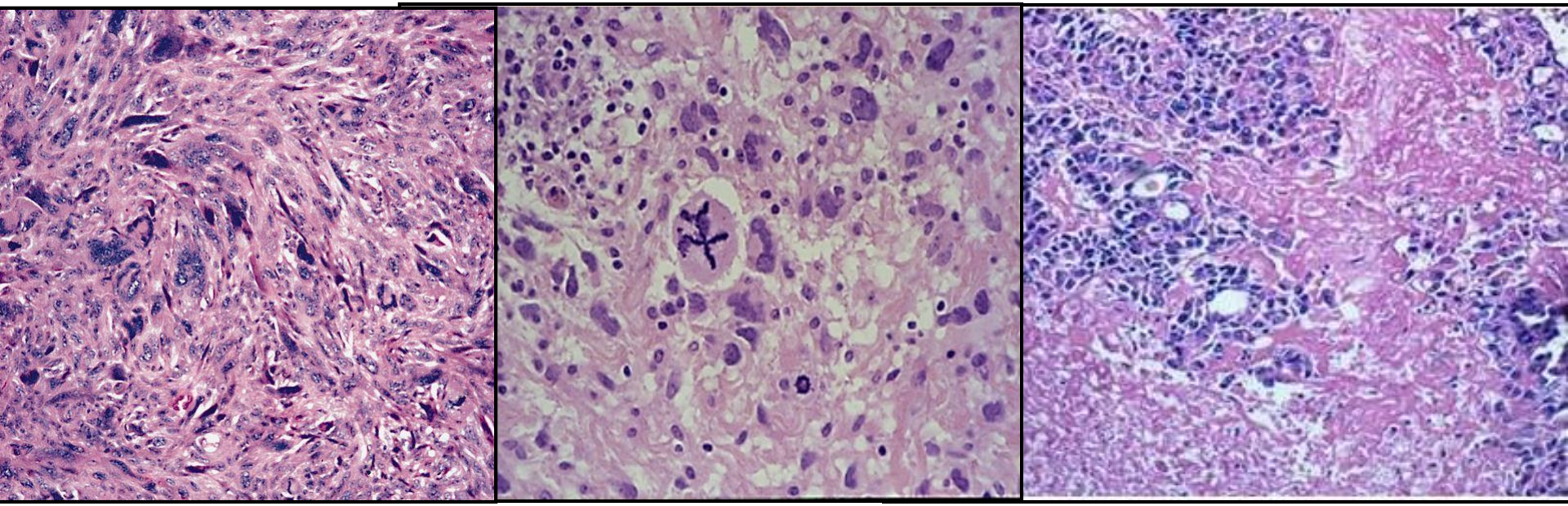
Soft tissue neoplasms

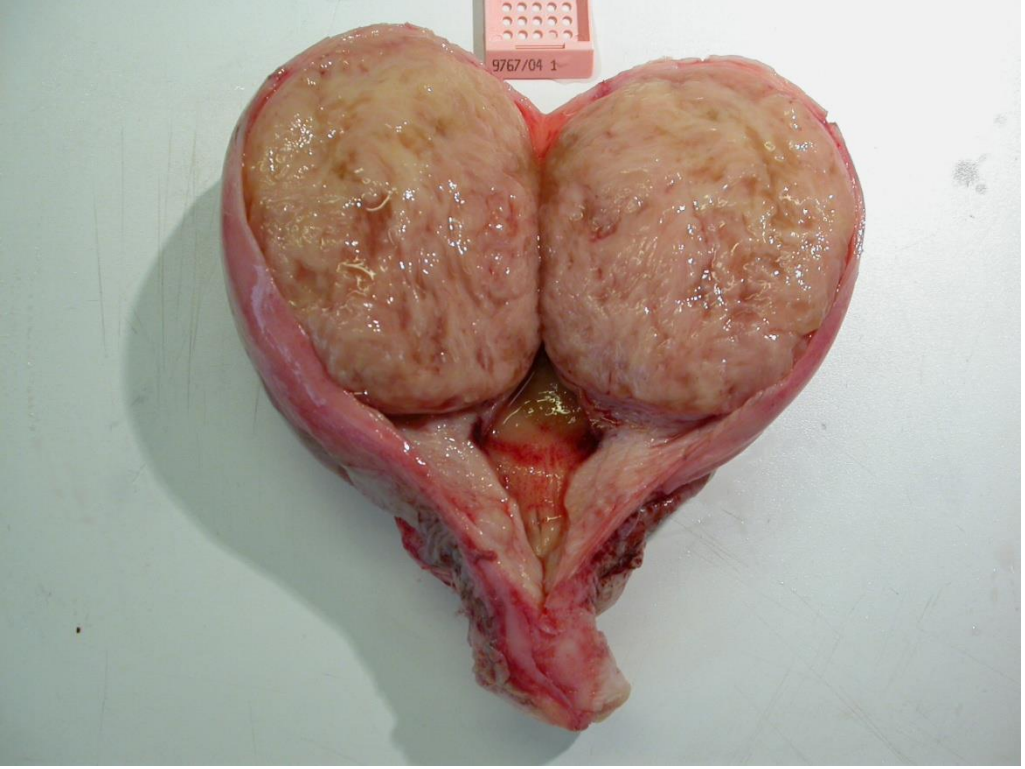
Histological Features of Malignancy In Mesenchymal Tumors

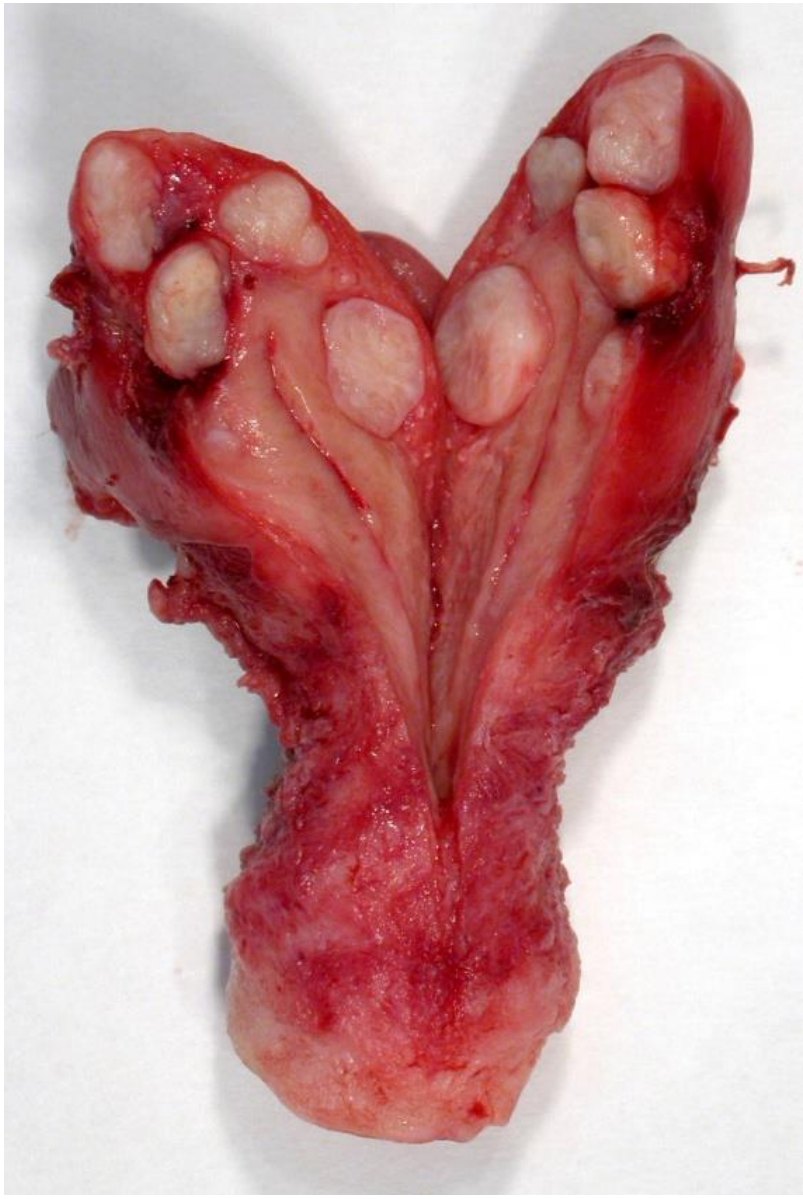
- Cellular atypia
- Number of mitoses
- Necrosis



