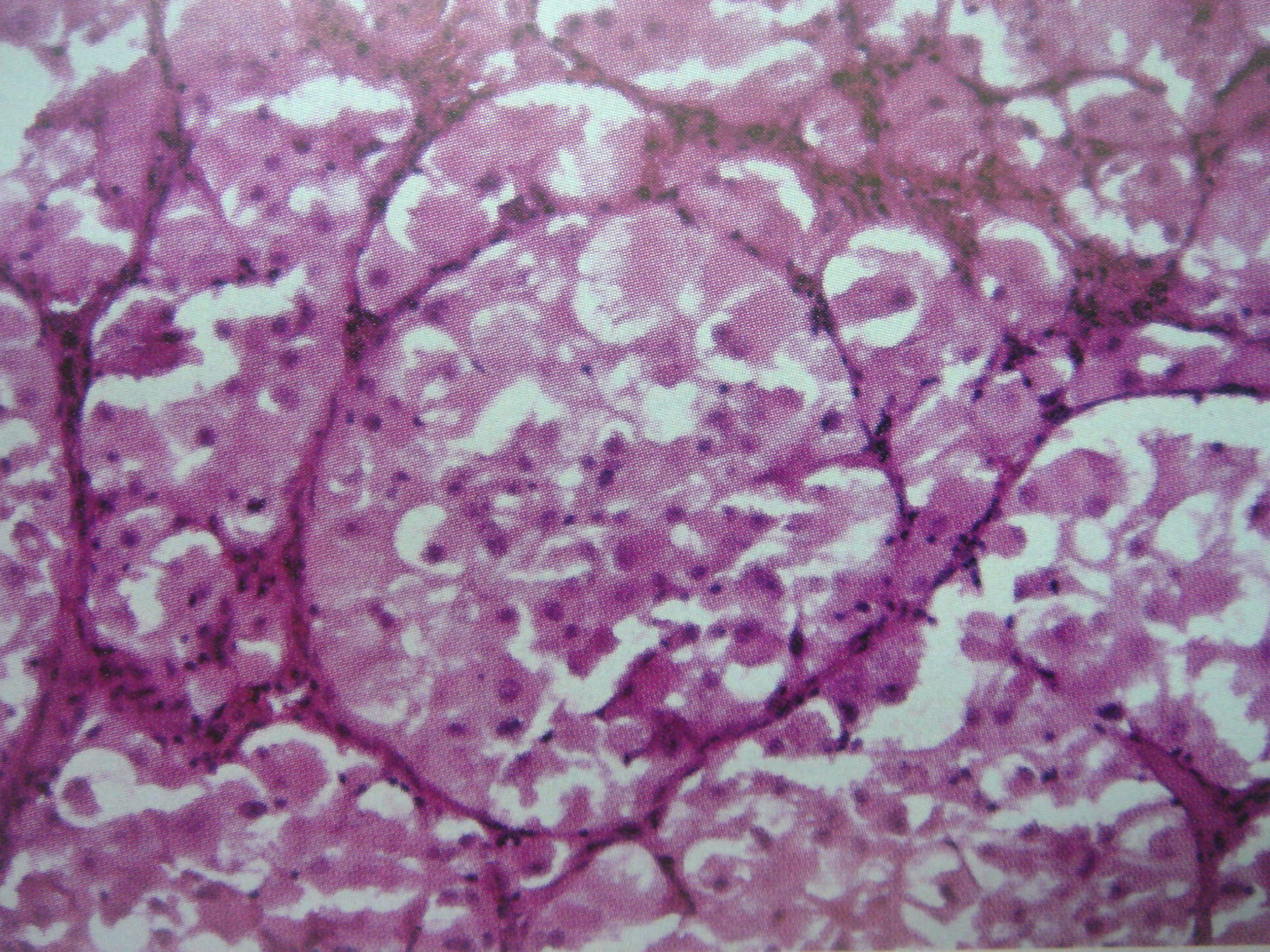
to 38% because of the high rate of late metastases.

ALVEOLAR SOFT-PART SARCOMA

The **alveolar soft-part sarcoma** is a rare neoplasm o uncertain histogenesis. About 25% of all cases occur in the head and neck.

Clinical Features

The alveolar soft-part sarcoma is usually a slow-growing, painless mass. The tumor is most common in young adults and children. In adults, the lower extremity is the



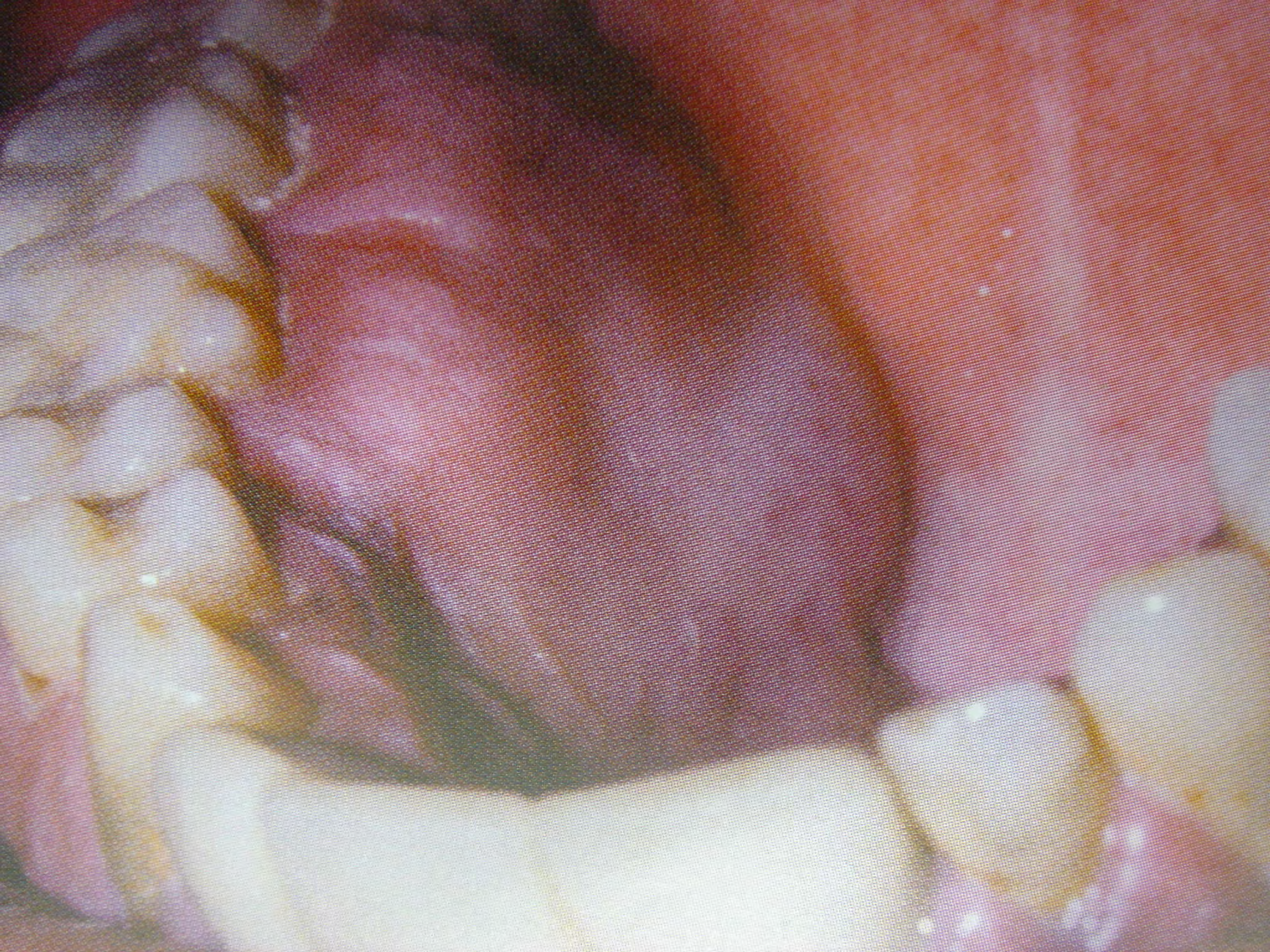
of bone be considered potentially malignant.

OSTEOSARCOMA (OSTEOGENIC SARCOMA)

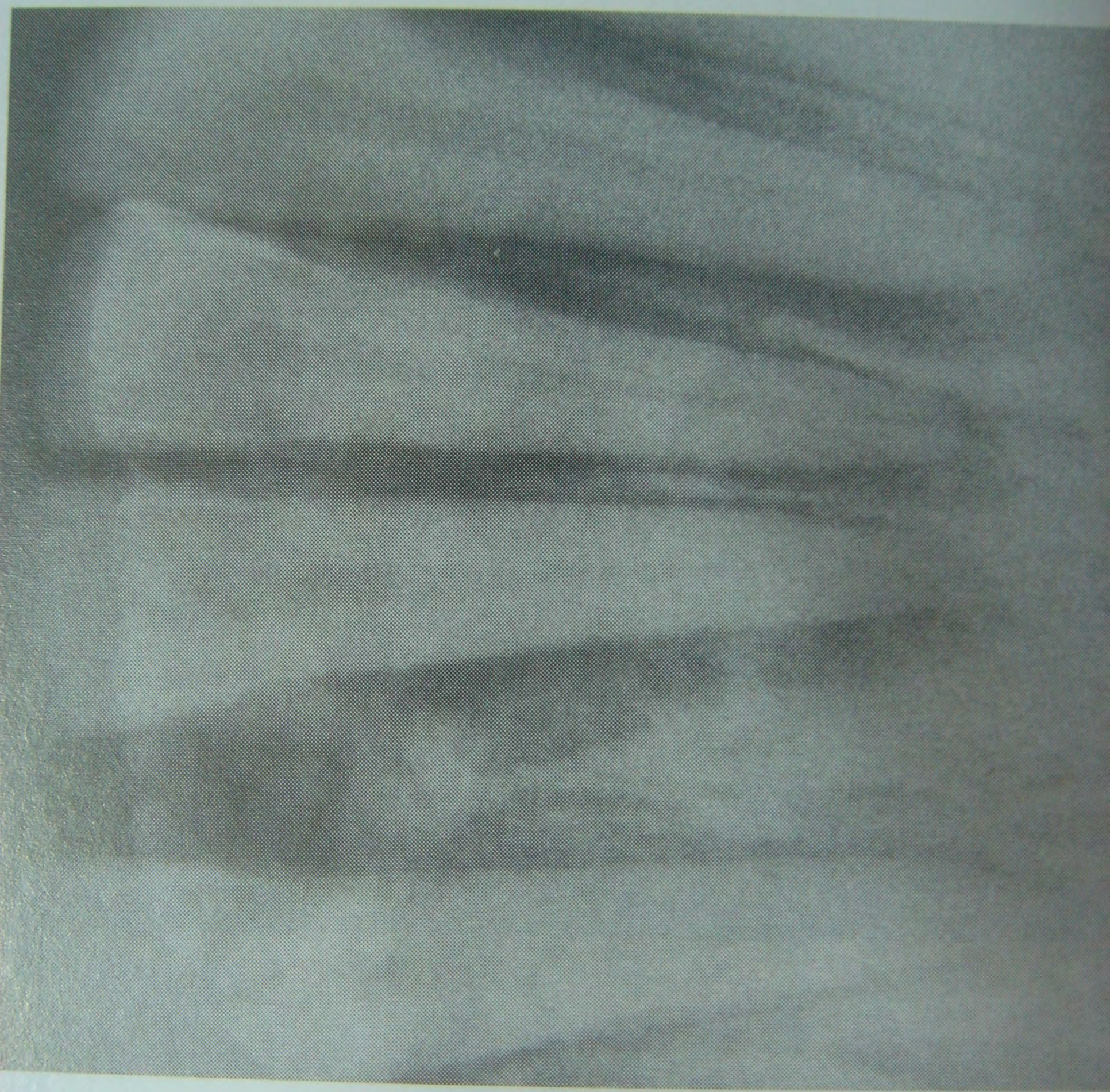
Osteosarcoma is a malignancy of mesenchymal cells that have the ability to produce osteoid or immature bone. Excluding hematopoietic neoplasms, osteosarcoma is the most common type of malignancy to originate within bone. The majority of osteosarcomas demonstrate intramedullary origin, but a small number may be juxtacortical (discussed in the following section) or rarely extraskeletal.

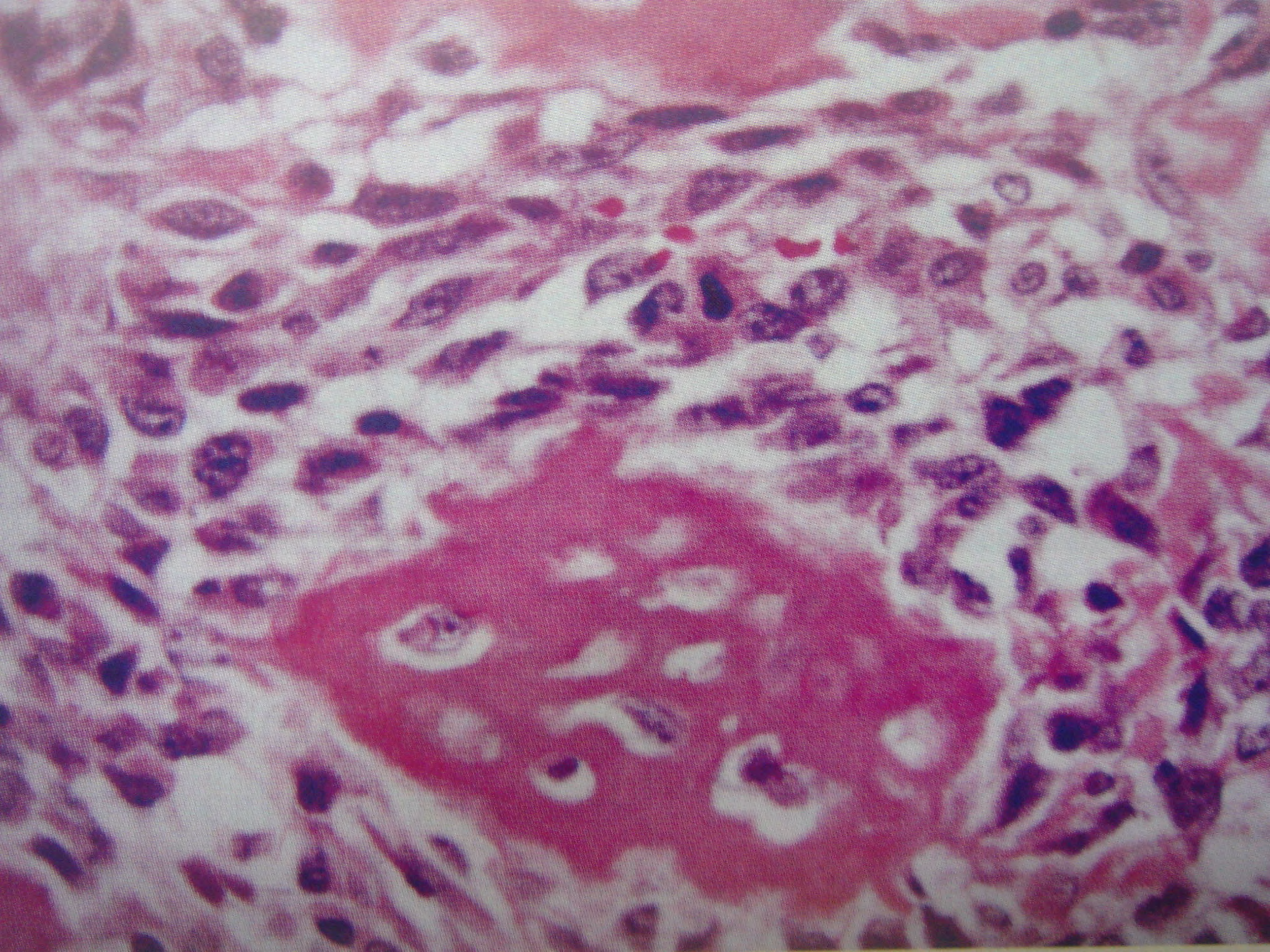
Clinical and Radiographic Features

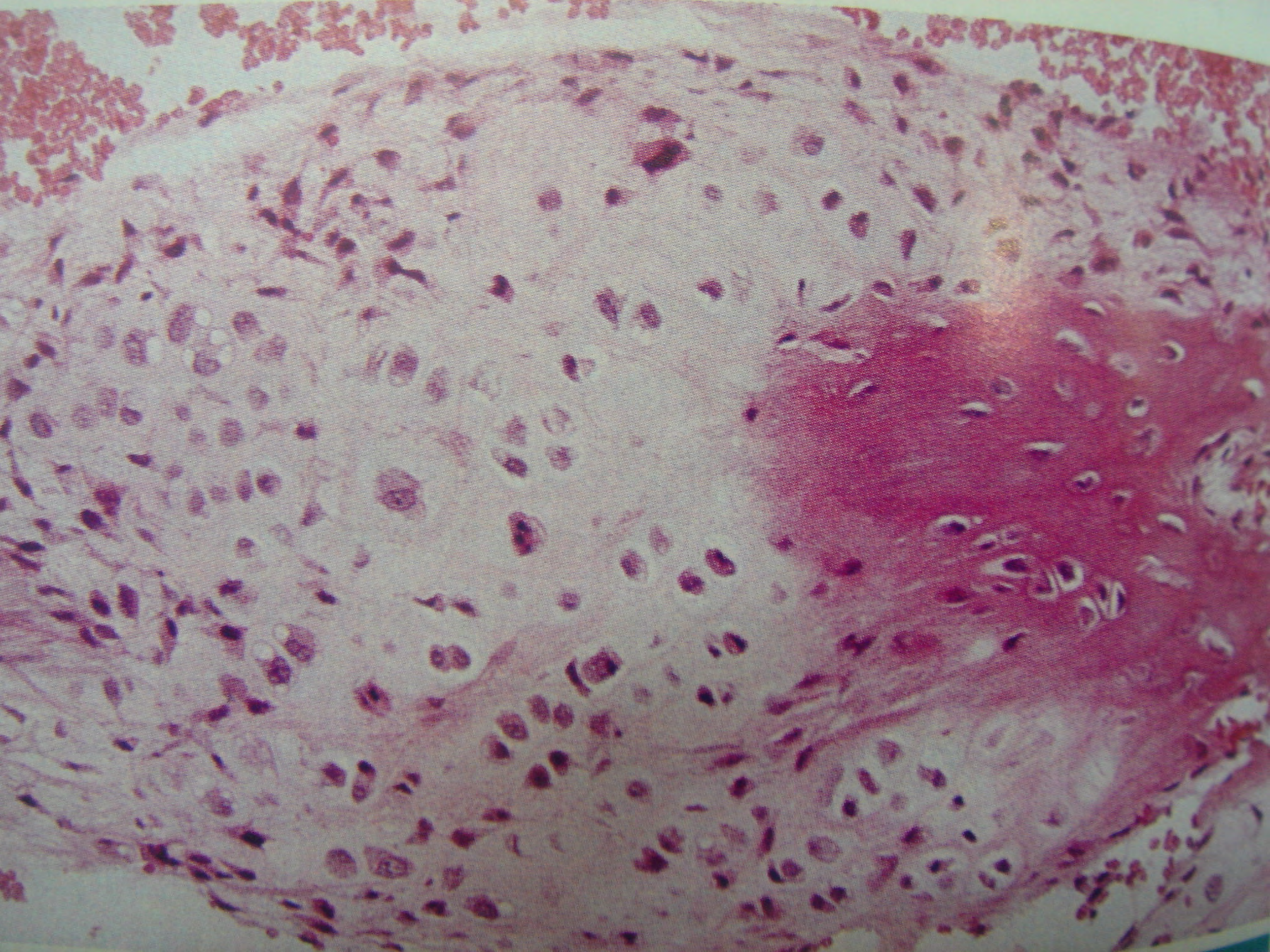
Extragnathic osteosarcoma demonstrates a bimodal age distribution. Most arise in patients between the ages of 10 and 20 years, with a lesser number diagnosed in adults