Leiomyoma

- Most common tumor in women (premenopausal)
- Most coomon in the uterus, but may occur anywhere, may be multiple
- Well circumscribed, whitish-gray, whorly appearance
- Submucosal, intramural or subserosal
- Composed of smooth muscle bundles

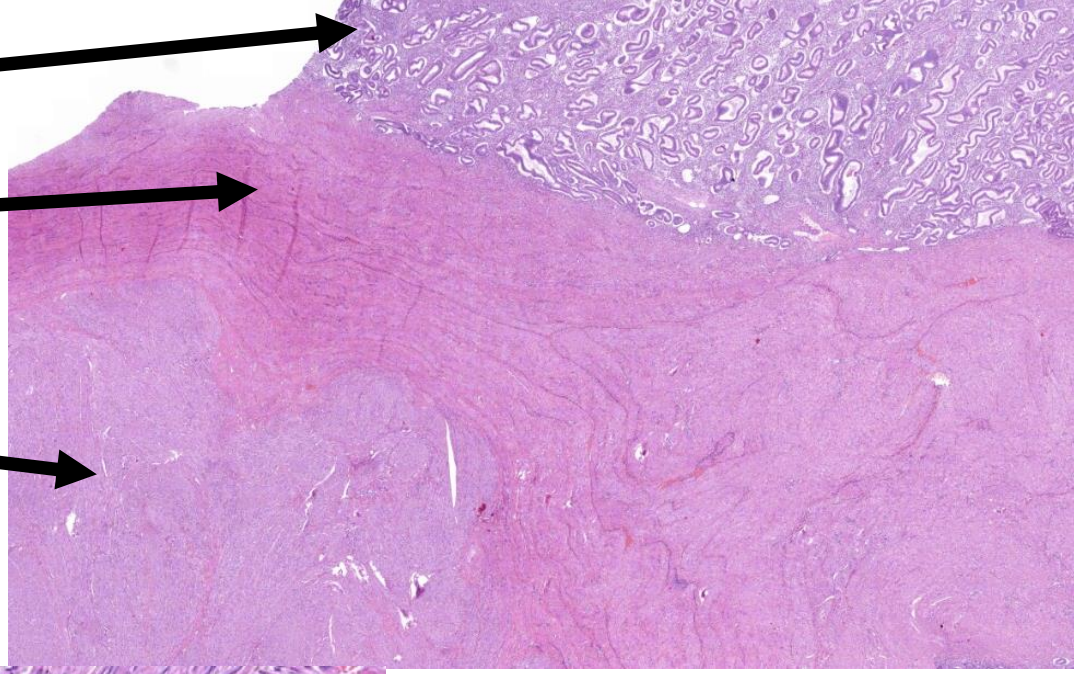

9767/04 1

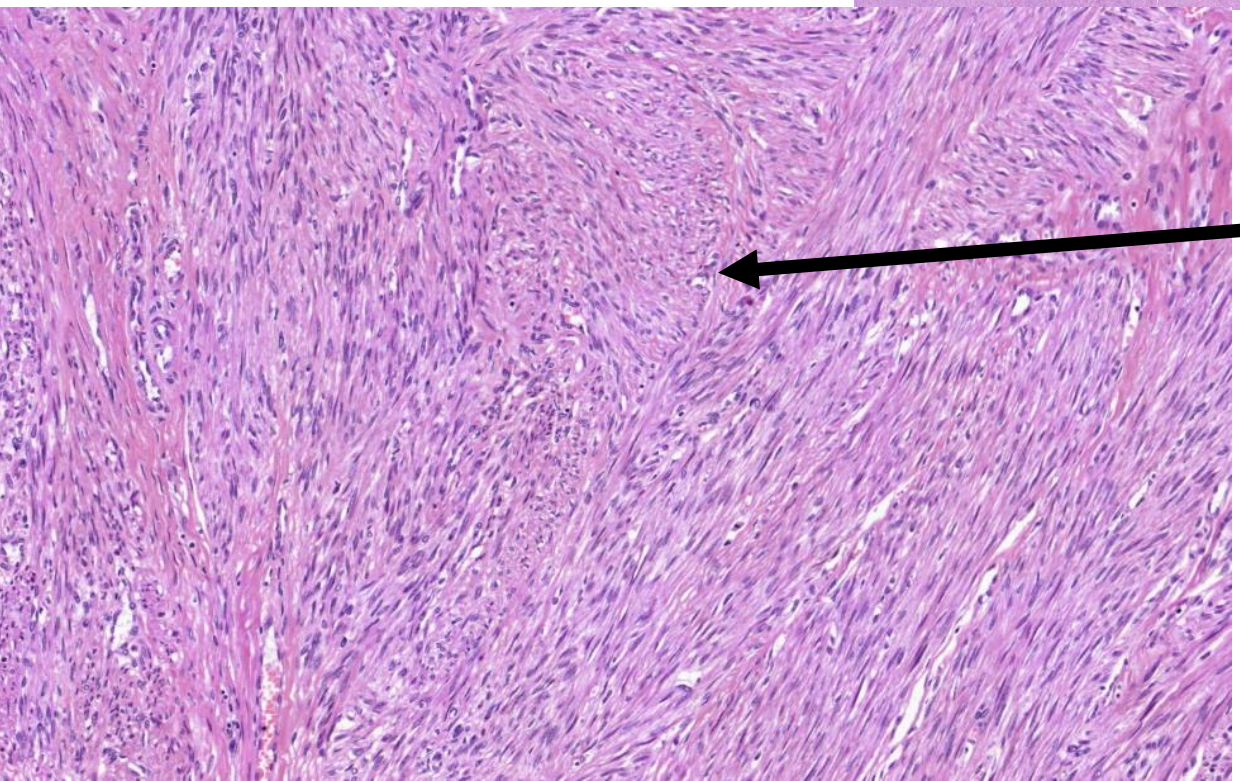


Endometrium

Myometrium

Leiomyoma

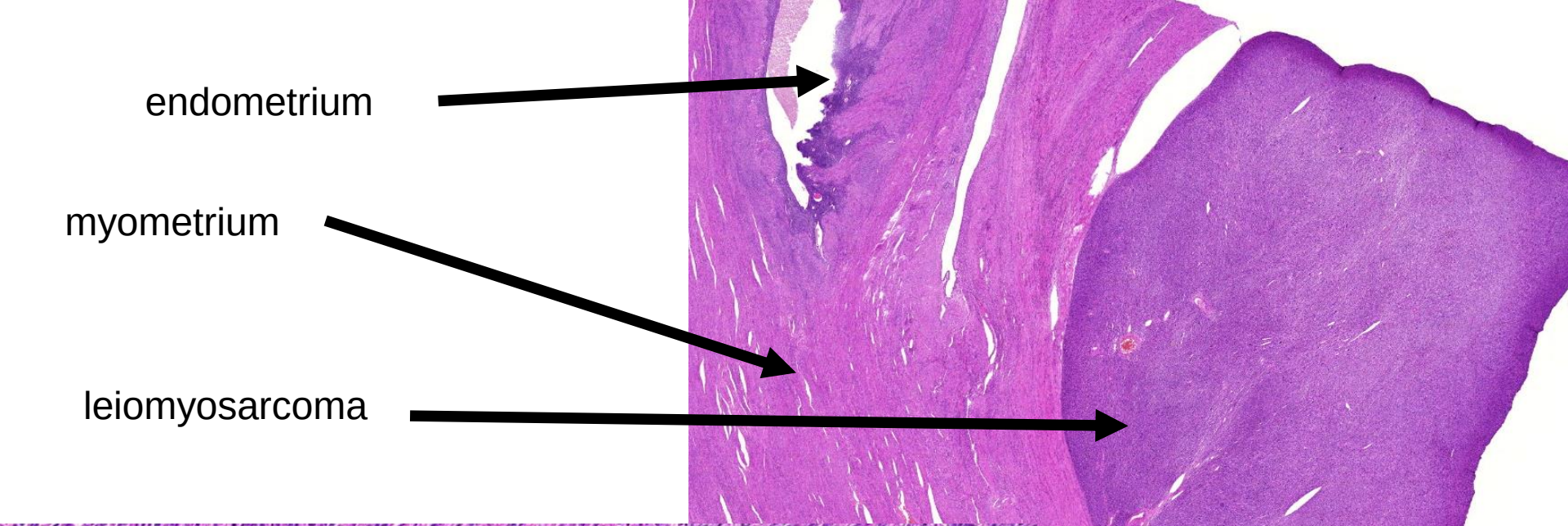


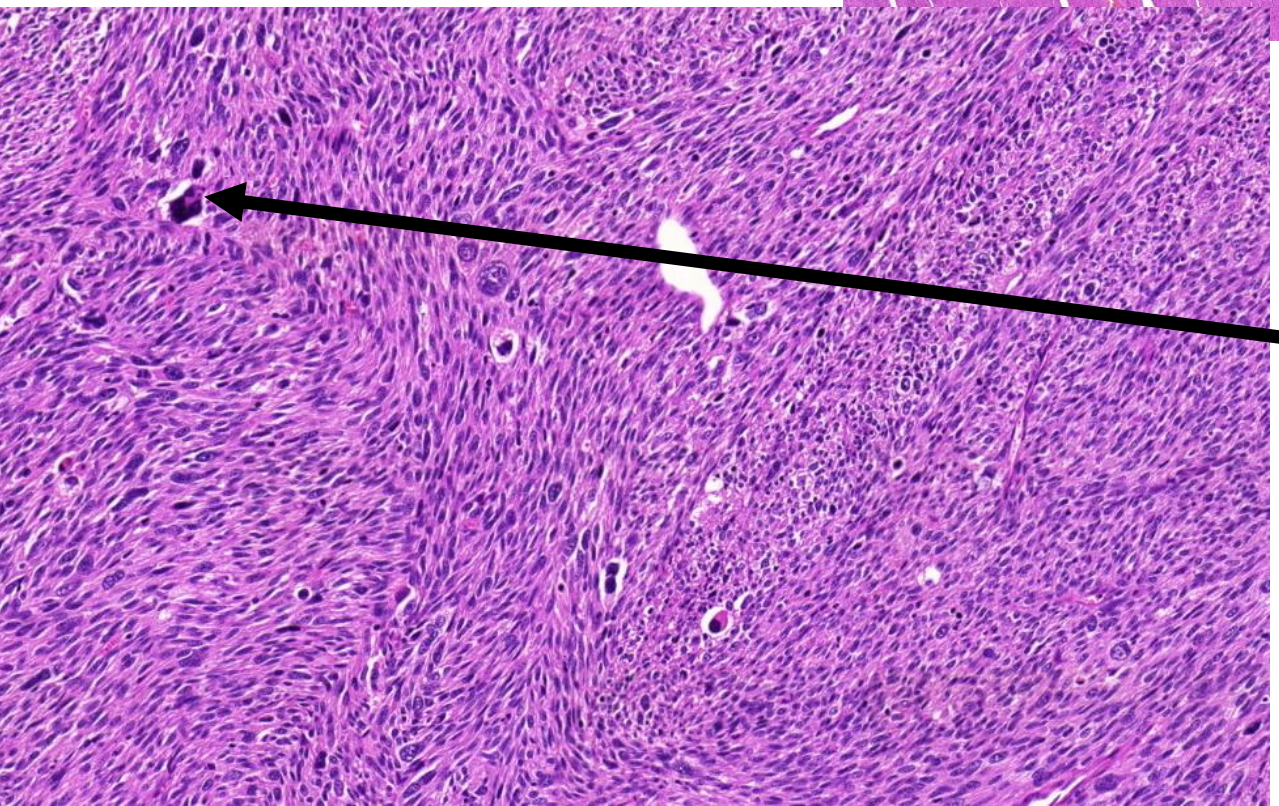


smooth muscle bundles

Leiomyosarcoma

- Most common tumor in women (postmenopausal)
- Arises de novo, solitary
- Soft, with necrosis, haemorrhage
- Cytological atypia, high mitotic rate