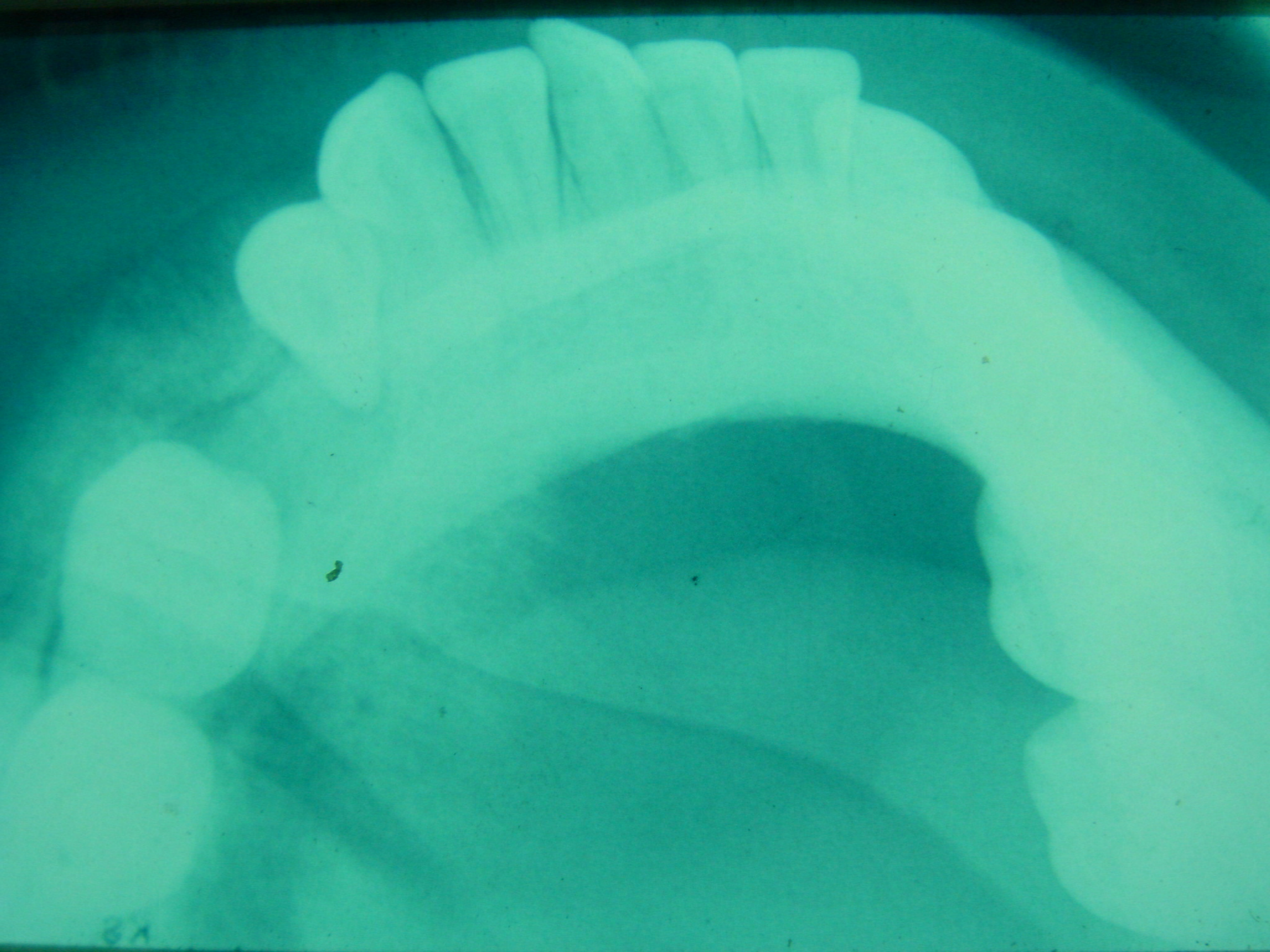


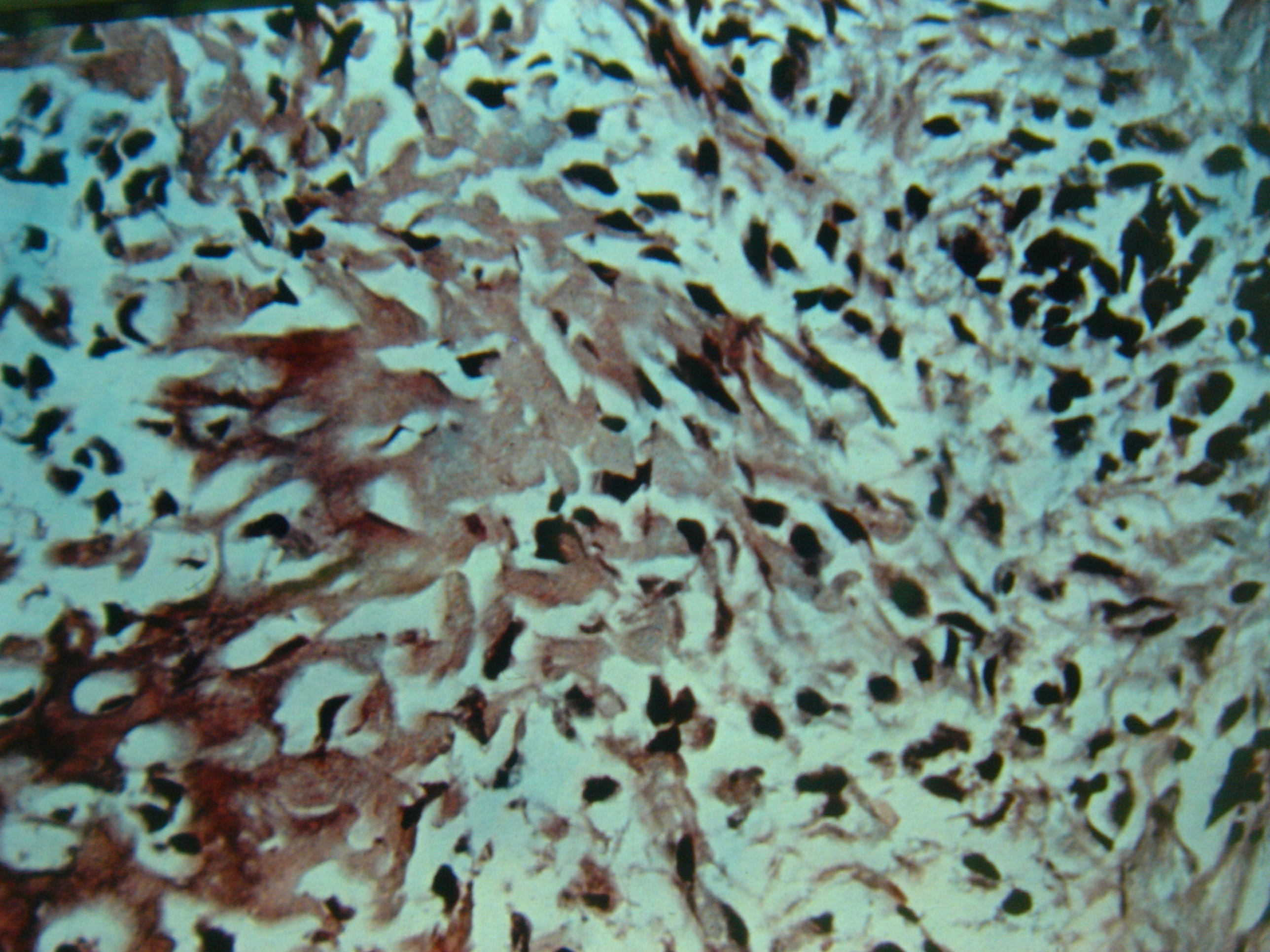


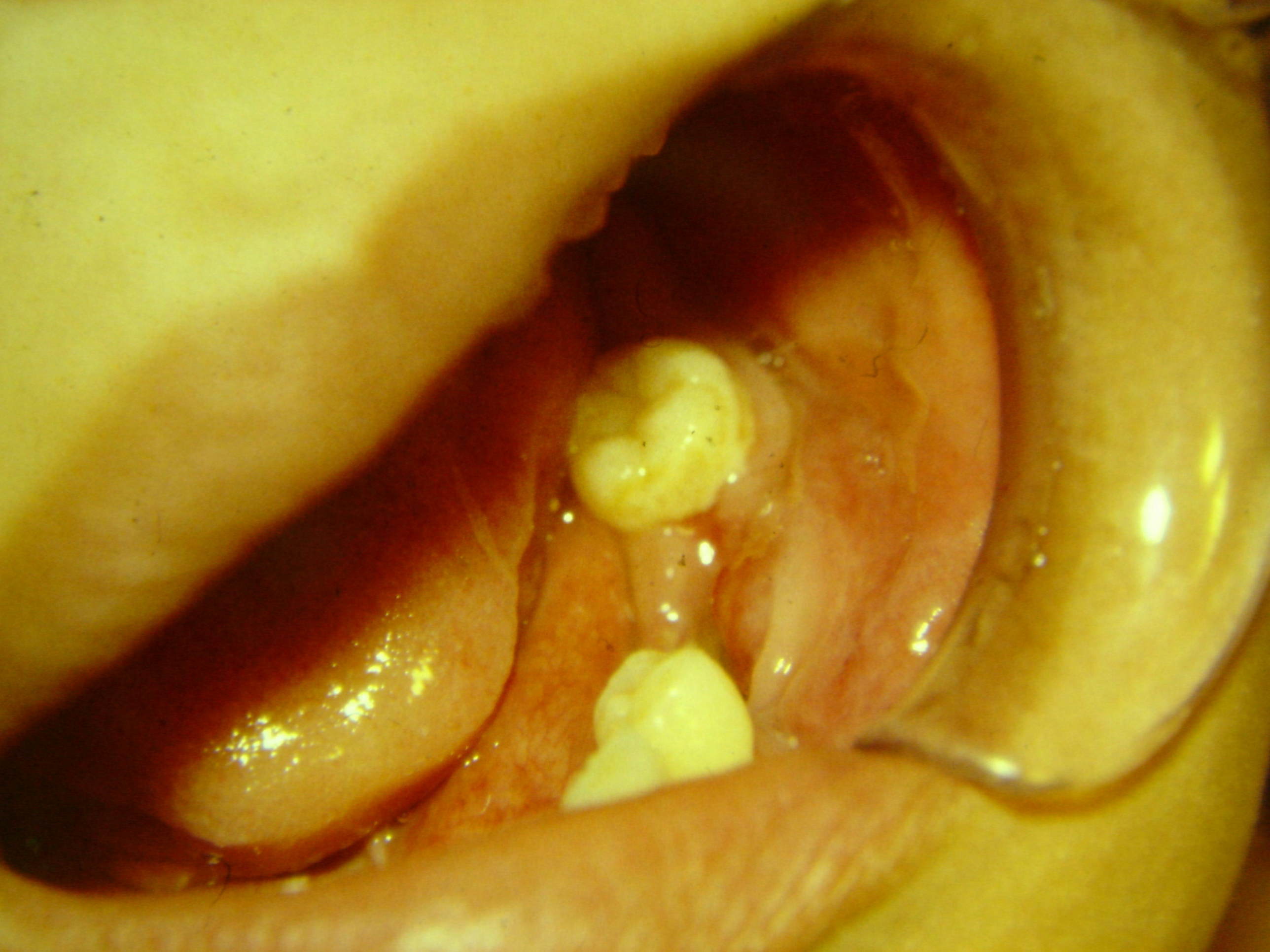


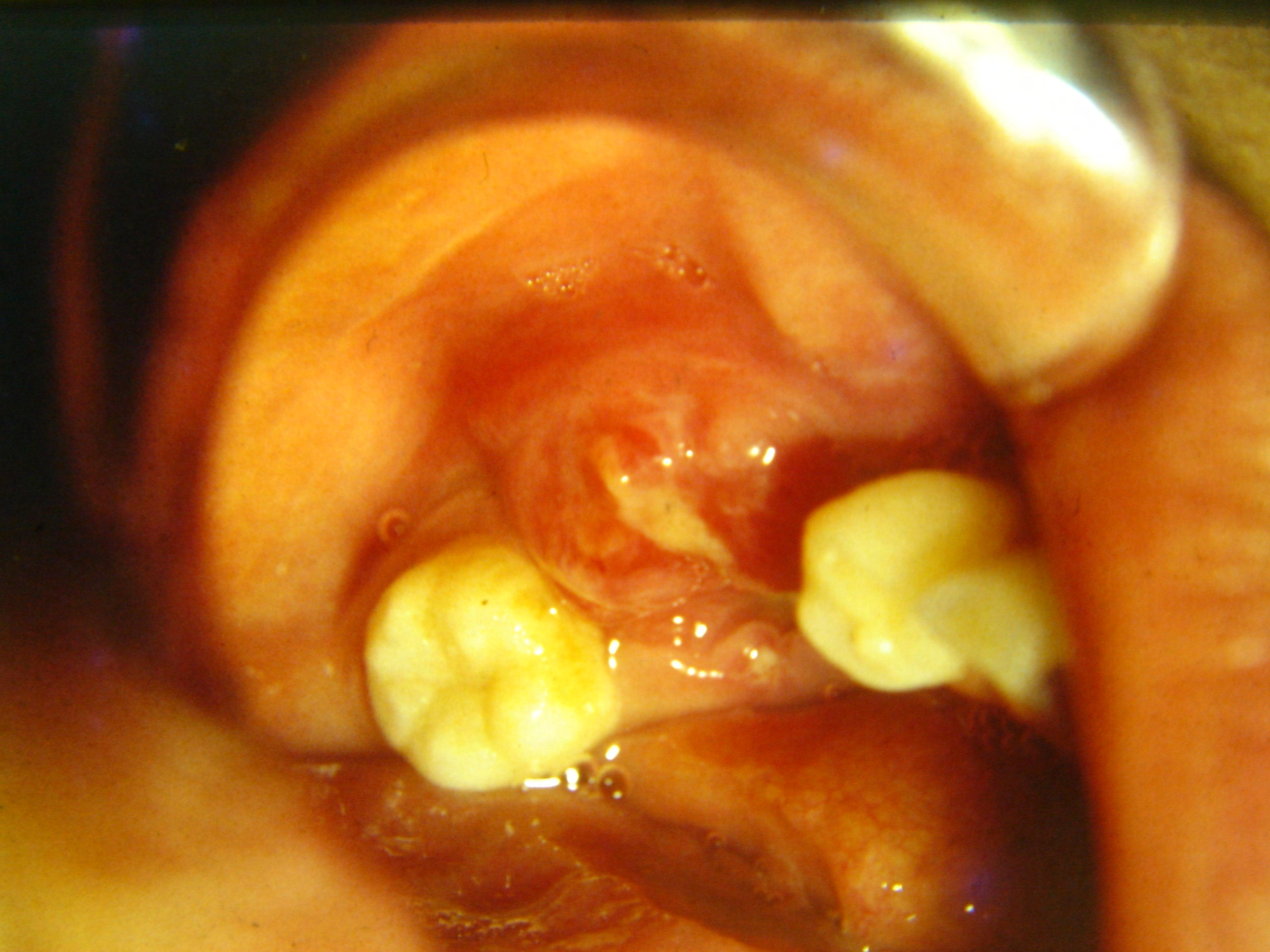
余
43

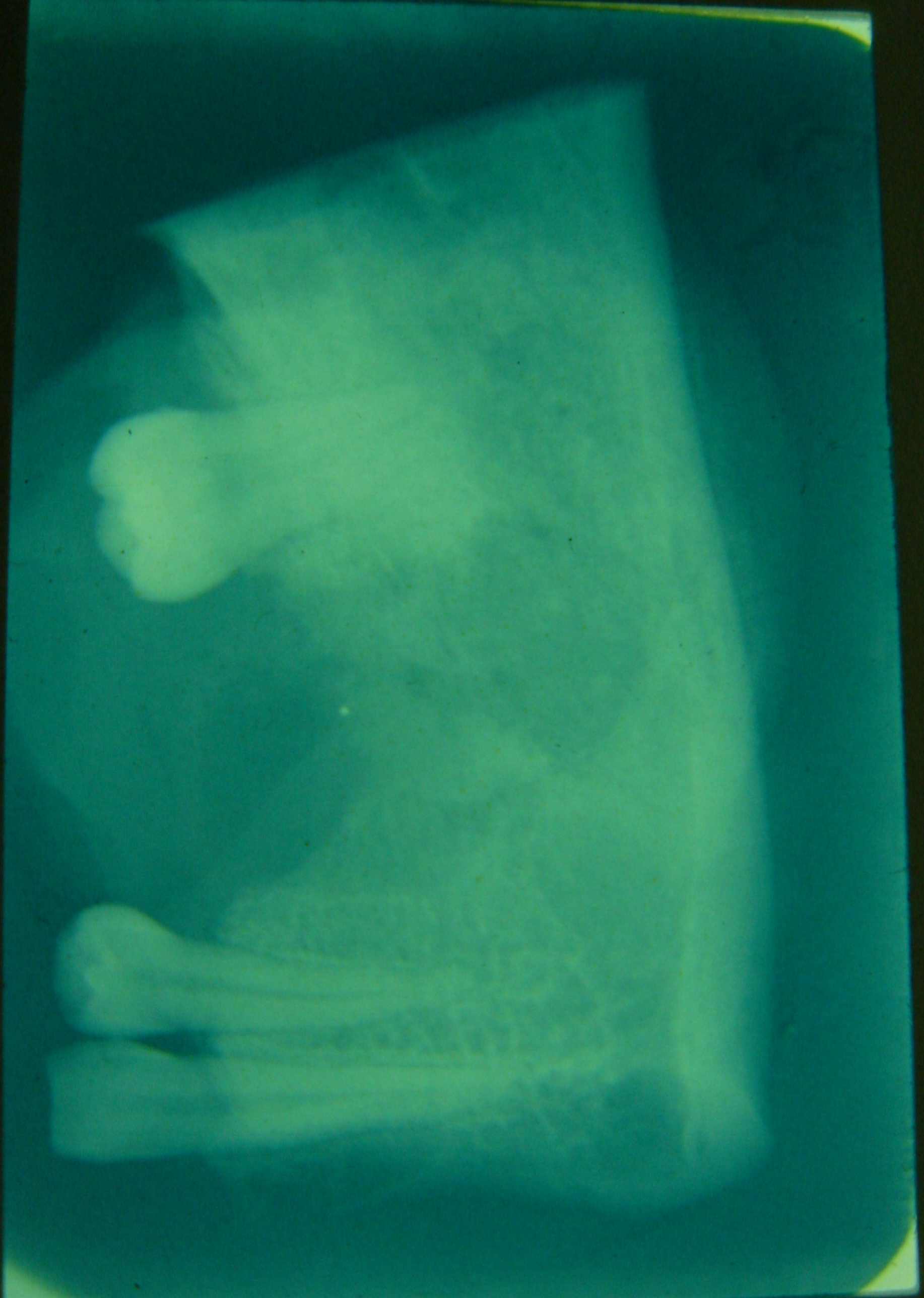













5
6
7
8

80-2657







Figure 16.75 • Osteosarcoma. Occlusal radiograph demon-

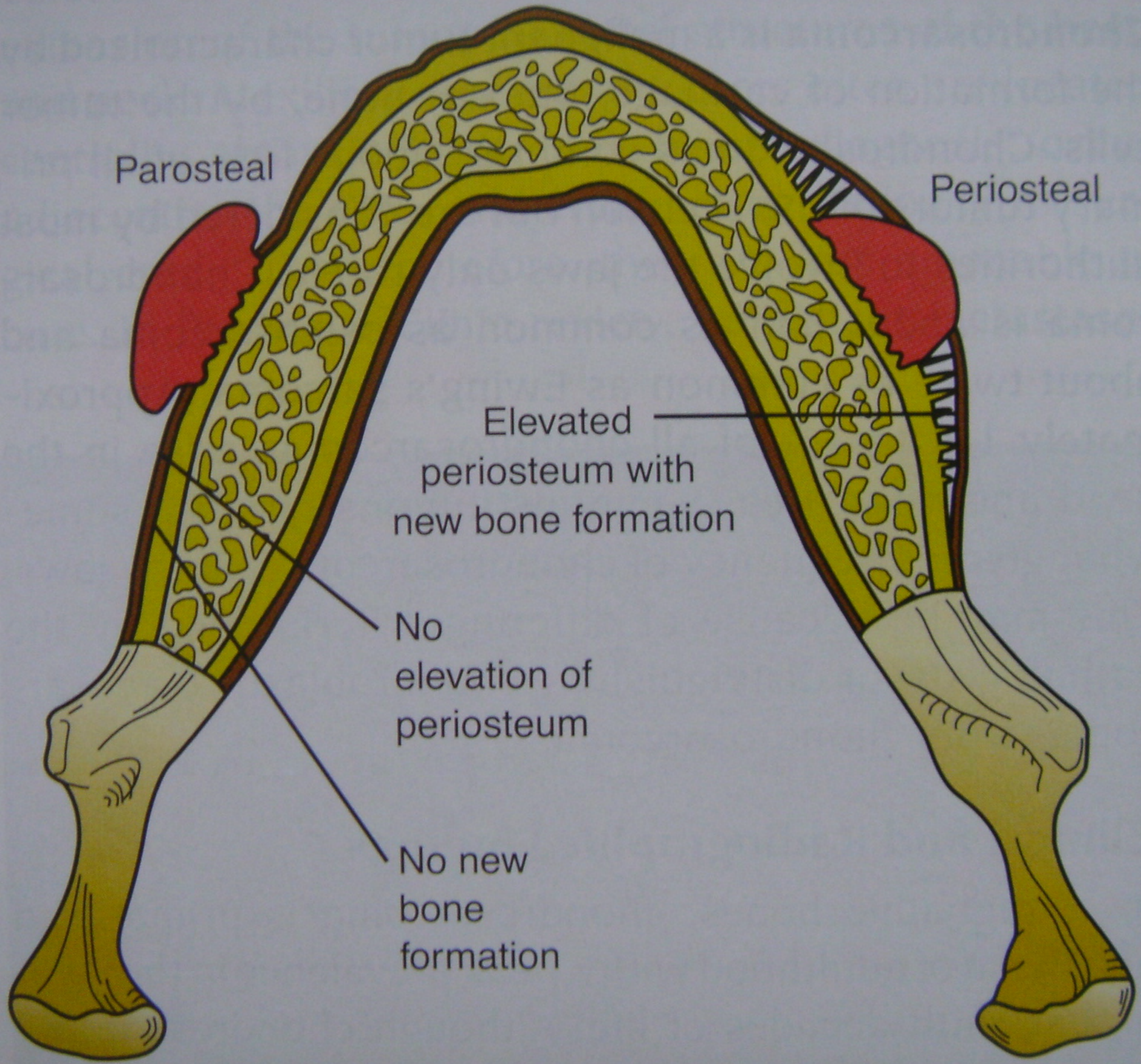


Figure 14-79 • Peripheral (juxtacortical) osteosarcoma.





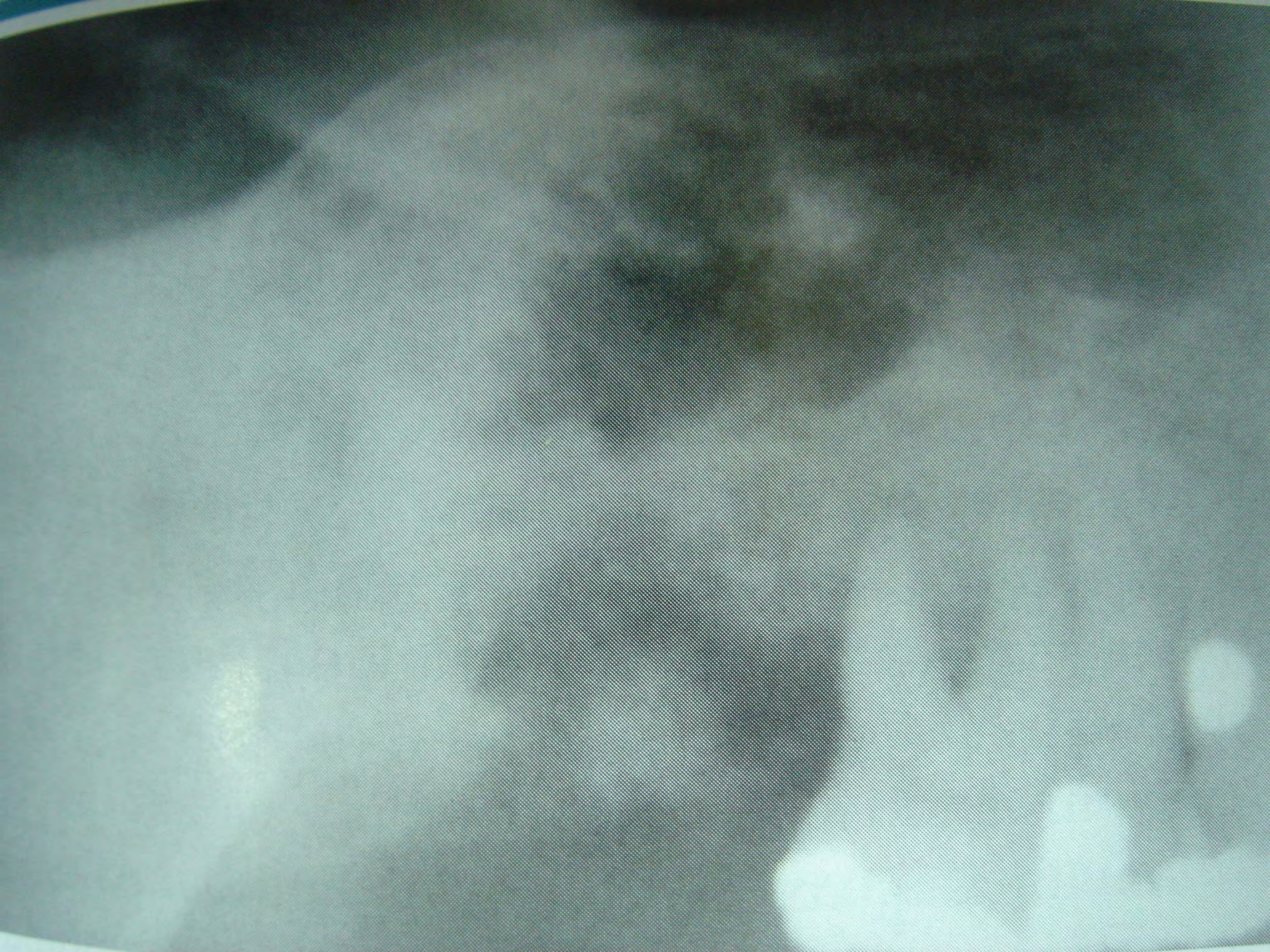
POSTIRRADIATION BONE SARCOMA

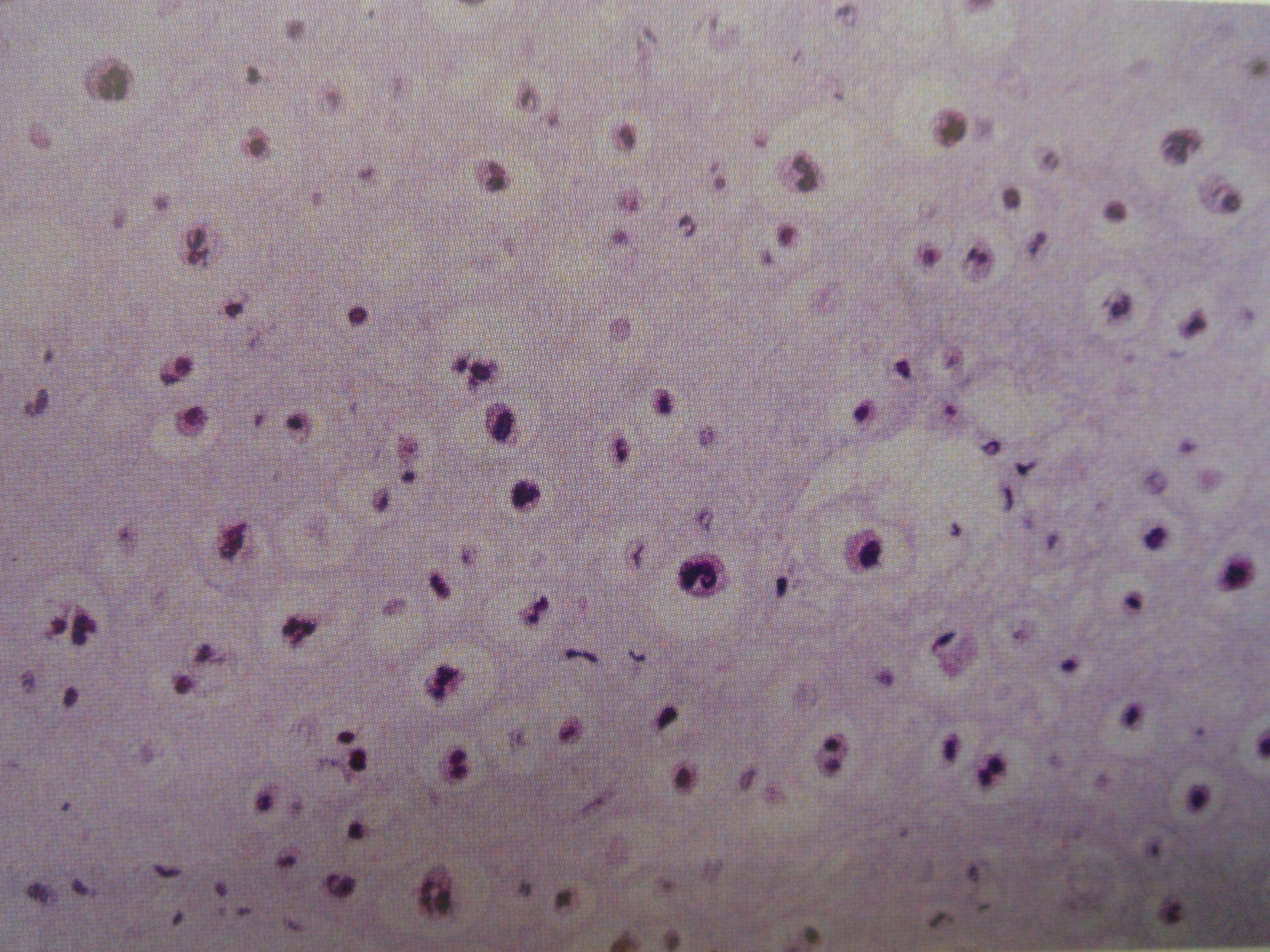
Sarcoma arising in a bone that has been previously subjected to radiation therapy is a well-recognized phenomenon. The jaws are situated closely to tissues that commonly receive therapeutic radiation and are a common site for postirradiation bone sarcomas. Postirradiation sarcomas may develop as early as 3 years after radiation, but the average latent period is about 14 years. The frequency of development of sarcoma is related to radiation dose. Postirradiation sarcoma develops in about 0.2% of patients receiving 7000 cGy (rad); there is no increased prevalence of sarcoma for those receiving less than 1000 cGy.

Osteosarcoma is the most common type of postirra-

CHONDROSARCOMA

Chondrosarcoma is a malignant tumor characterized by the formation of cartilage, but not bone, by the tumor cells. Chondrosarcomas comprise about 10% of all primary tumors of the skeleton but are considered by most authorities to involve the jaws only rarely. Chondrosarcoma is about half as common as osteosarcoma and about twice as common as Ewing's sarcoma. Approximately 1% to 3% of all chondrosarcomas arise in the head and neck area. Some institutions report a somewhat greater frequency of chondrosarcomas in the jaws. This may be because of differing criteria used by the pathologists for distinguishing chondroblastic osteosarcomas from chondrosarcomas.