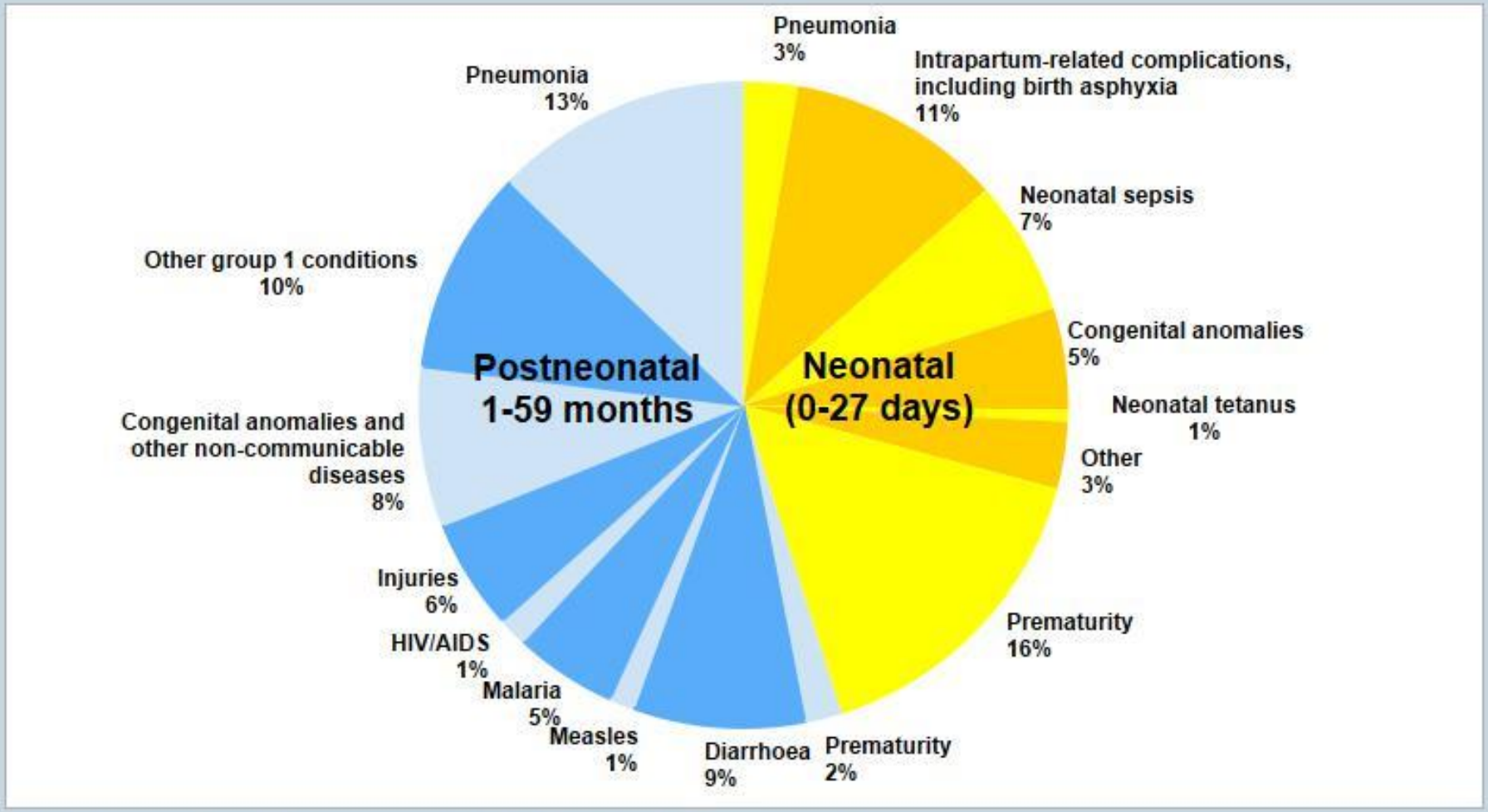

endometrium
myometrium
leiomyosarcoma


cell atypia
mitosis

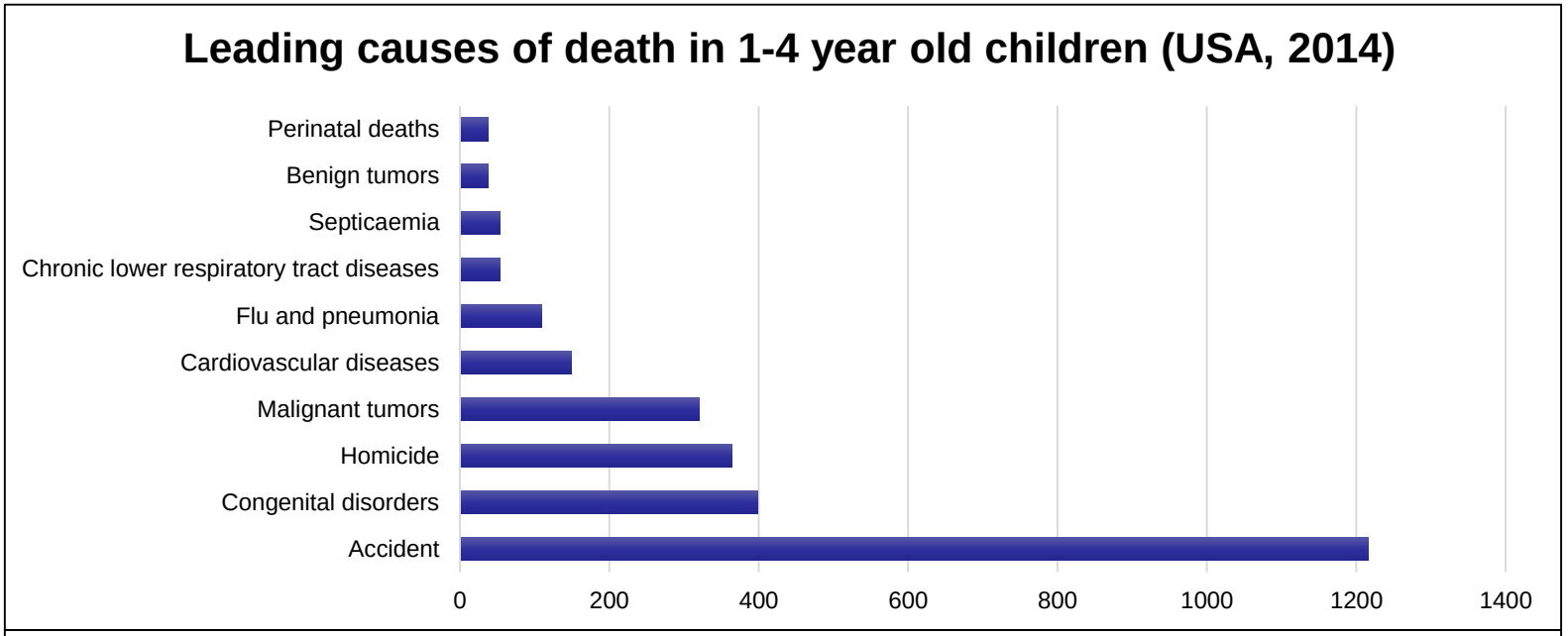
Childhood tumors

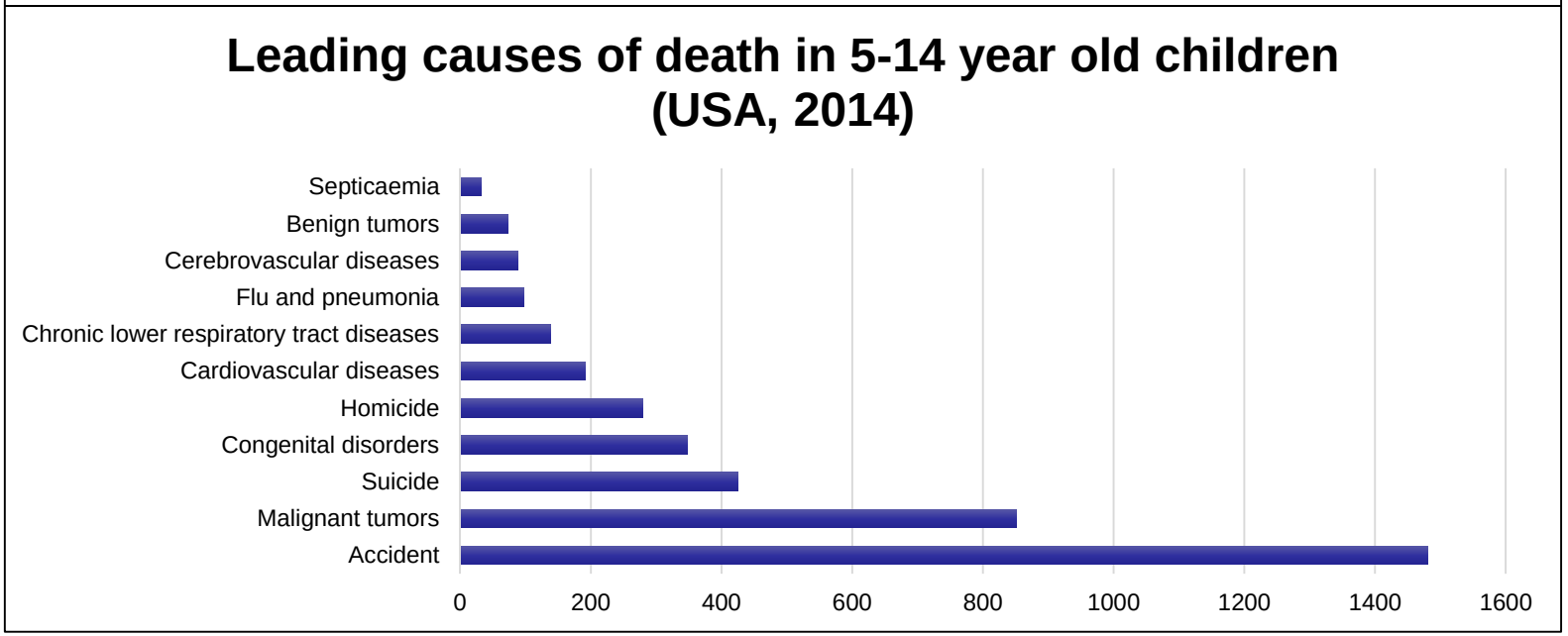
Causes of deaths among children under 5 years, 2015

World Health Organization



Source: WHO-MCEE methods and data sources for child causes of death 2000-2015
(Global Health Estimates Technical Paper WHO/HIS/IER/GHE/2016.1)





Data Source: National Vital Statistics System, National Center for Health Statistics, CDC.
Produced by: National Center for Injury Prevention and Control, CDC using WISQARS™

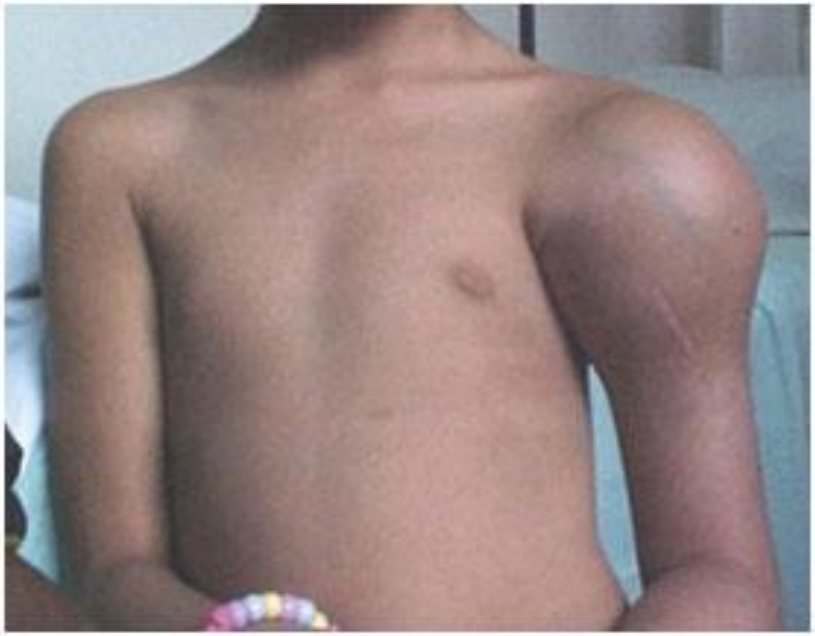
Gyermekkori malignus daganatok gyakorisági eloszlása Magyarországon (2007)

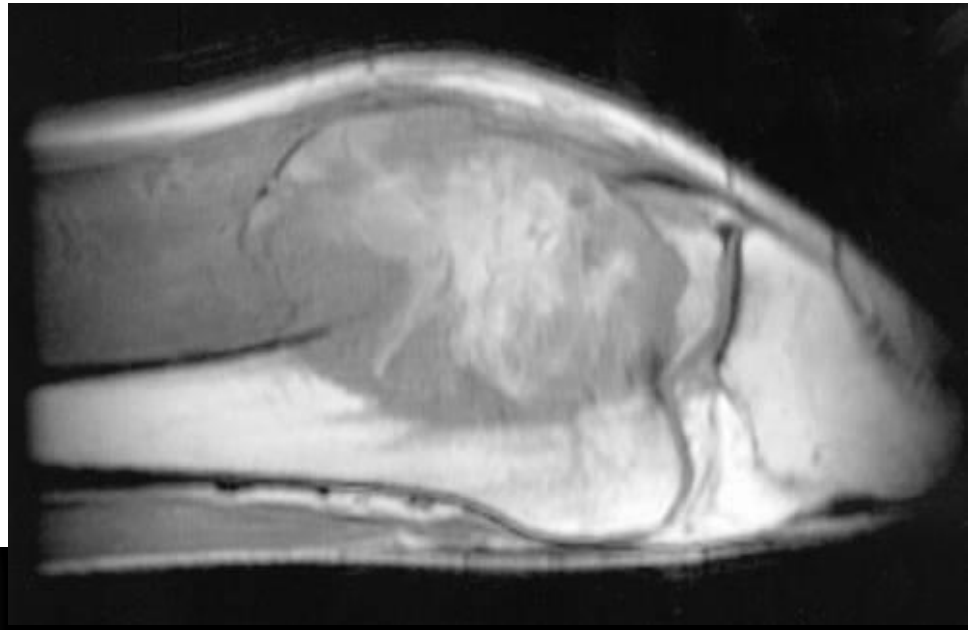
1. Leukemia (ALL 22 %, AML 4 %, CML 1 %)
2. CNS tumors (25 %)
3. Lymphoma (NHL 7 %, HL 7 %)
4. Neuroblastoma (9 %)
5. Soft tissue tumors (6 %)
6. Wilms tumor (5 %)
7. Osteosarcoma (4 %)
8. Ewing sarcoma (4 %)
9. Retinoblastoma (2 %)
10. Germ cell tumors (2 %)
11. Pleuropulmonal blastoma
12. Hepatoblastoma (1 %)

Hungarian National Registry of Pediatric Malignancies

Osteosarcoma

- Peek at age **10-14 years** and in the elderly
- Metaphysis of long bones – most common around knees
- symptoms: pain, swelling, ppathological fracture
- diagnosis: x-ray, biopsy
- Increased risk: prior radio- or chemotherapy