Ewing's sarcoma

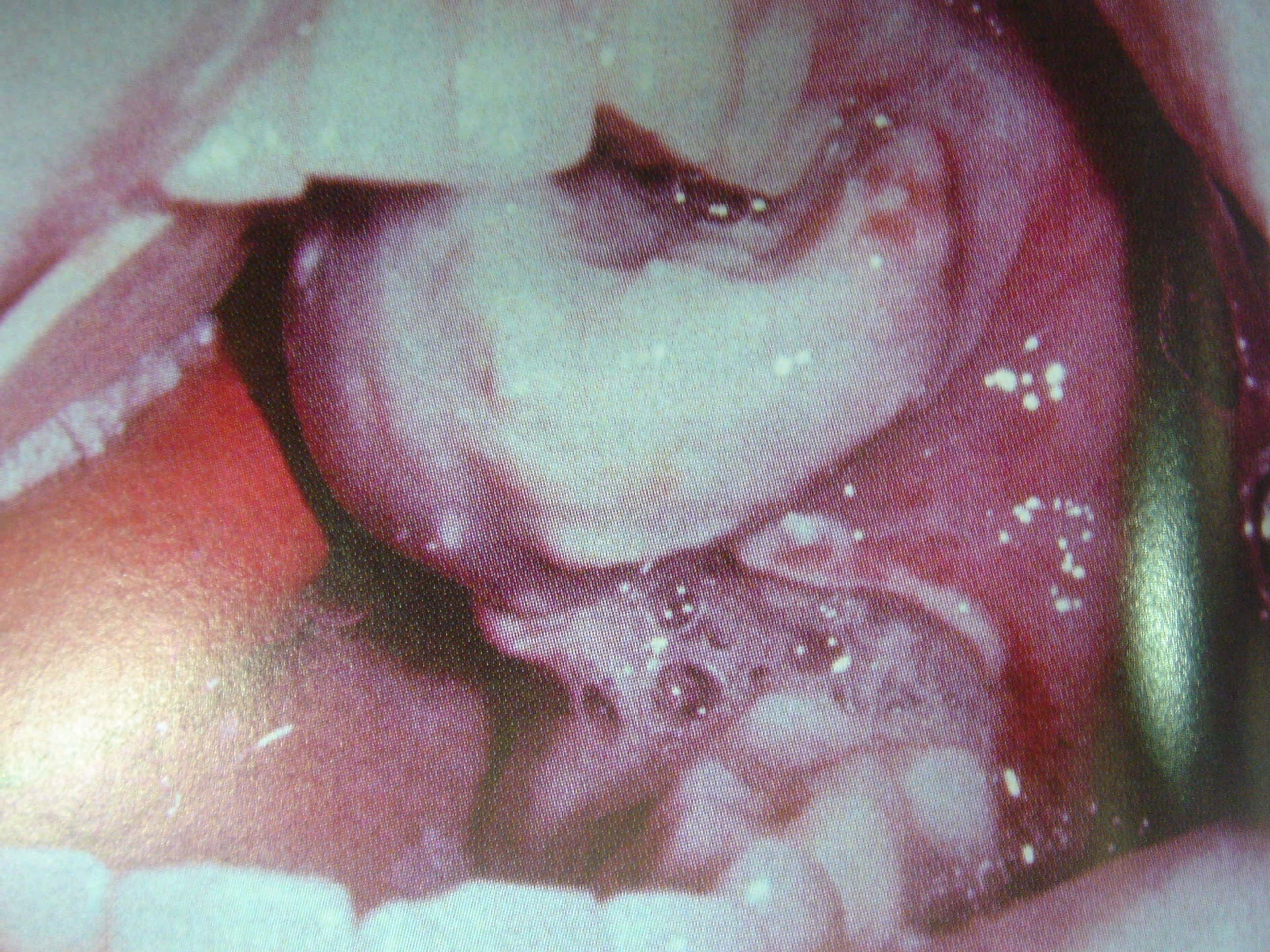
EWING'S SARCOMA

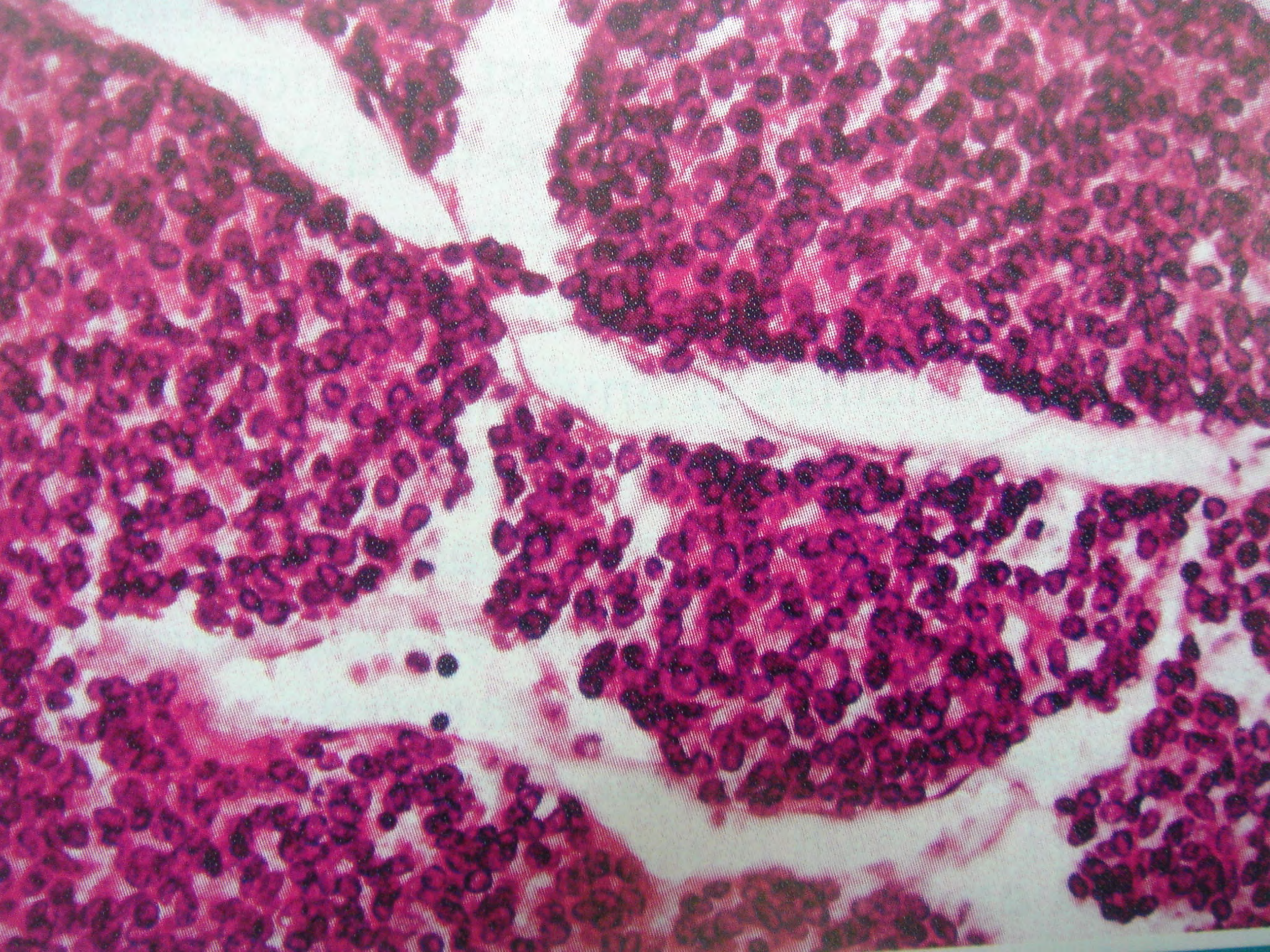
Ewing's sarcoma is a distinctive primary malignant tumor of bone that is composed of small undifferentiated round cells of uncertain histogenesis. Recent studies have provided data showing that most cases of Ewing's sarcoma exhibit features consistent with neuroectodermal origin. In 85% to 90% of the cases, the tumor cells demonstrate a reciprocal translocation between chromosomes 11 and 22 [t(11;22) (q24;q12)]. Ewing's sarcoma constitutes 6% to 8% of all primary malignant bone tumors and represents the third most common osseous neoplasm after osteosarcoma and chondrosarcoma. In addition, extraskeletal examples have been well documented.

lesions.

Histopathologic Features

Ewing's sarcoma is composed of small round cells with well-delineated nuclear outlines and ill-defined cellular borders (Figure 14-85). The tumor cells often are arranged in broad sheets without any distinct pattern. In some cases, variable-sized nests of tumor cells are separated by fibrovascular septa, creating a lobular pattern. Large areas of necrosis and hemorrhage are commonly present. Ewing's sarcomas are not as morphologically homogeneous as once was believed. Some examples contain foci or may be composed mostly of larger cells. These are designated as **large cell (atypical) Ewing's sarcomas.**



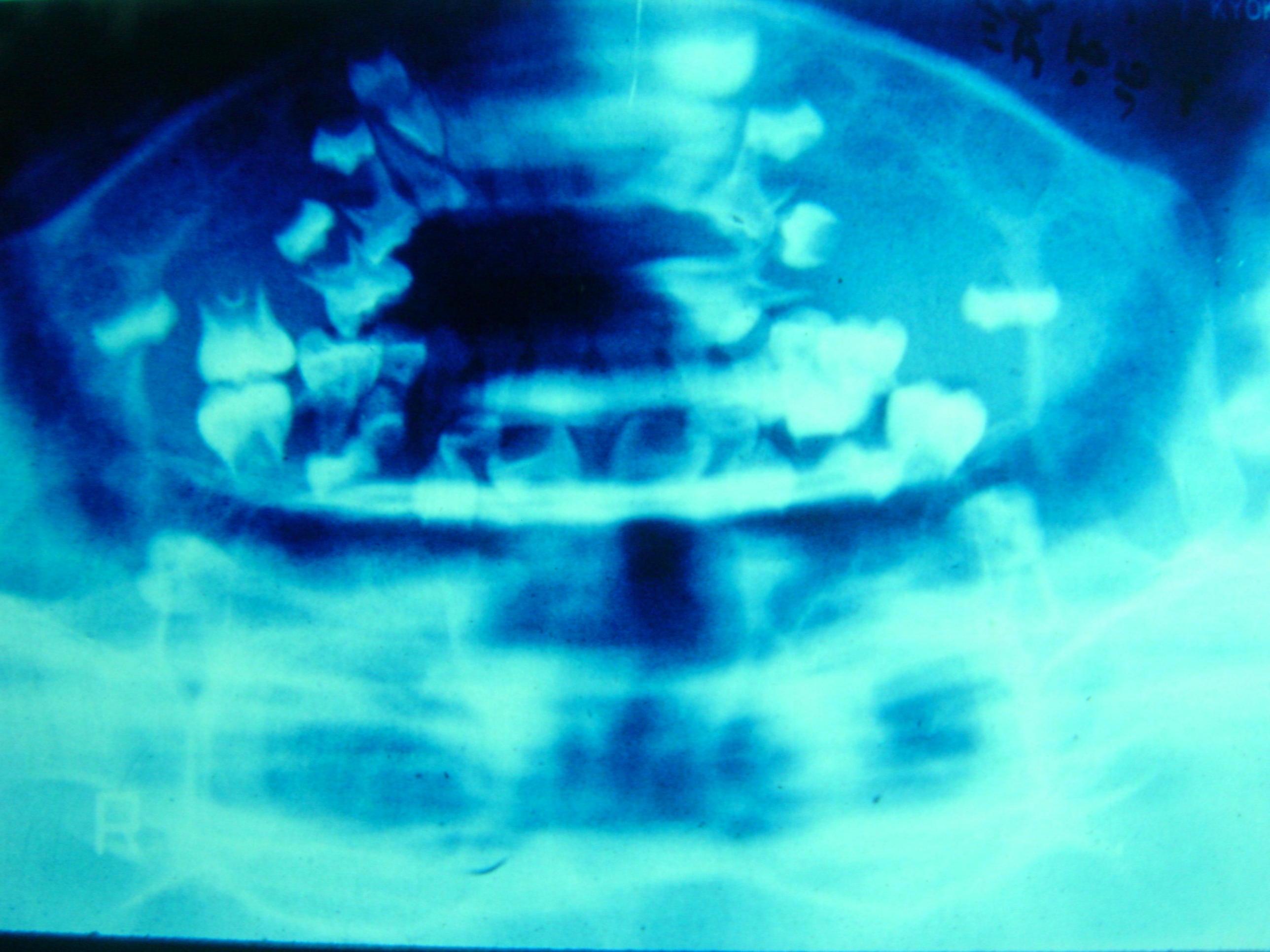


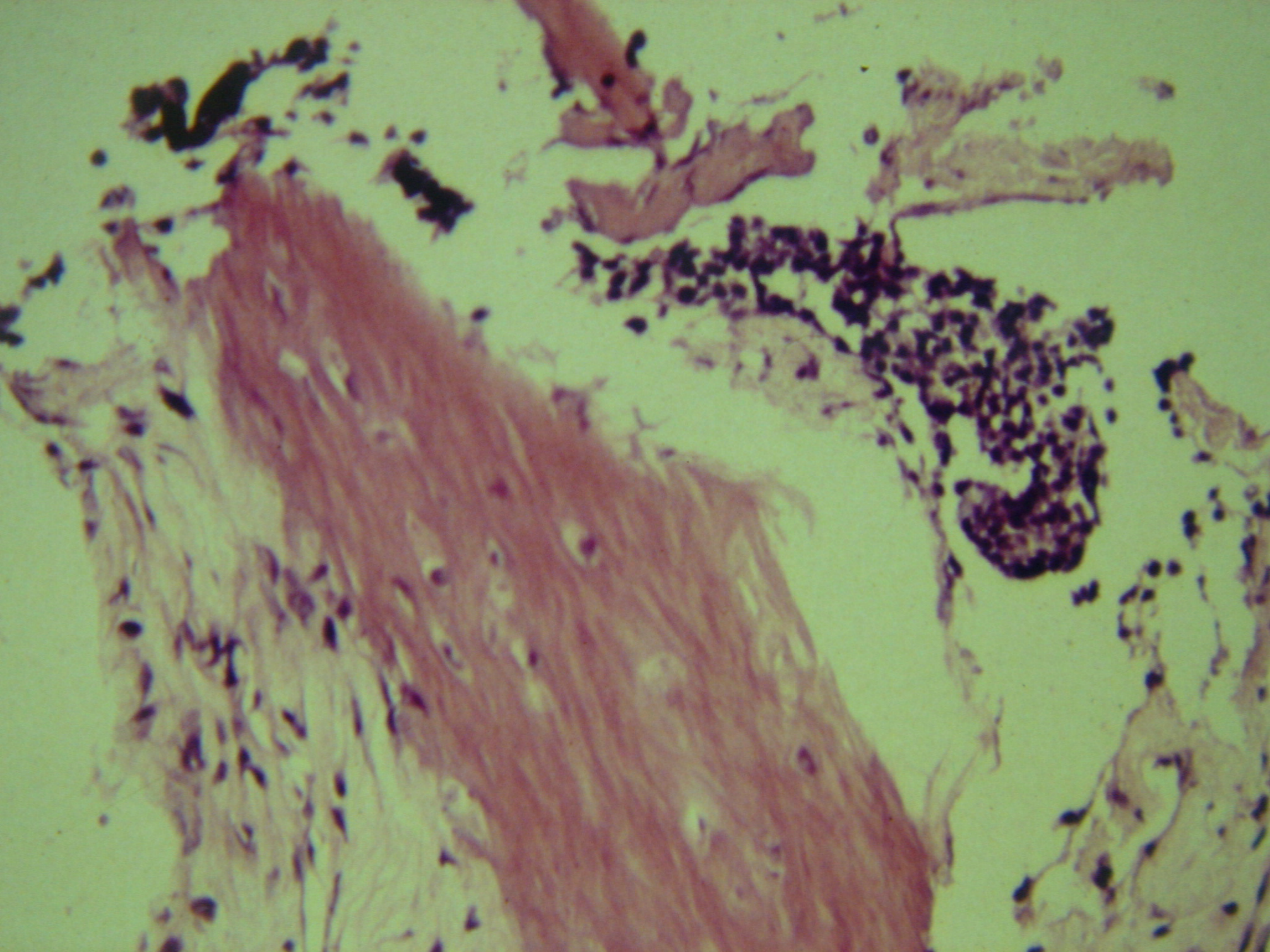




L







The Acquired Immunodeficiency Syndrome

(AIDS)

Acquired cellular immune deficiency syn

*Breakdown immune system of body

*Unexplained fever,weight loss & lymphaden

*Oral candidosis,pneumocystis pneumonia

cytomegalovirus viruria,depressed T-lym

Kaposi's sarcoma,HTLVIII,CMV,HIT

AIDS

*clinical -

persistent low grade fever,weight loss,drening night sweats,shortness breath,diarrhea,nontender lymphadeno-pathy of neck,axilla,groin; leukopenia,thromobocytopenia,anemia, depress blastogenesis,elevated globulins & cutan allergy

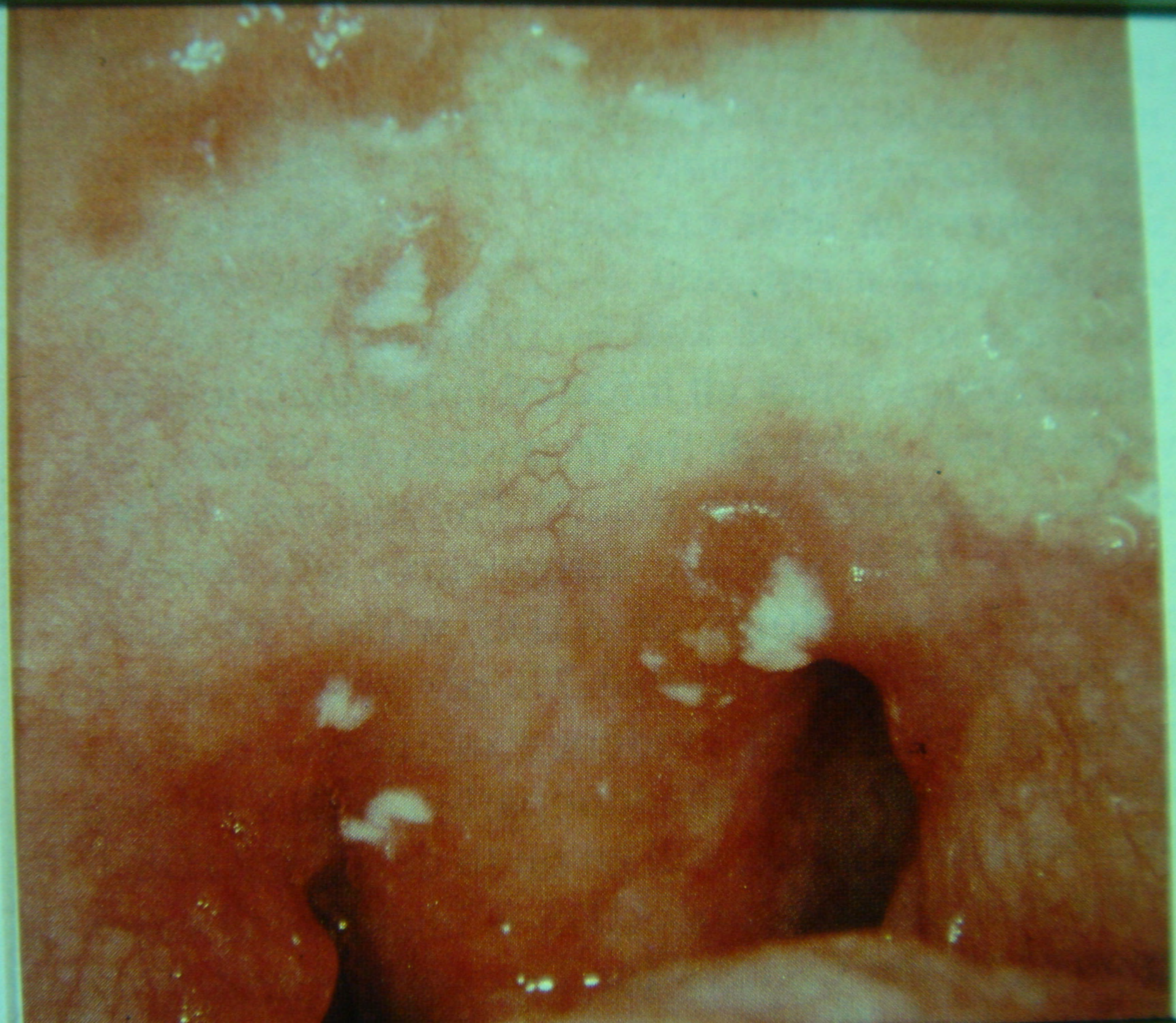
*the most sig opportunistic infection in AIDS - Pneumocystis carinnii pneumonia

*HTLV-III infection - increase in TB

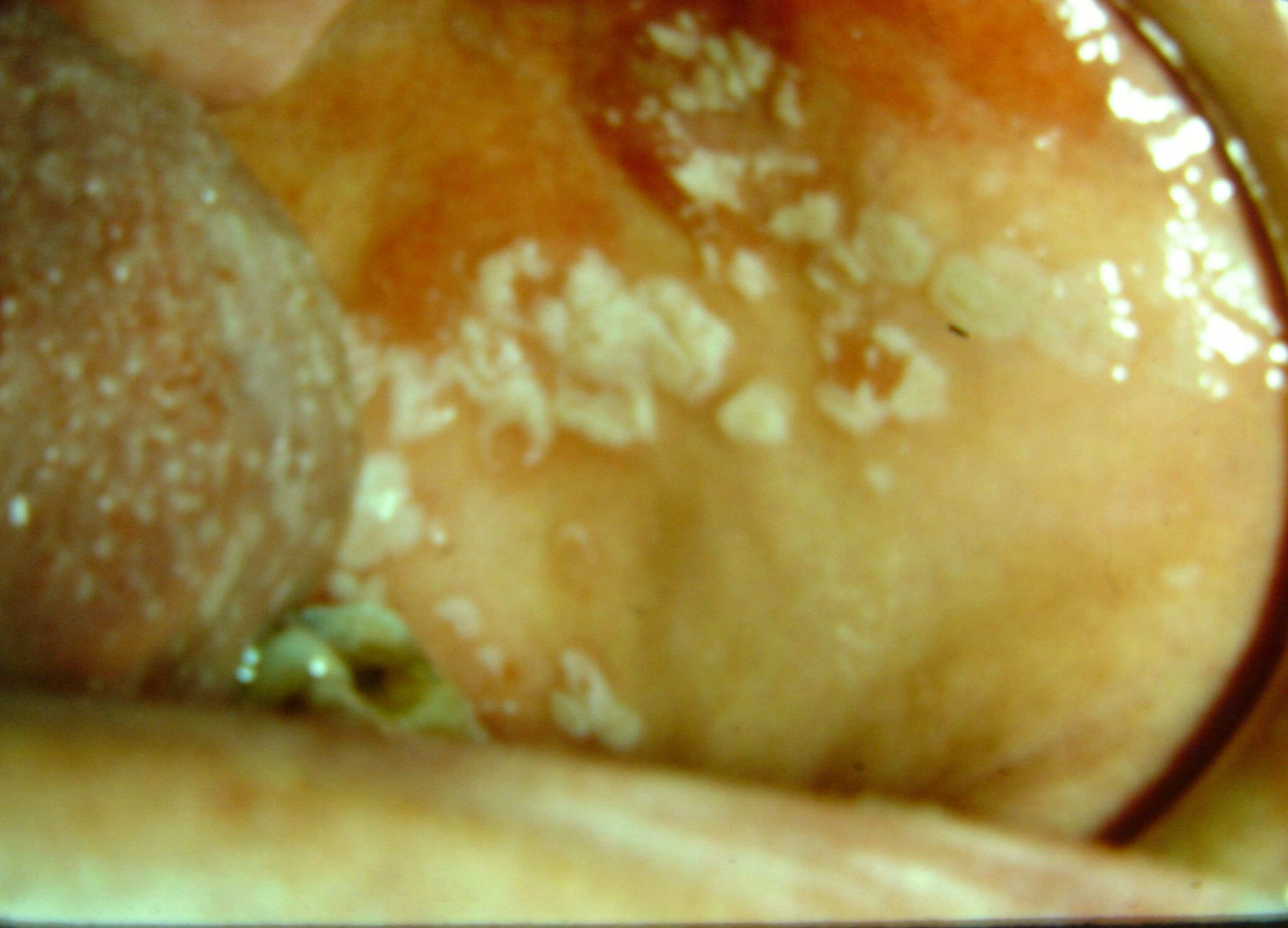
*most common infection in AIDS - oral candidiasis