Codman triangle

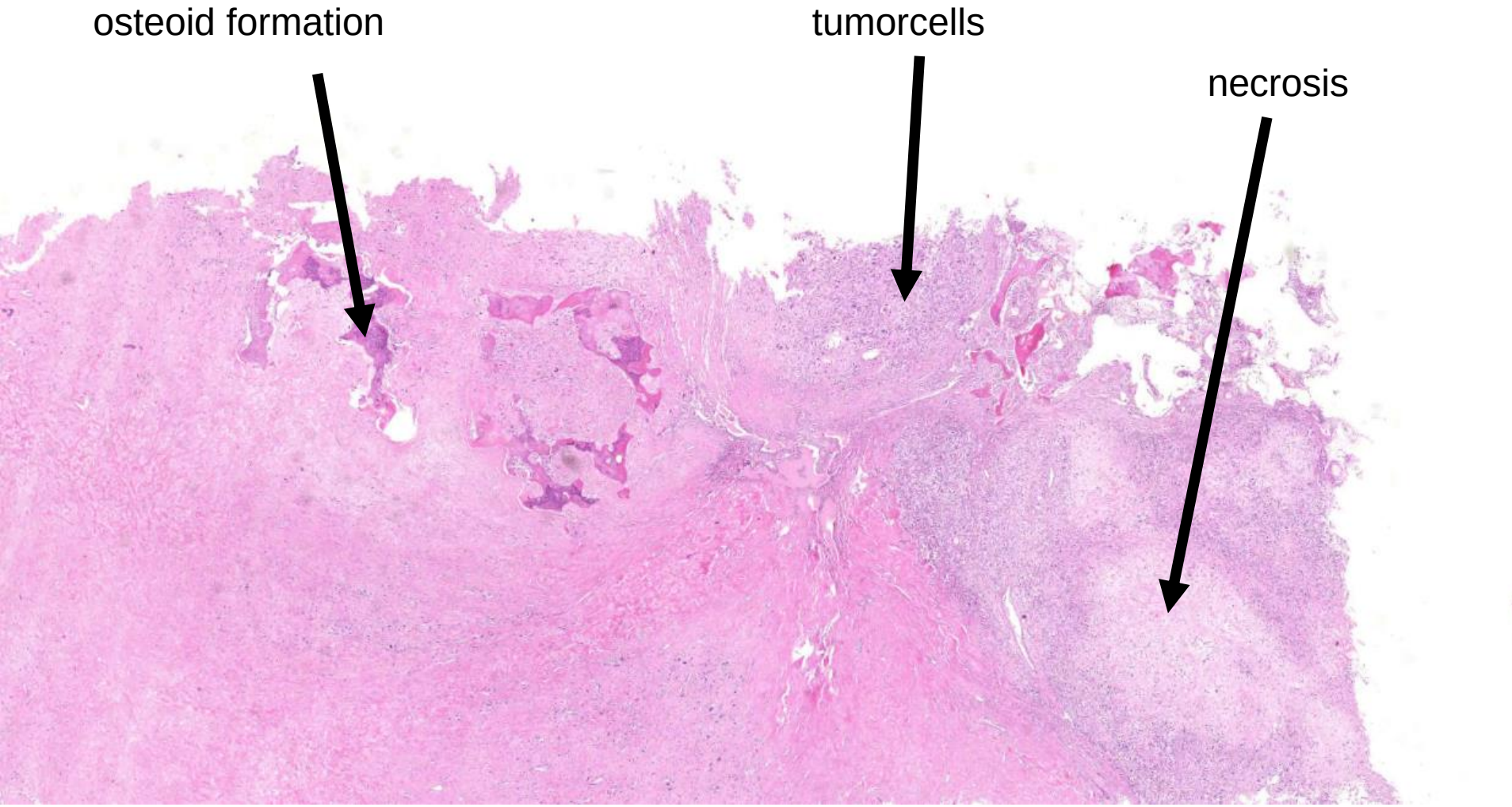
Histology

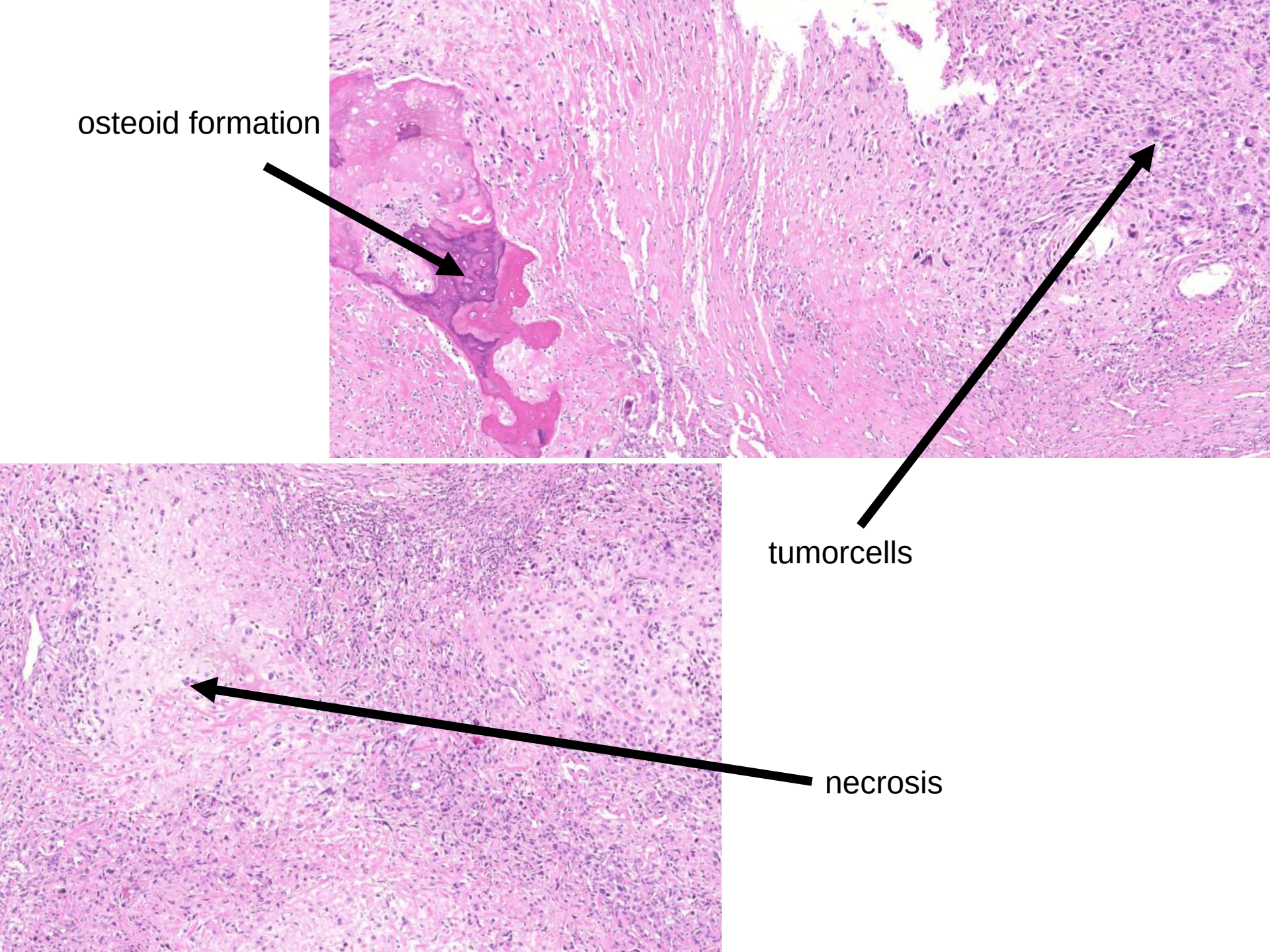
- **osteoid** (bone formation) is the most characteristic feature (amorphous, eosinophilic material).