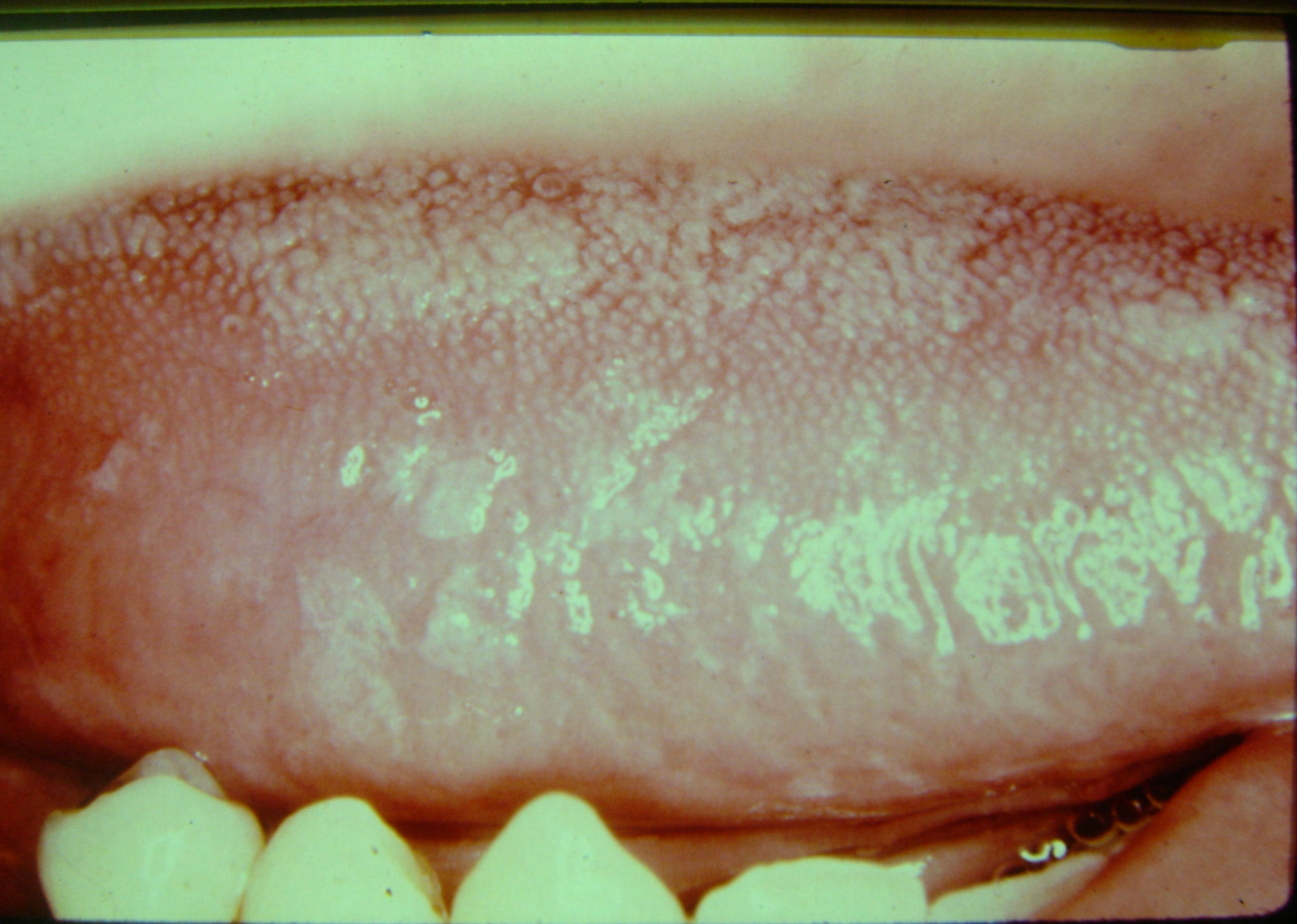


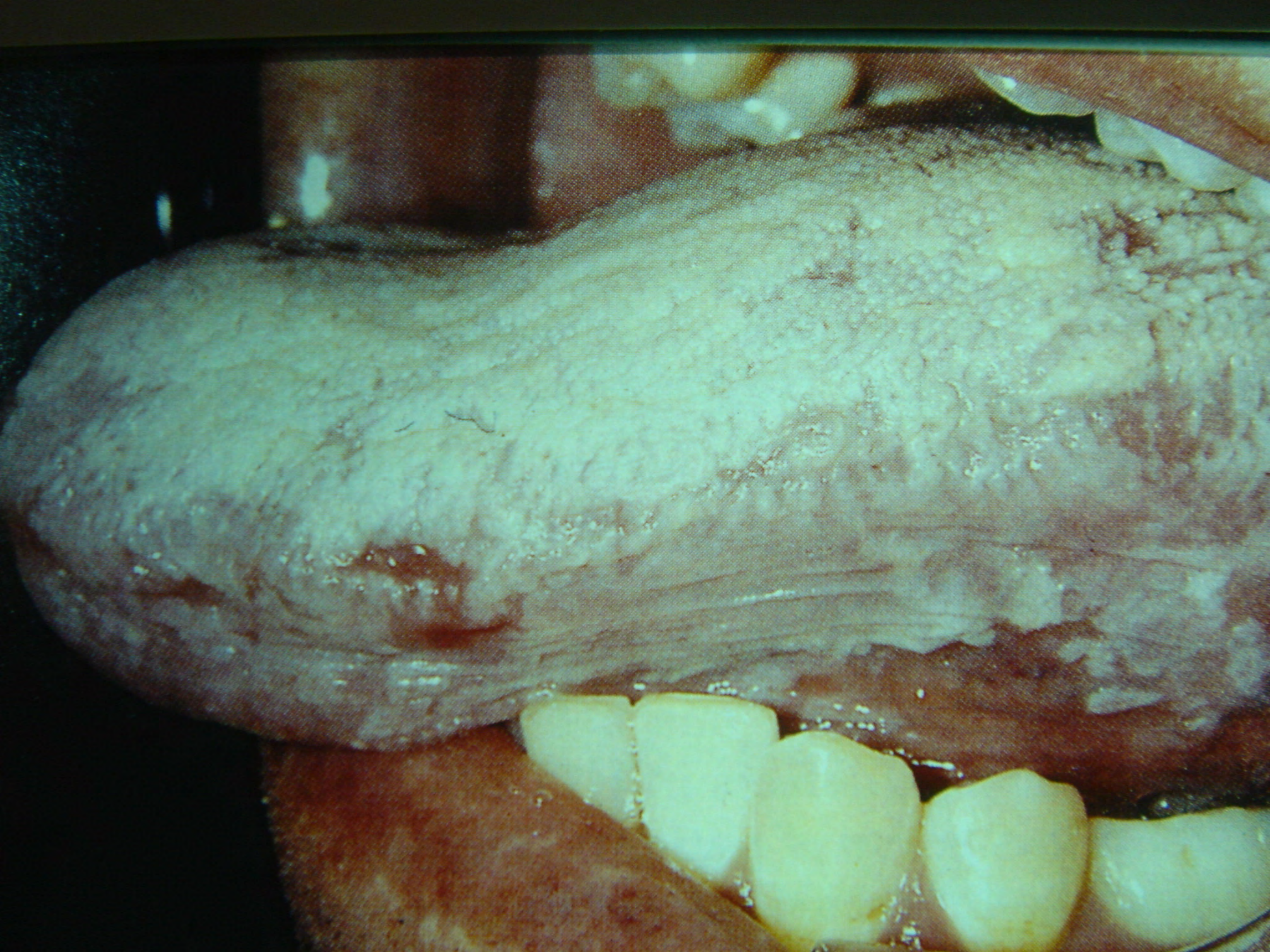
1 Pseudomembranous candidiasis in a man wit













Kaposi's sarcoma

*Over 10% Africa malignancies

*Neoplastic? infectious granuloma.RE↑

*Malignant lymphoma or other forms of cancer

*Neoplastic of vascular system,multi foci

*Males(90%),50-60 yr;child(Africa)

Kaposi's sarcoma

*Multiple skin lesions(extremities)

*Oral cavity, visceral organs & lym

*Reddish or brownish-red nodules

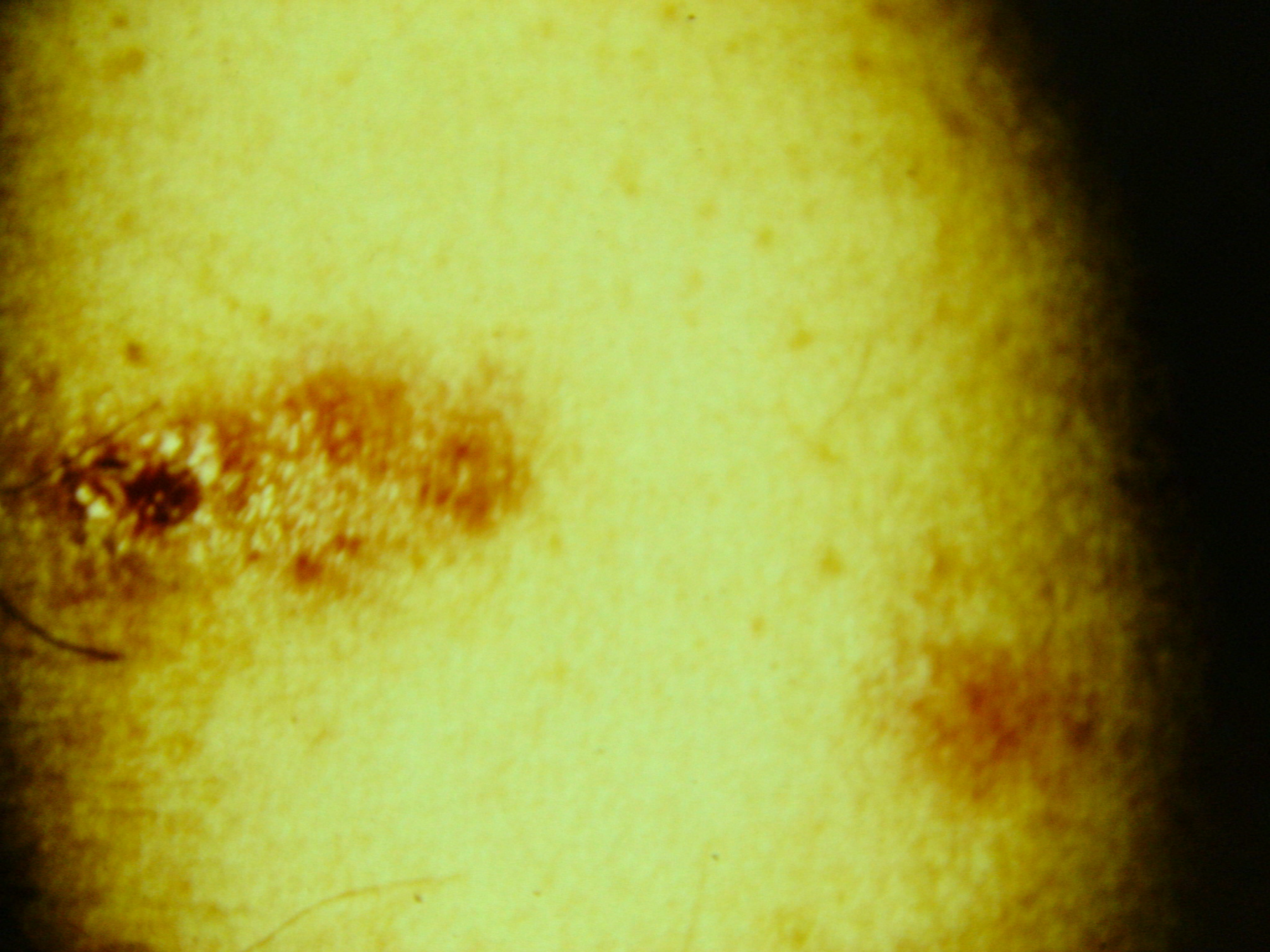
*Tender,painful,cervical lym

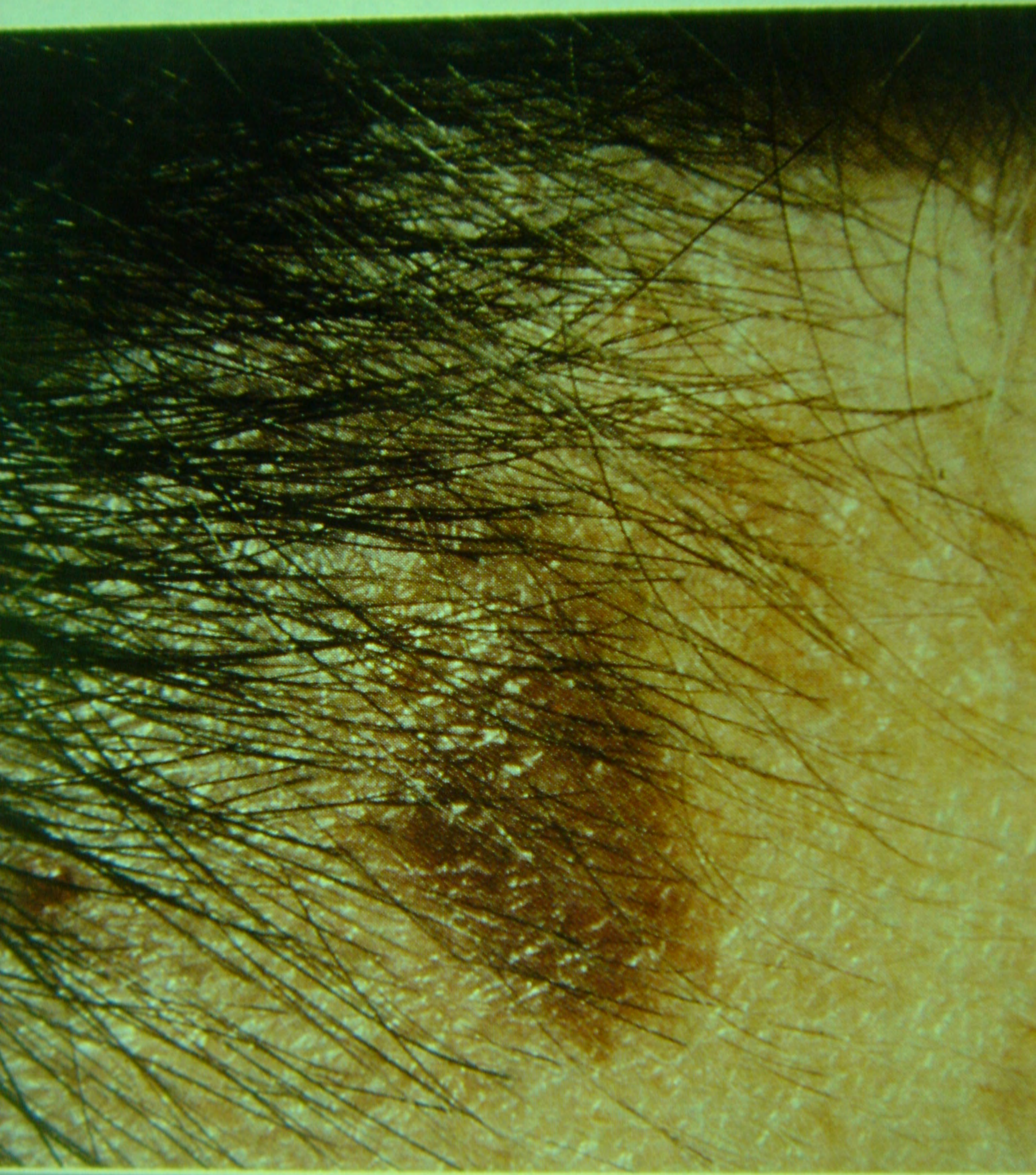
*≒ hemangioma;spindle cells,mitosis

*Inflam(polyvasculitis),granuloma & neoplasia

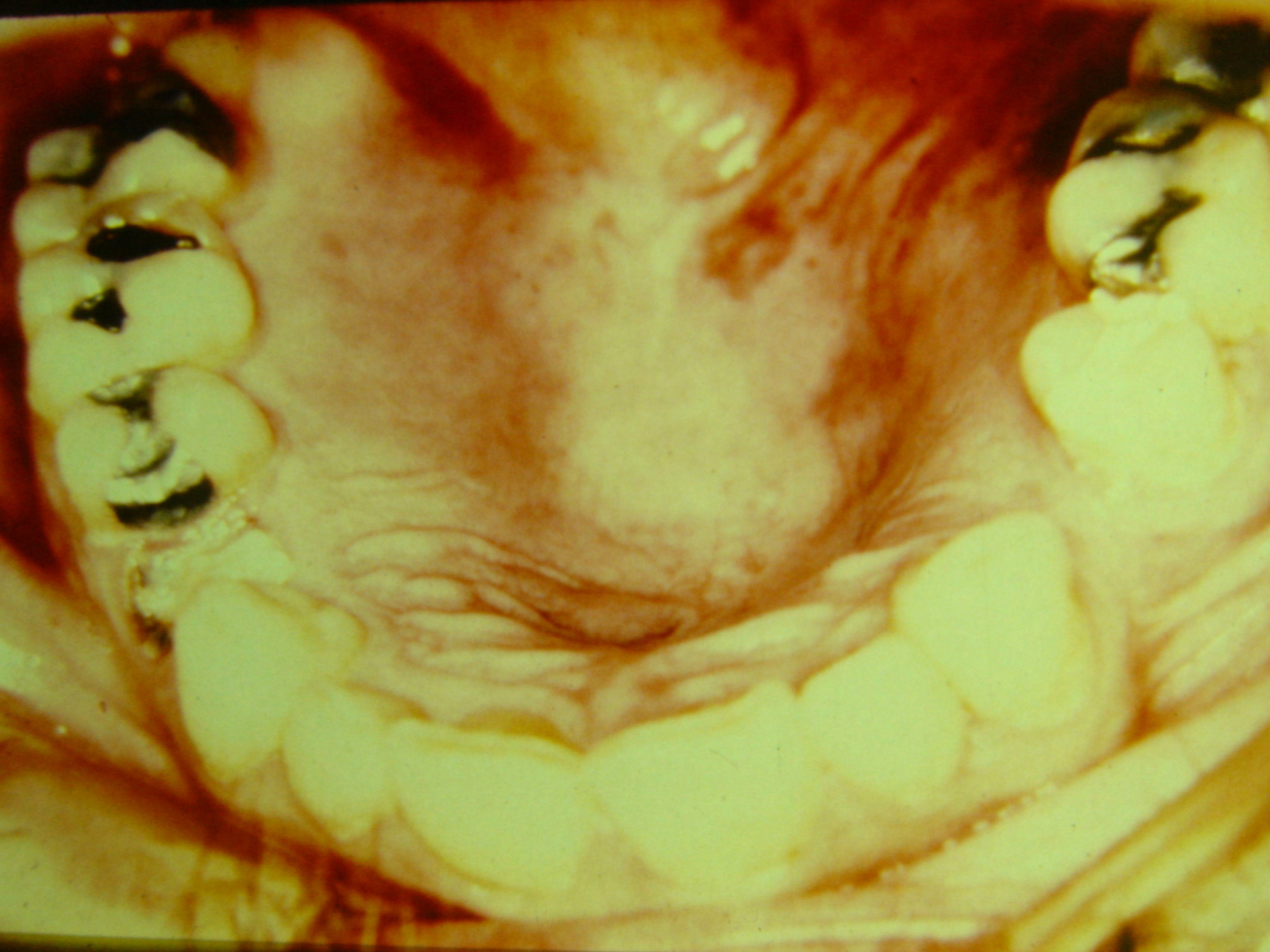
*Oral:Kaposi's sarcoma,candidiasis,
hairy leukoplakia,percocious
periodontal disease,xerostomia,
herpes simplex recurrent aphthae,
erythema multiforme,venereal wart
*the most consistent oral finding
in ARC is candidiasis
*oral Candidia albicans cultures
biopsy of suspected Kaposi's
sarcoma are early Dx & Tx

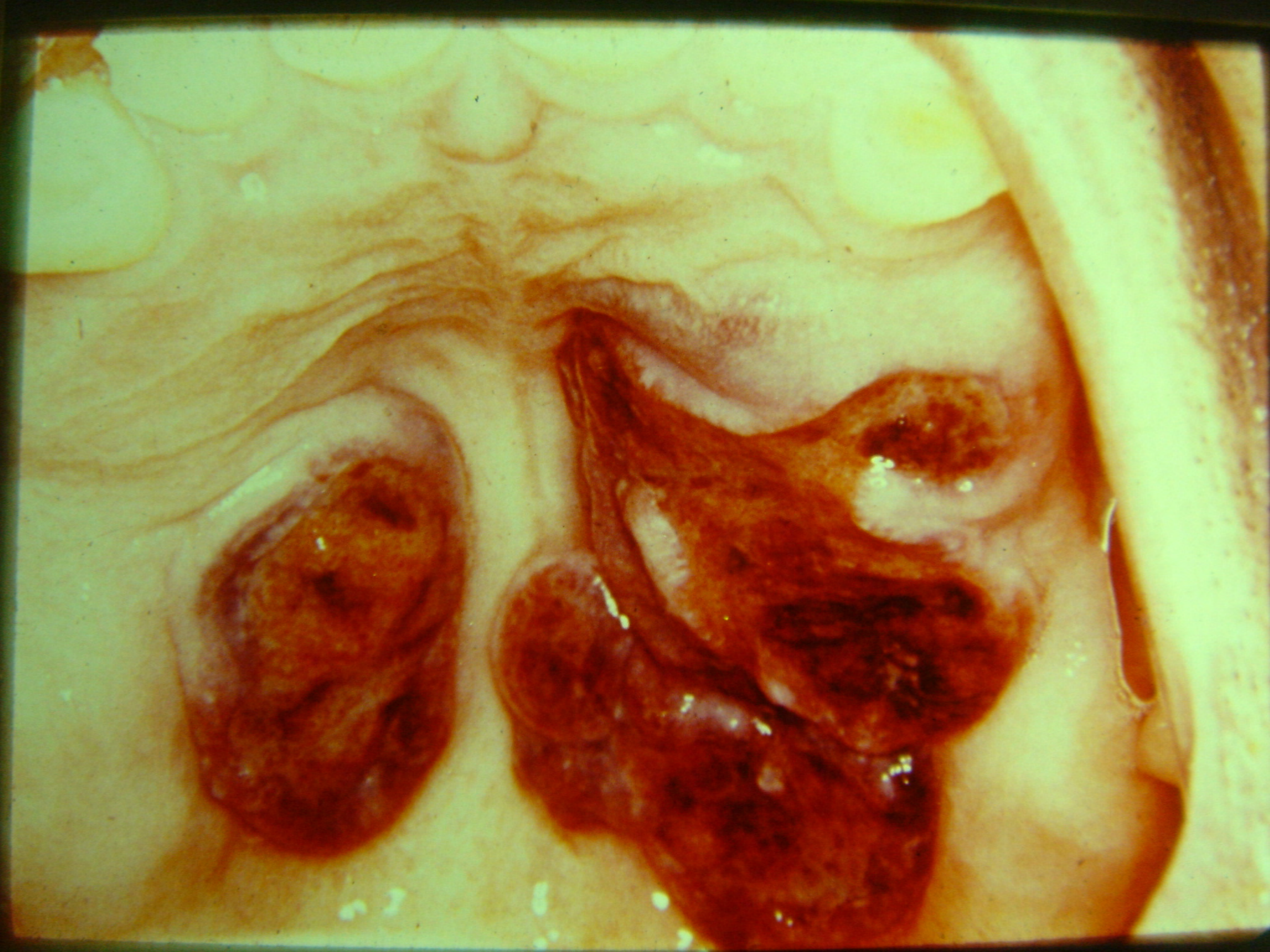
*Kaposi's sarcoma - most malig in AIDS
*Lymphoma - second mal in AIDS
*In AIDS,Kaposi's sarcoma:widespread to lower extremities,visceral rather than local & superficial;more resistant to radiation,chemotherapy,quick to meta

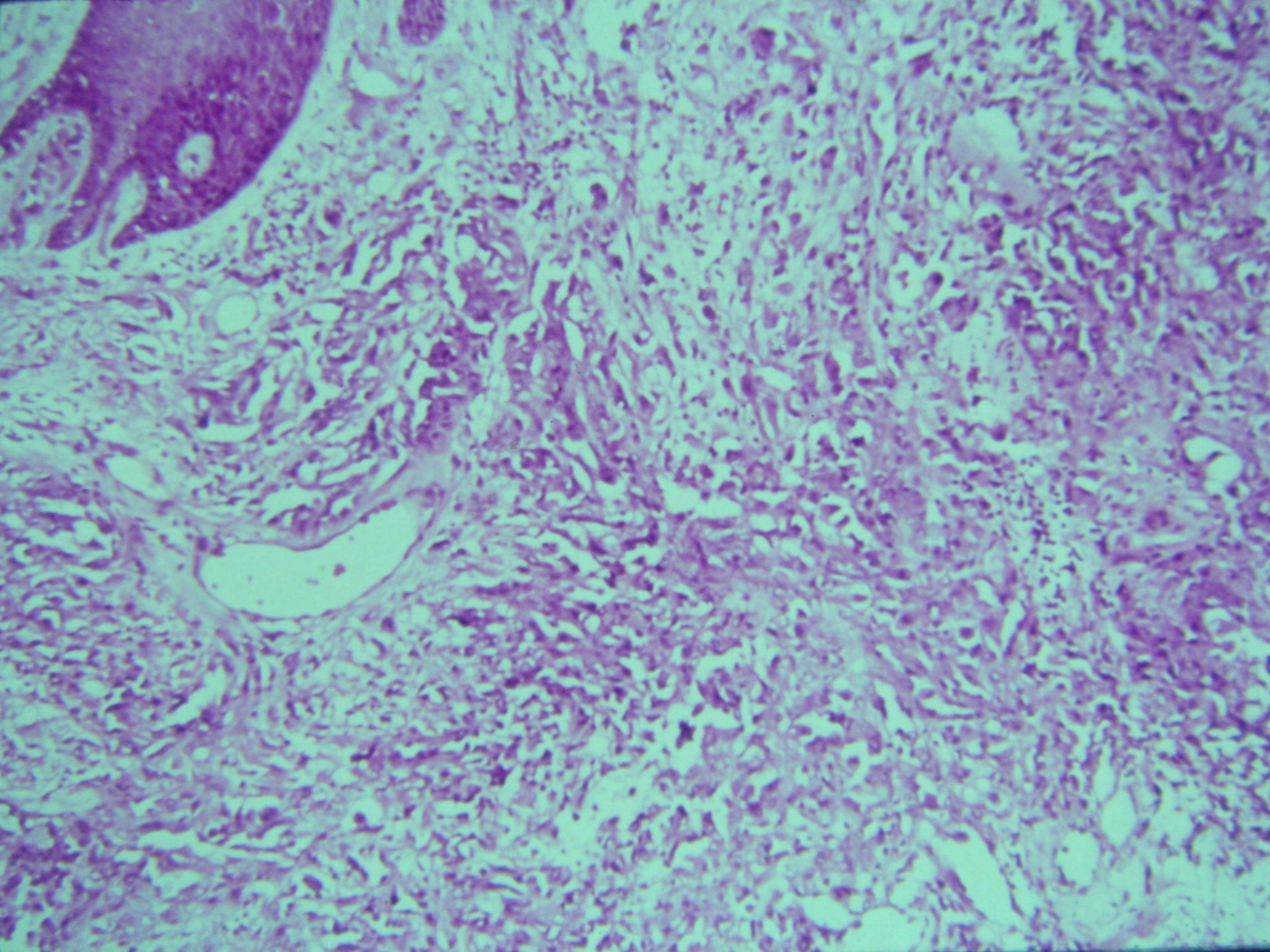


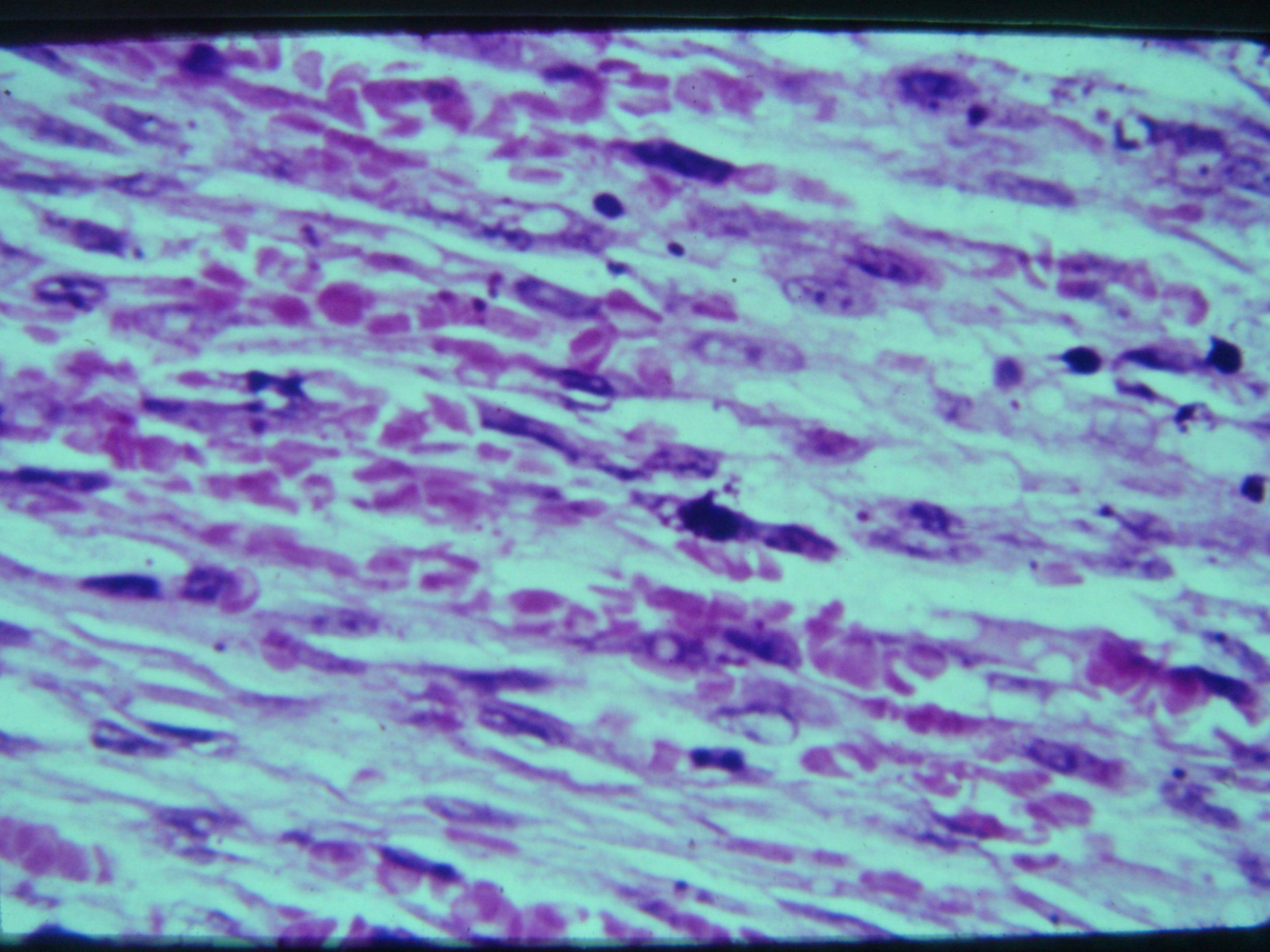




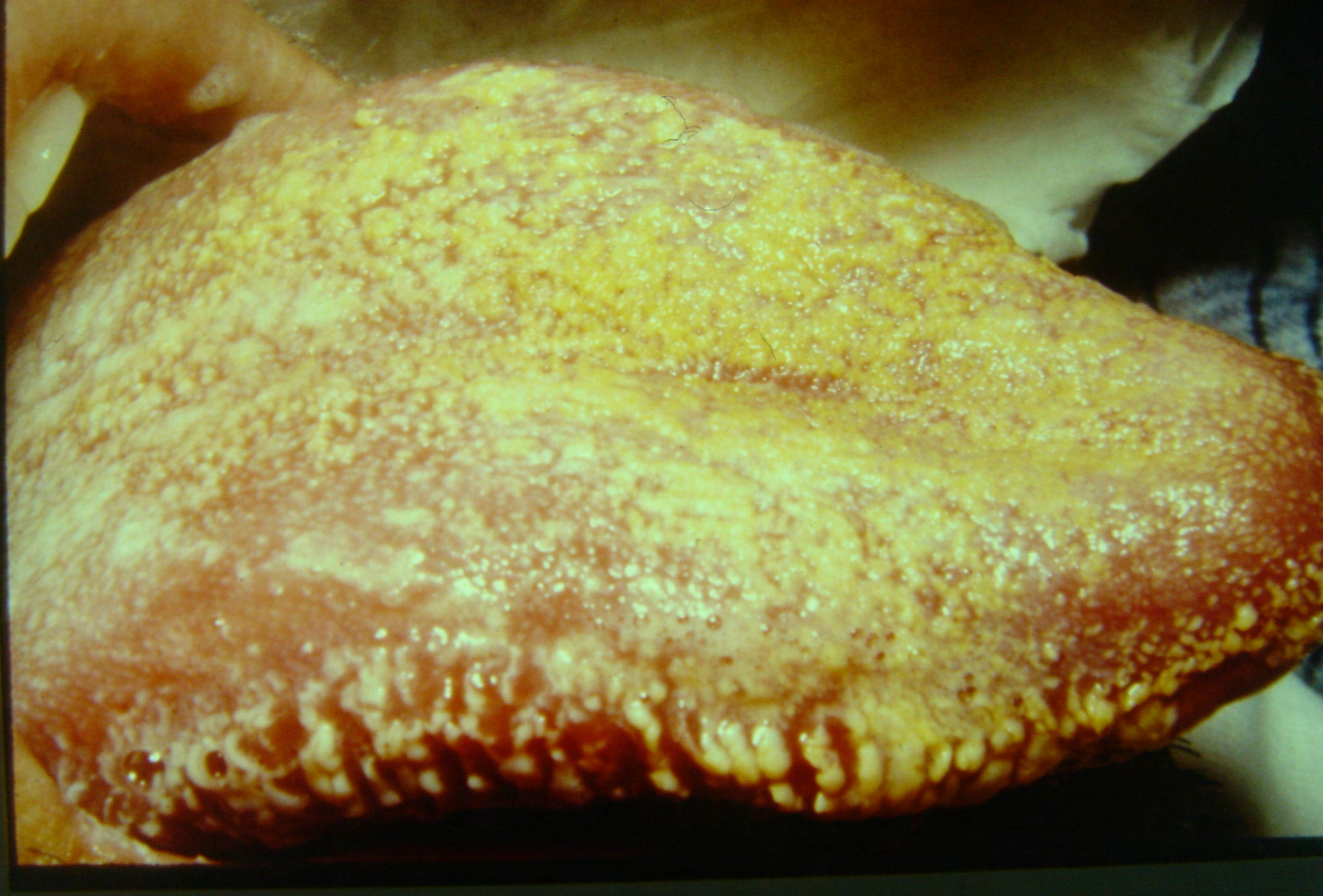












Metastatic tumor of jaws

*Rare-but far more common than was formerly believed

*First indication of an undiscovered malignancy

*Completely asymptomatic or slight pain

Metastatic tumors of the jaws

- 50% meta cases was first evidence of malignancy (4% of aerodigestive tract ca meta from other places) in aerodigestive tract area
- 16% to mandible

  autopsy (no x-ray finding)
- By hematogenous route

Metastatic tumors of the jaws

- Meta. Ca is the most common form of ca invol. Bone
- Autopsy: 3/2 brest ca
  1/2 prostate ca
  1/3 lung & kidney ca