- anaplastic tumor cells (**osteoclast-type giant cells)**

- Atypical mitotic figures

- Tumor cells found in the osteoid matrix as well


osteoid formation
tumorcells
necrosis


osteoid formation
tumorcells
necrosis

NEUROBLASTOMA

Neuroblastoma

- Derives from the neural crest
- Adrenal medulla, sympathic ganglia, Mellékvese velő, symp. Ggl, posterior mediastinum)
- Most common solid tumor in children
- May be sporadic or inherited
- May be in situ (40x more common) or solid (1kg, encapsulated) invasive

Symptoms

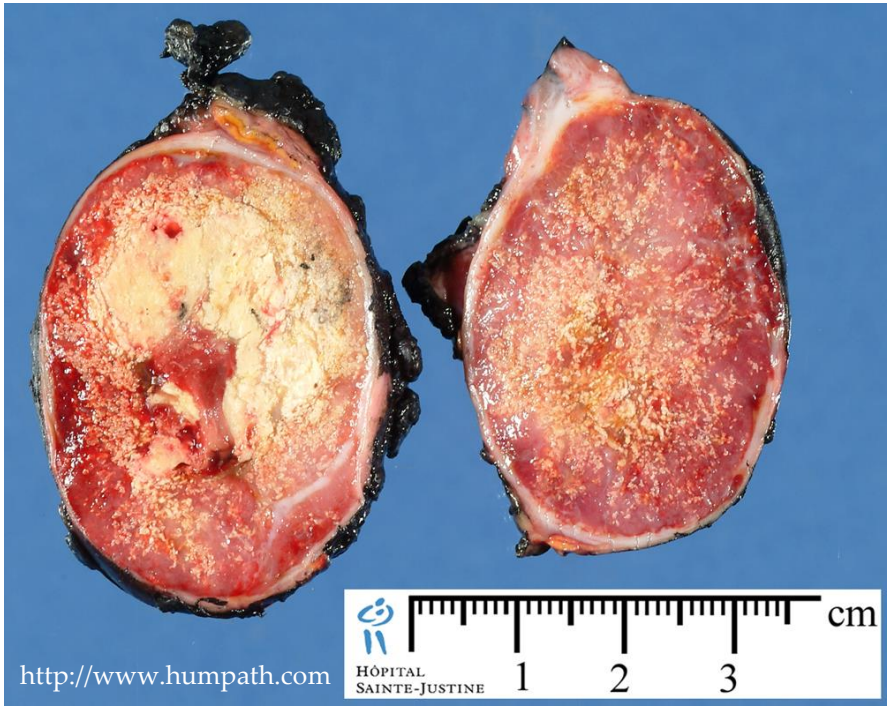
- No signs
- General sy.
- specific: watery diarrhea, recurrent fever, high blood pressure
- Symptoms depending on the site affected
- Blueberry muffin baby

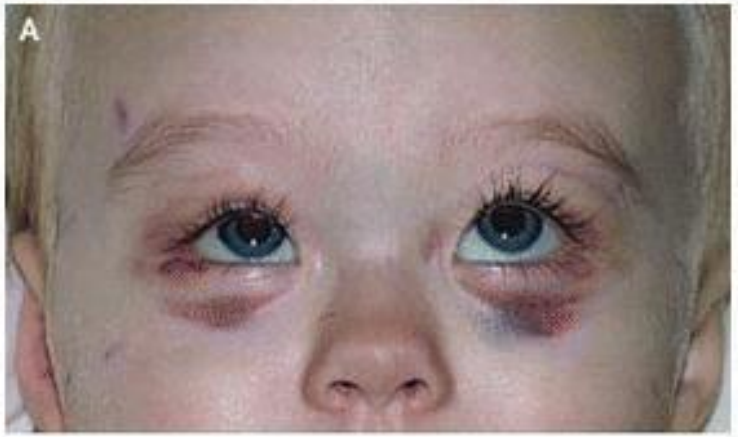
Diagnosis

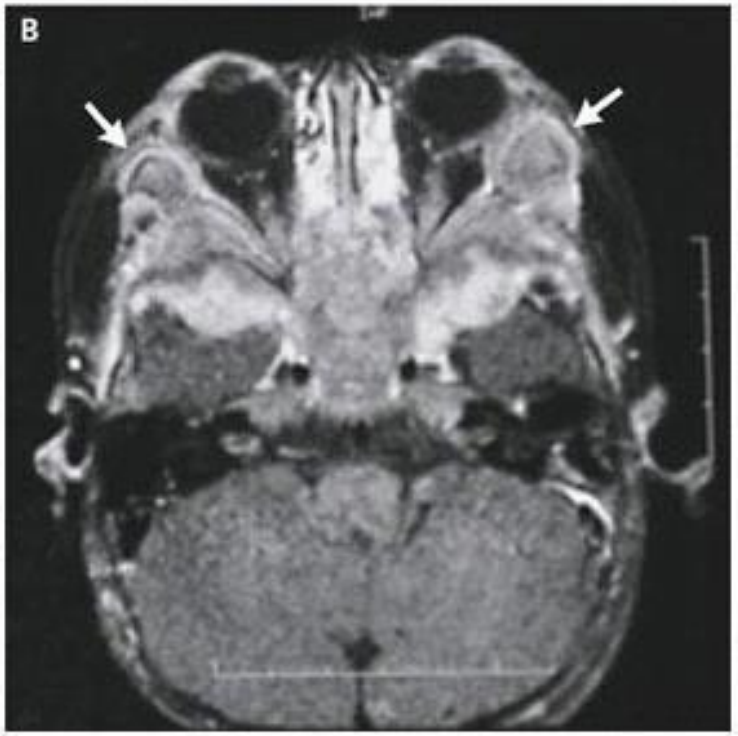
- US,CT etc.
- Blood test (NSE, ferritin, LDH)
- Urine test (VMA, HVA)
- Biopsy (N-MYC amplification test)

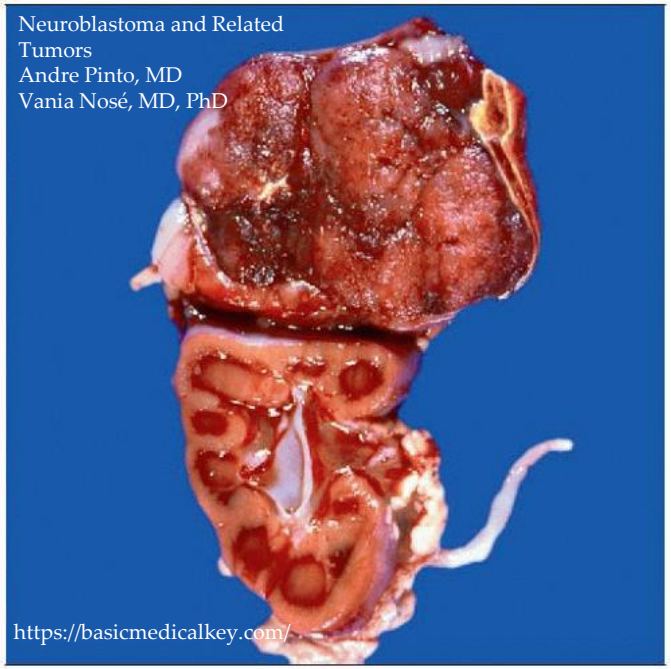
Prognostic factors

- Age: infants **< 1 év** = excellent prognosis
- Tumor ploidity: **hyperdiploid or near triploid** tumors which develop in infants have good prognosis
- **Deletion on the distal short arm of chr. 1** – worse prognosis
- **N-myc oncogene amplification** – worse prognosis
- Differentiation and regression (**Trk A receptor**): increased expression of Trk A gene has good prognosis, if not associated with N-myc amplification.