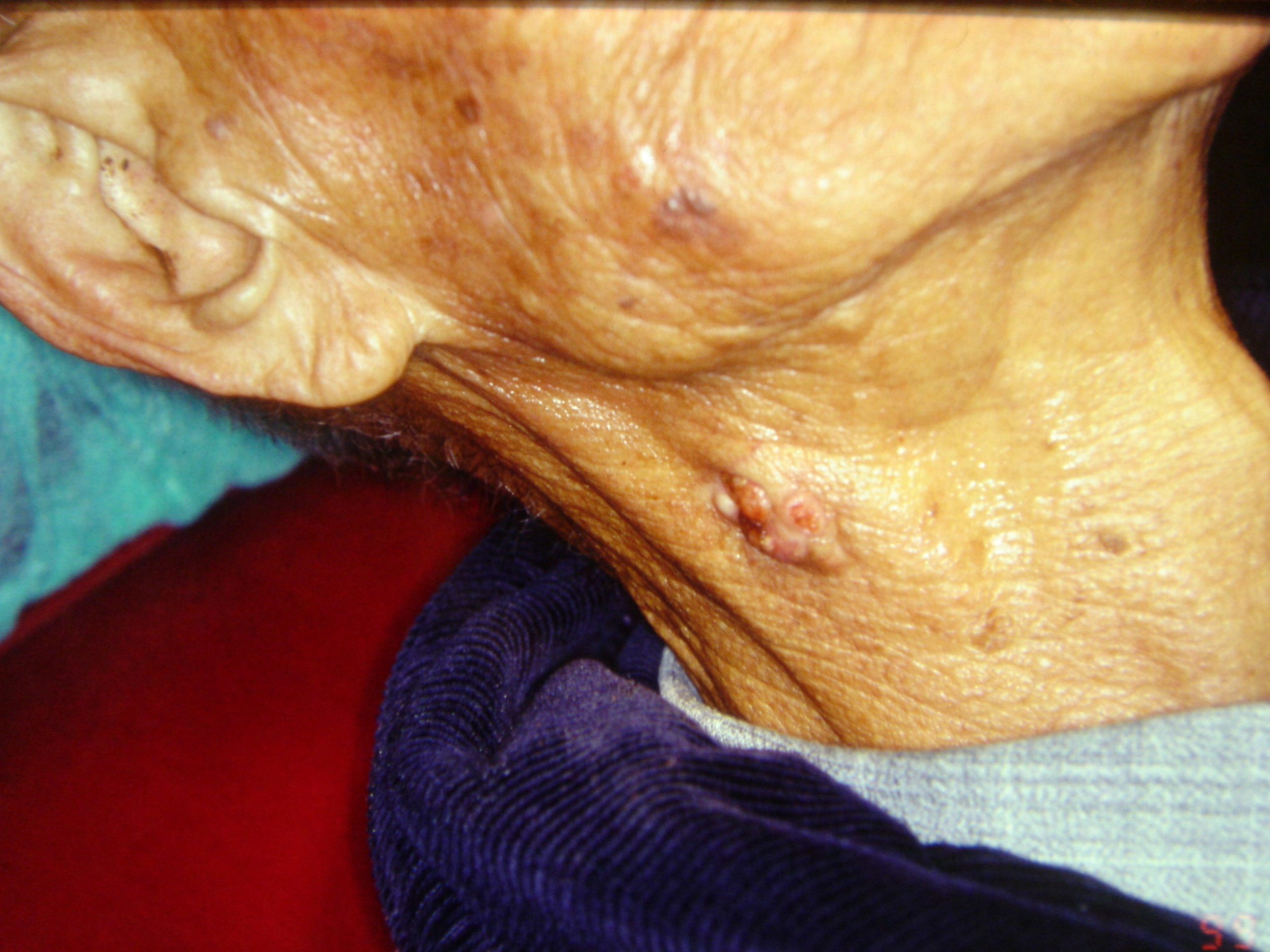
Spread one or more bone

Metastatic tumors of the jaws

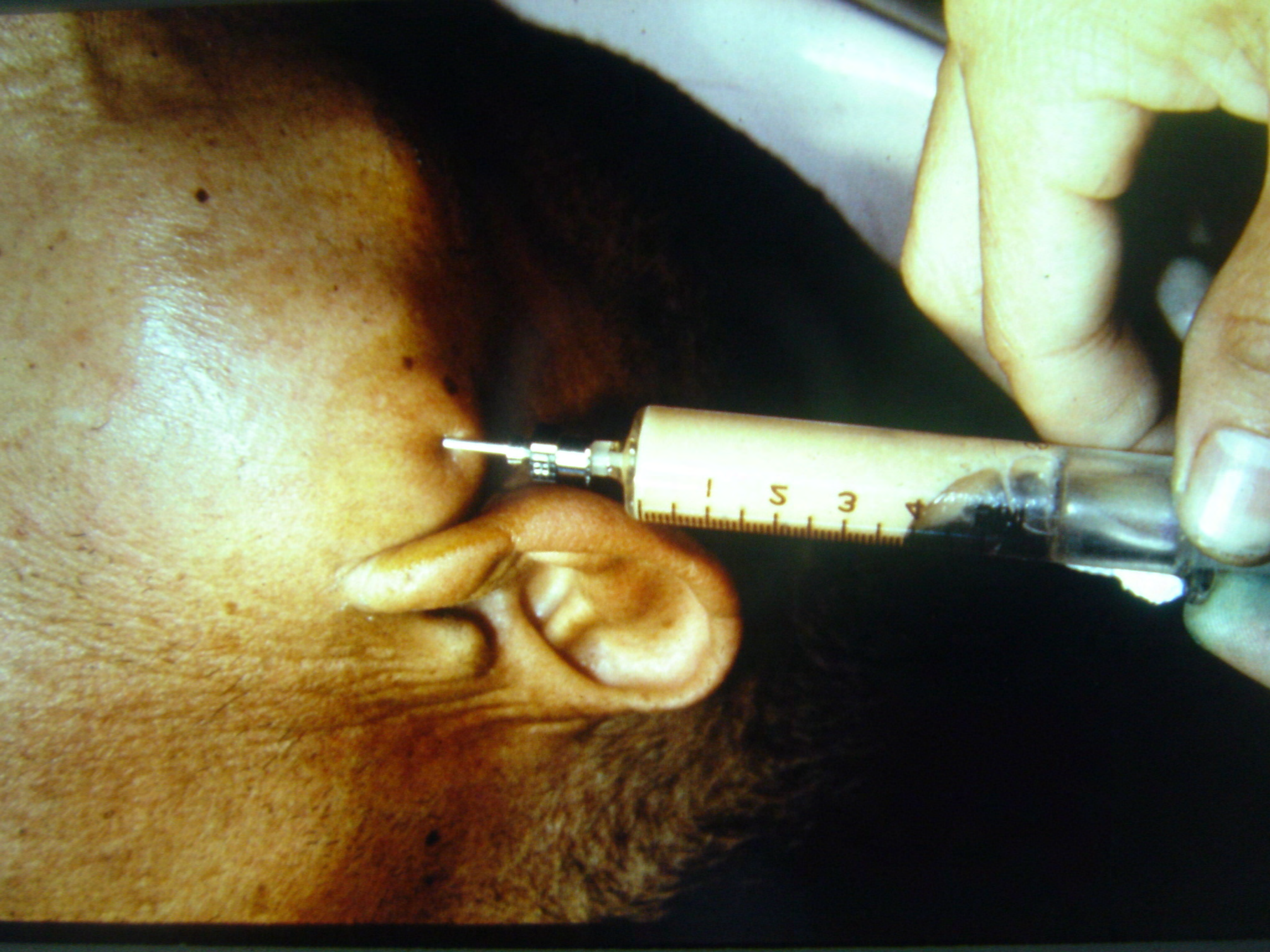
Clinical feature

- Older p't
- Asymptomatic, pain, swelling, lossening of teeth
- A mass or paresthesia
- Cyst or "moth-eaten" appearance
- ≅ periodontal disease, RL + RO from prostatic & breast

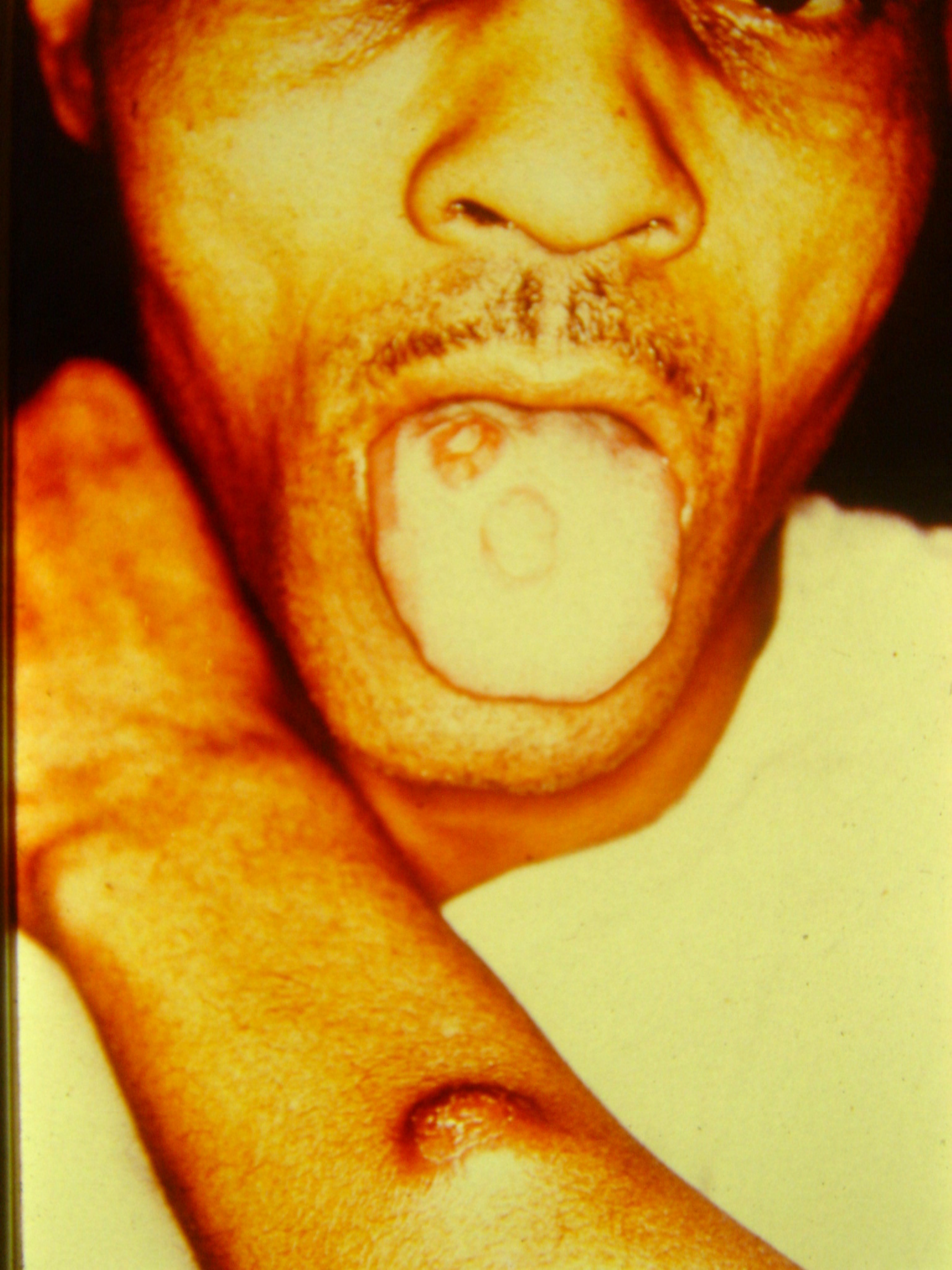
Breast	31%	Melanocarcinoma	5%
Lung	18%	Testis	3%
Kidney	15%	Bladder	1%
Thyroid	6%	Liver	1%
Prostate	6%	Uterine Cervix	1%
Colon	6%	Ovary	1%
Stomach	5%		



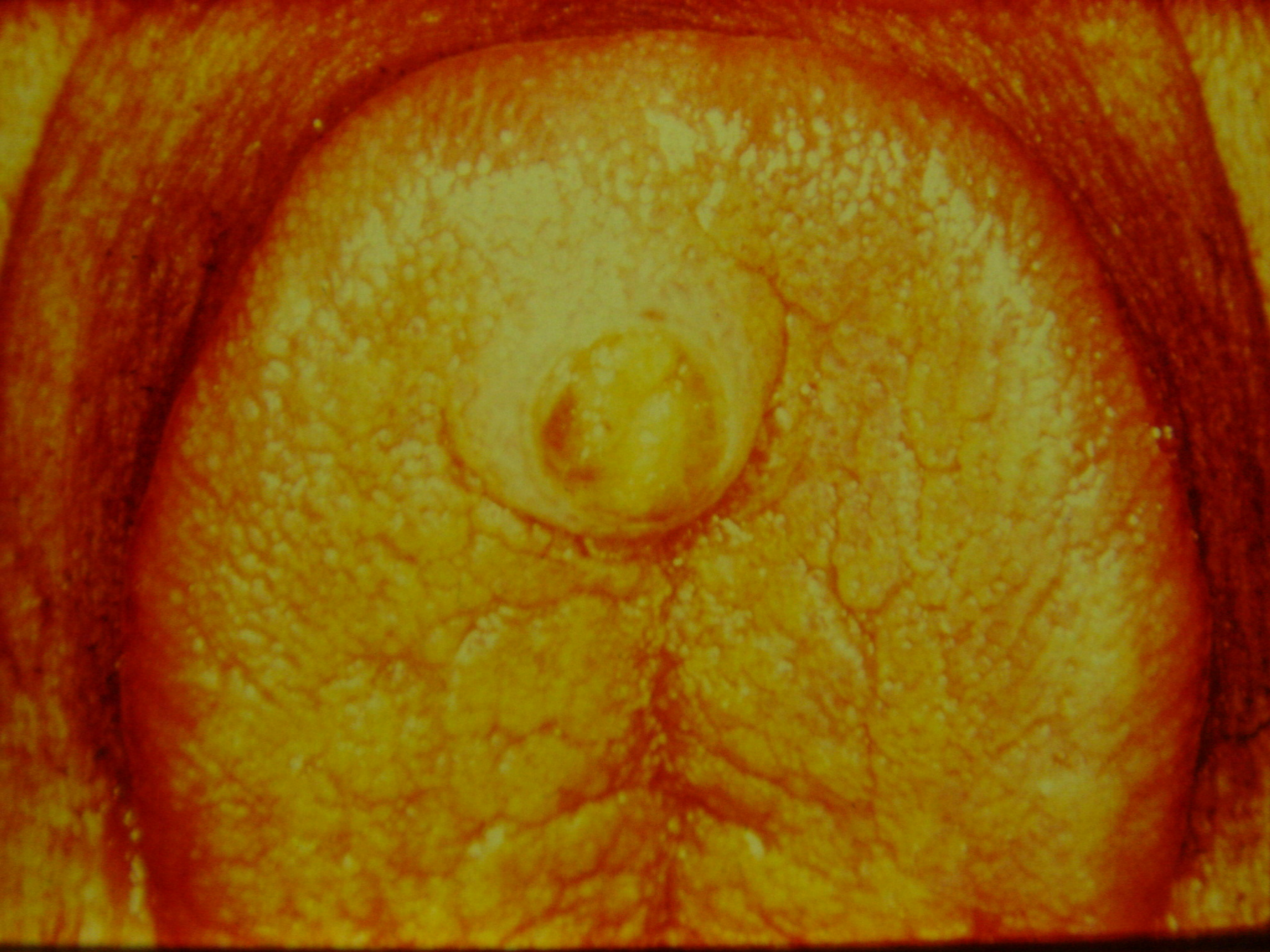



1
5
3

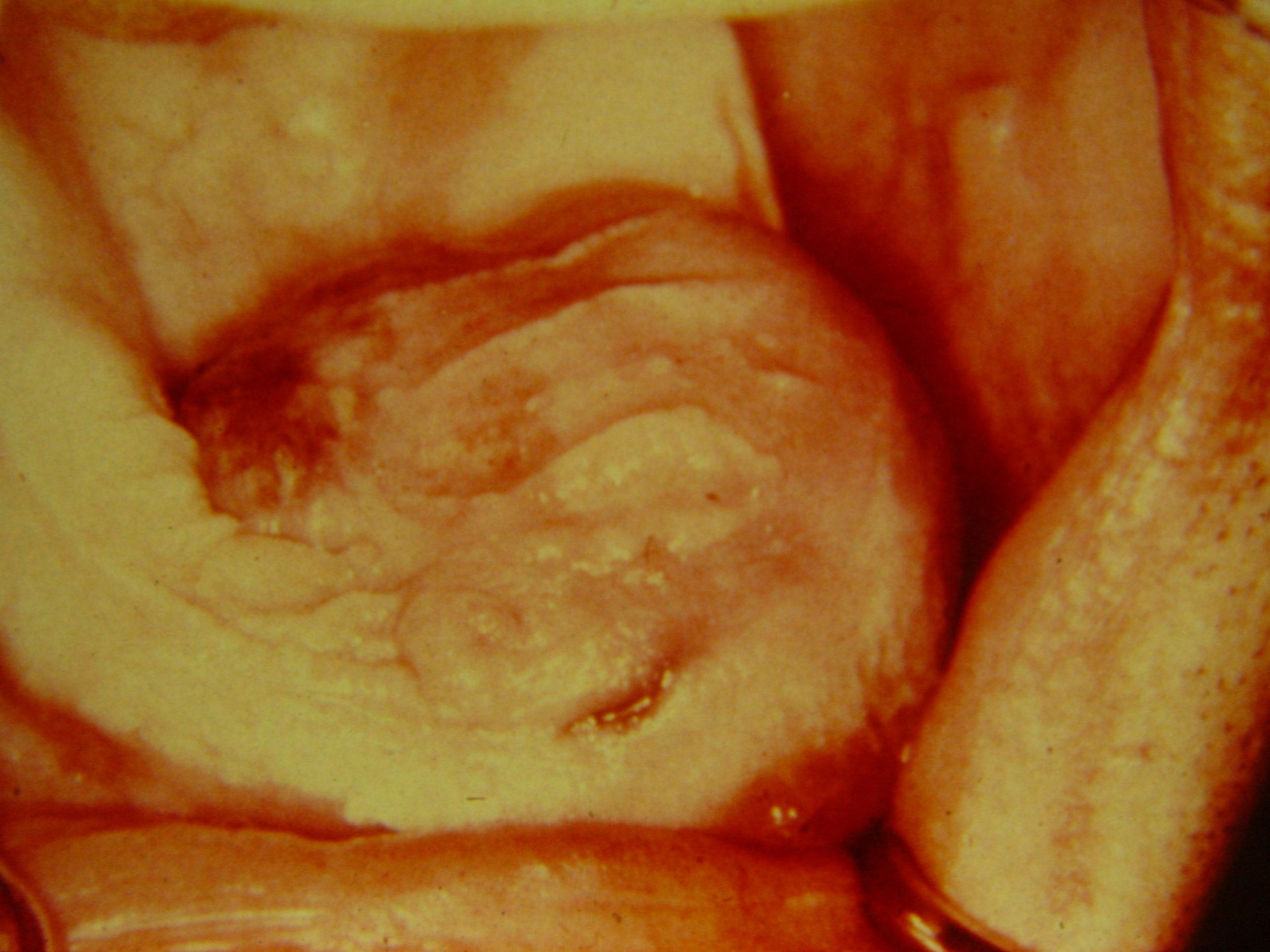












*Parethesia or anesthesia of the lip

*Mandible→maxilla(molar area↑Hematogenous)

*Batson's plexus(P. of Vertebral Vein)

X-ray

*No pathognomonic x-ray

*Osteolytic(RL), osteoplastic(R.O.)

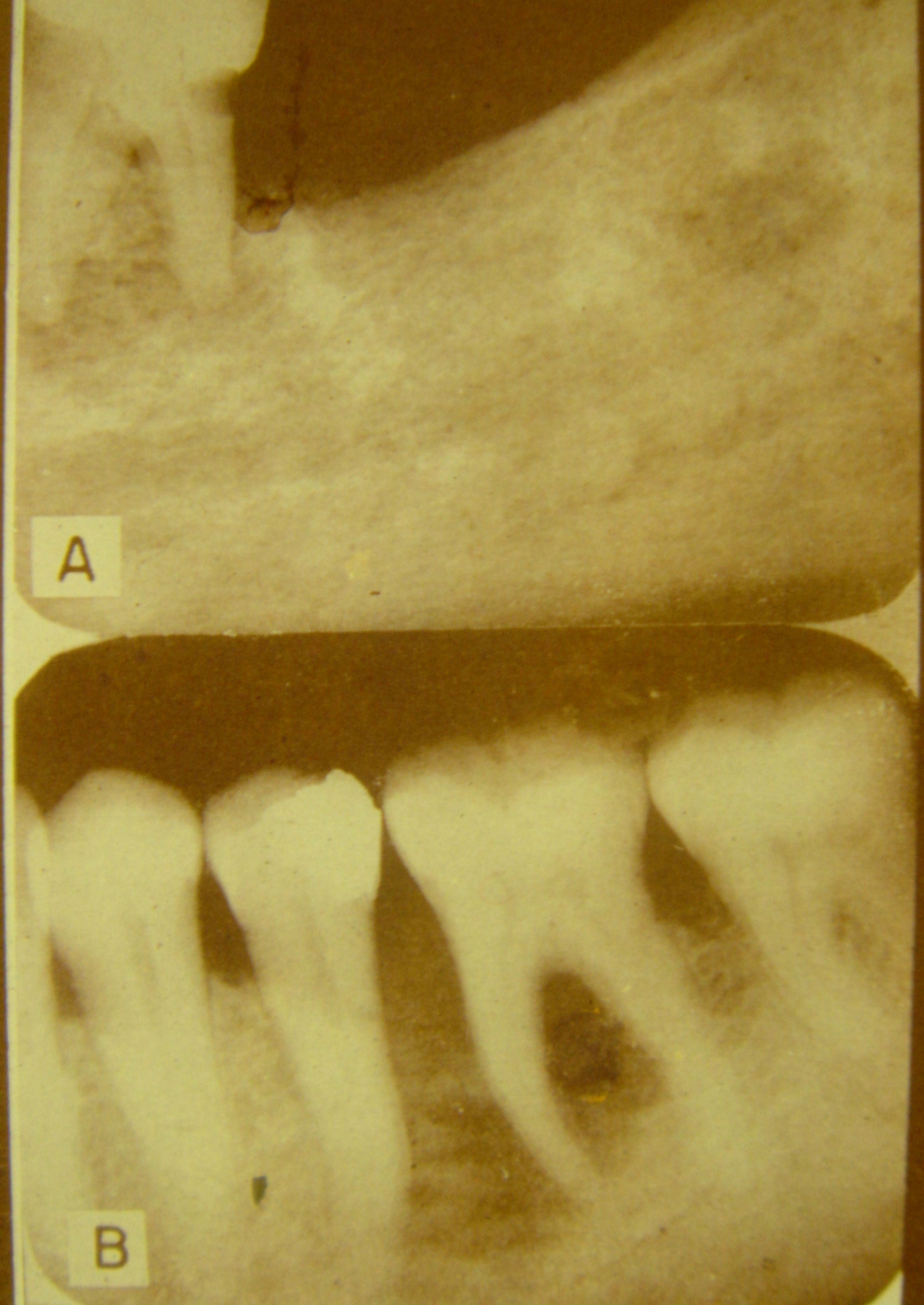
*R.O.-calcification of prostate, breast, lung

*Well demarcated-diffuse, poor outline

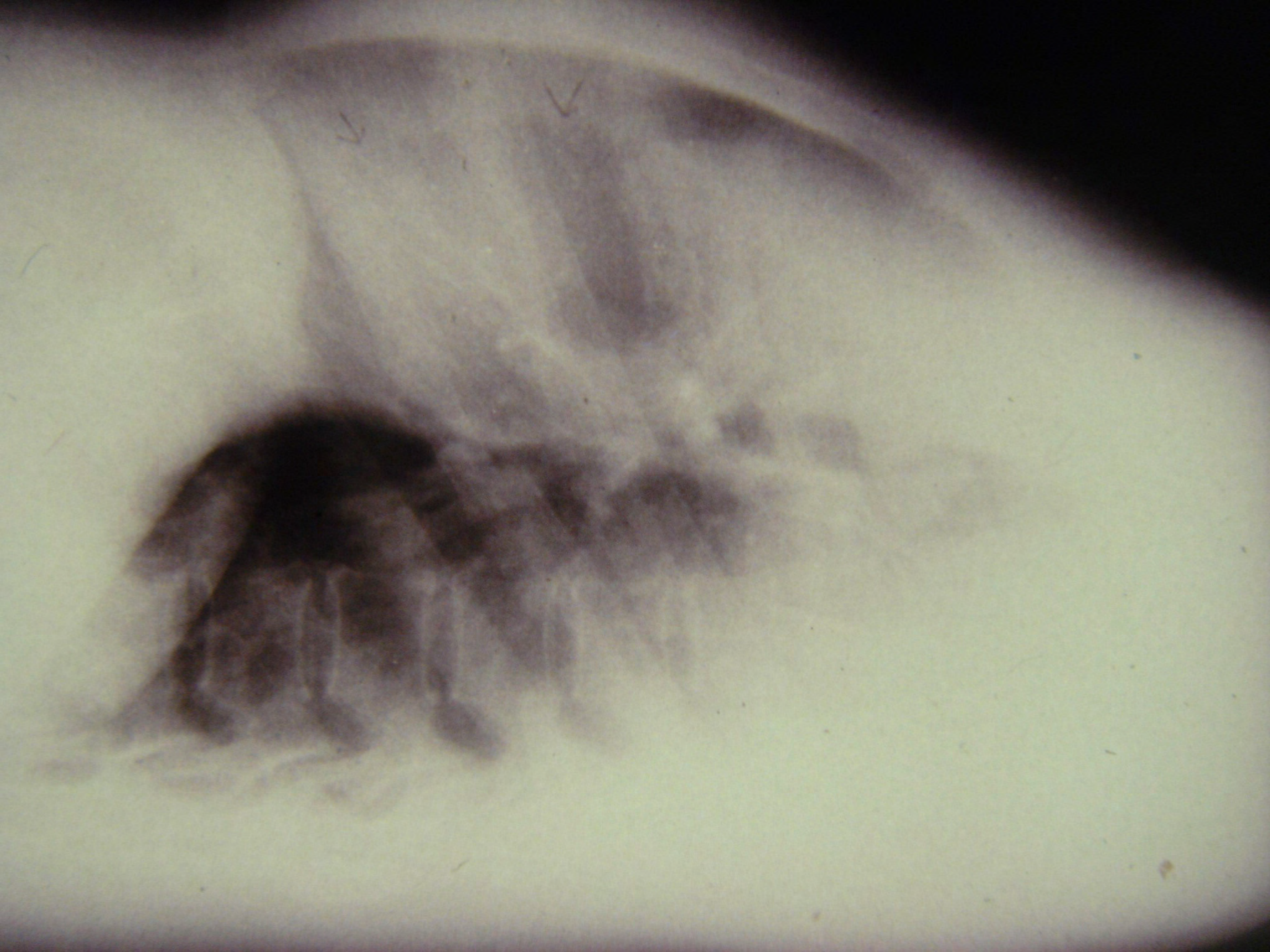







A
B





Juxtaoral organ of Chievitz

*Location-medial mand. internal oblique ridge & the pterygo. mand. raphe; nasopalatine duct

*Histo-cluster of nests of squamous cells c̄ duck-like app. The epi. island ass, c̄ myelinated nerve

*Function-neuroendocrine receptor

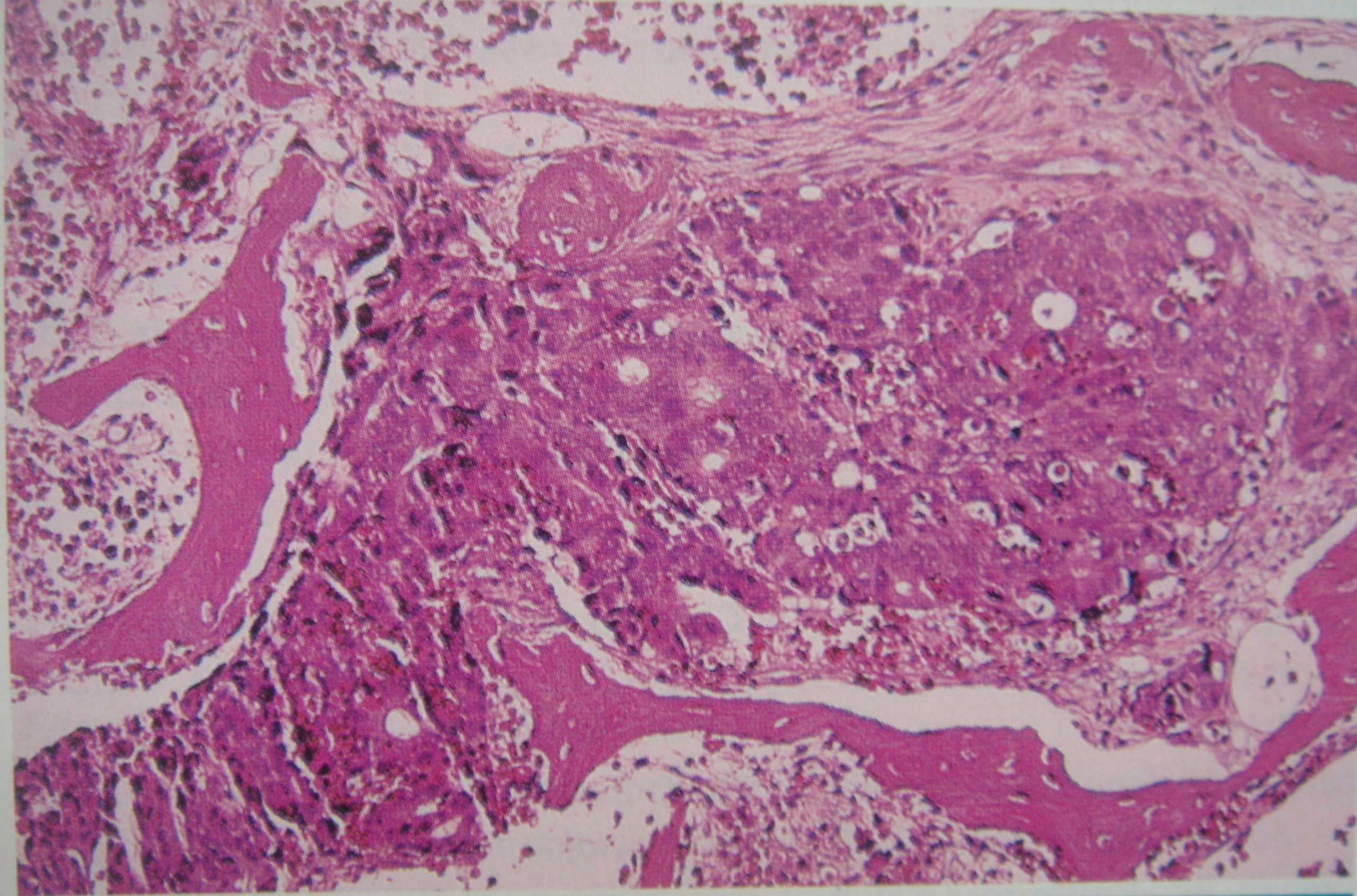
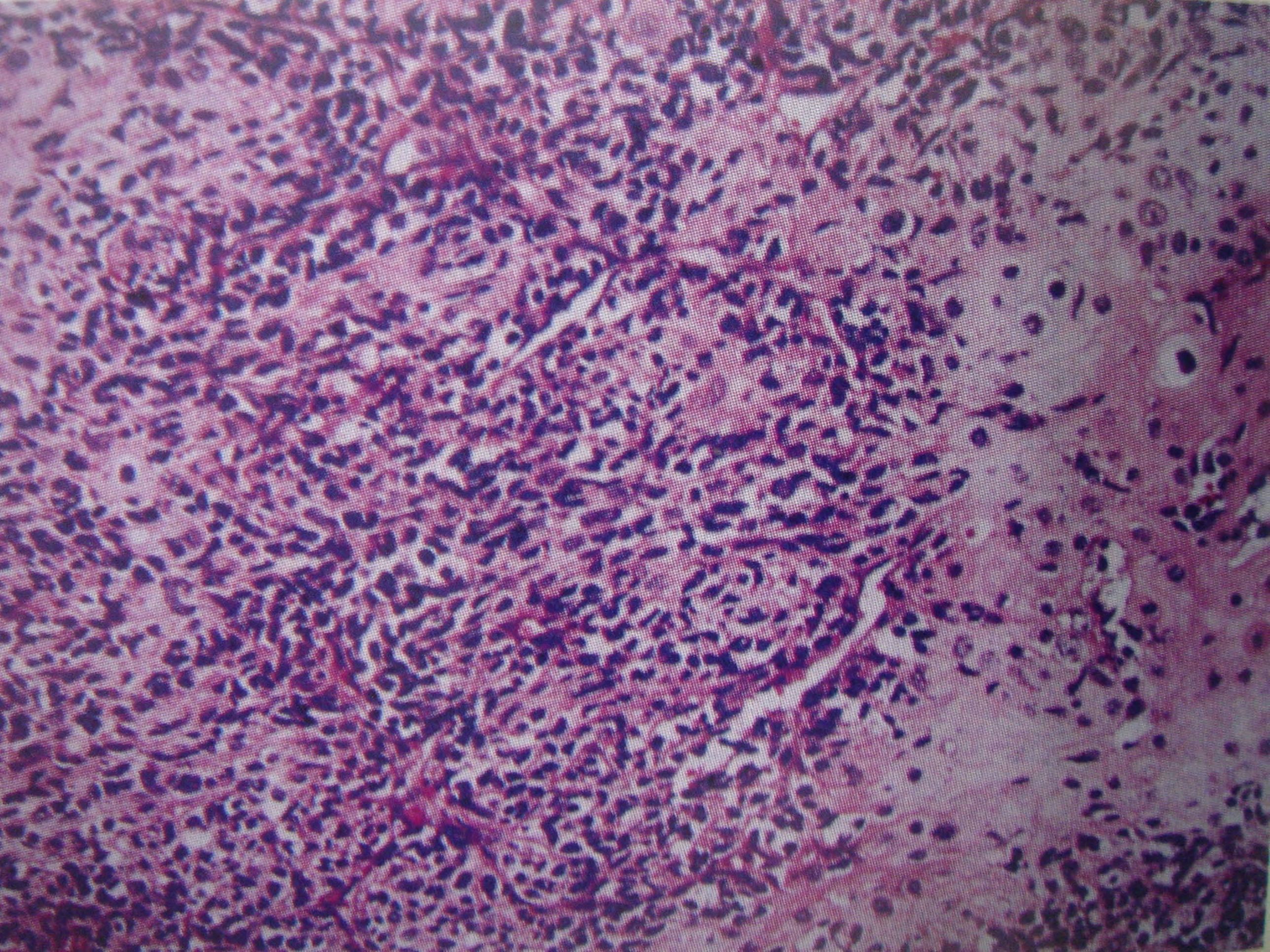
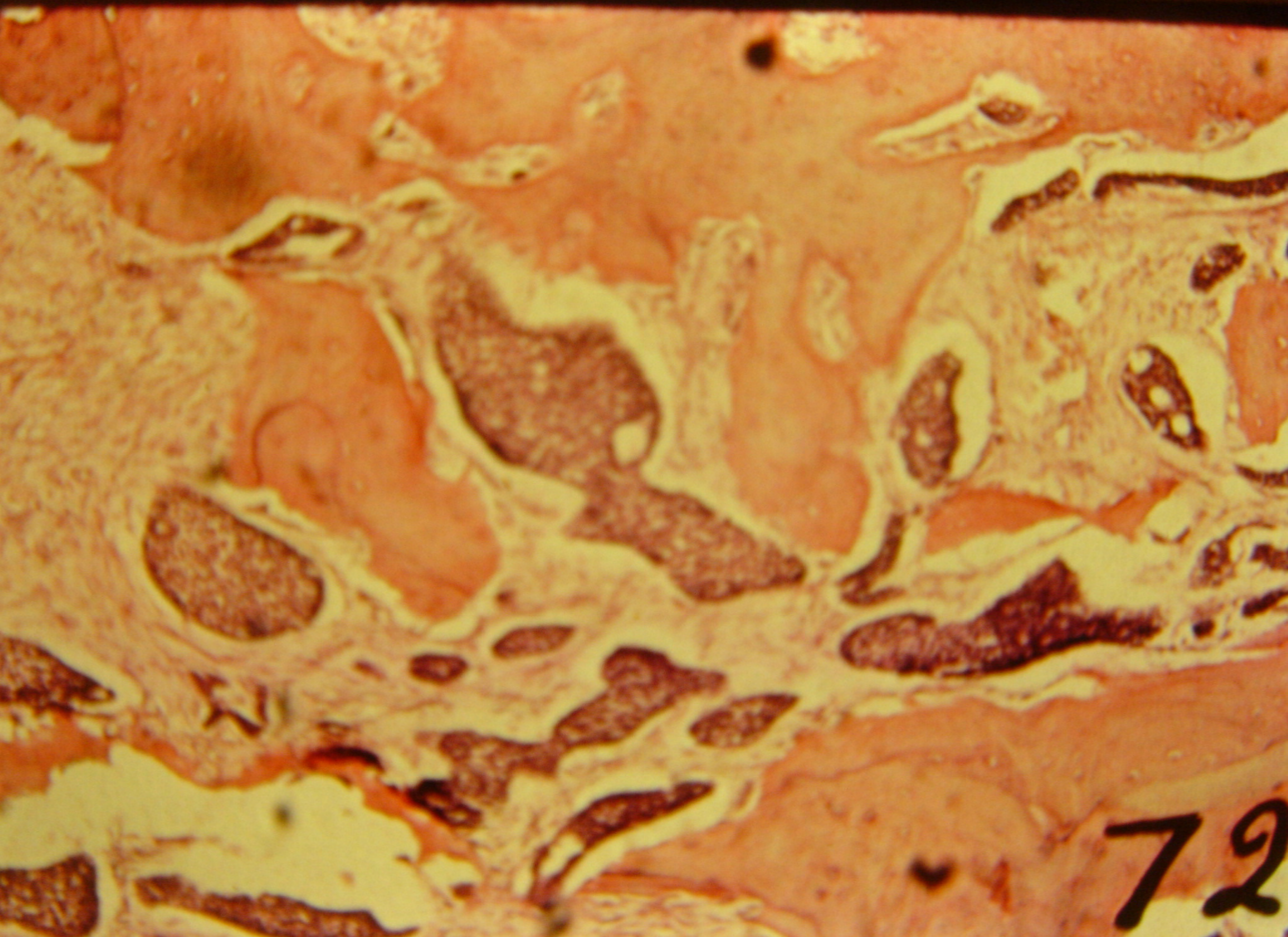


Figure 14-88 • Carcinoma metastatic to the jaws. Islands of




72