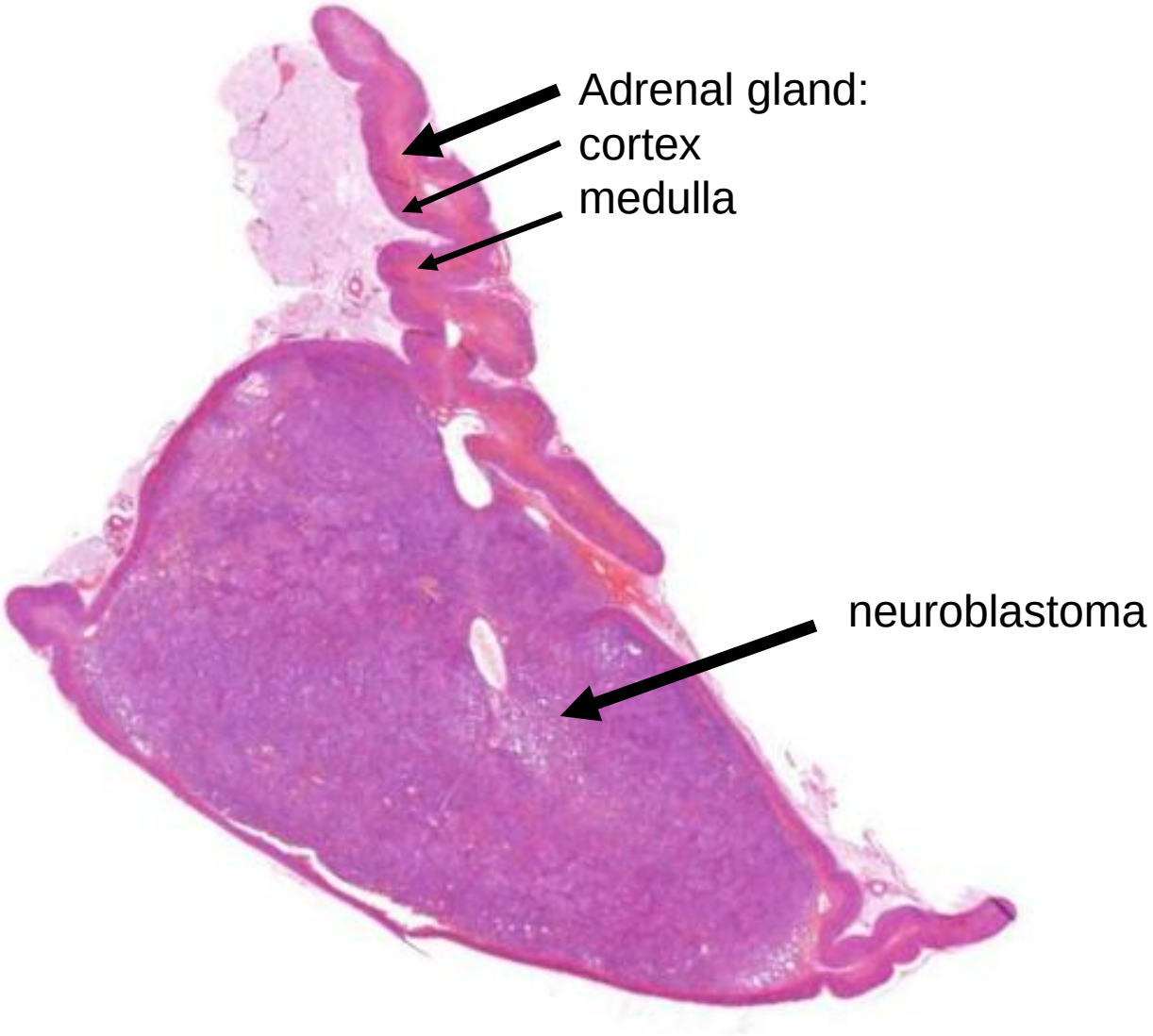




Raccoon Eyes and Neuroblastoma
Robert Timmerman, M.D.
N Engl J Med 2003; 349:e4July 24, 2003DOI: 10.1056/ENEJMicm020675

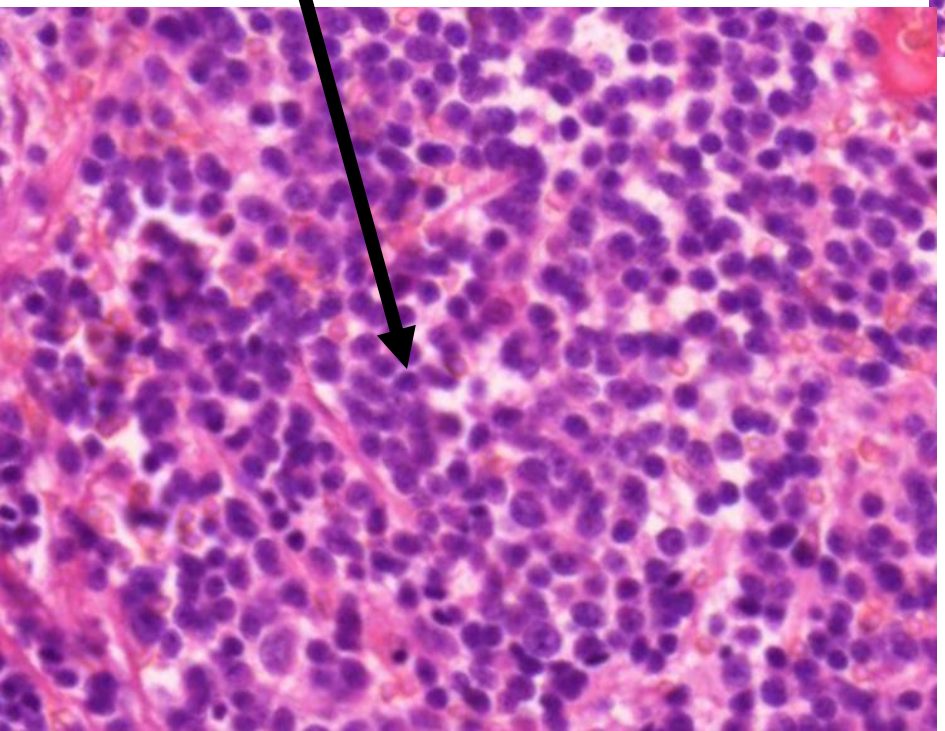
Histology

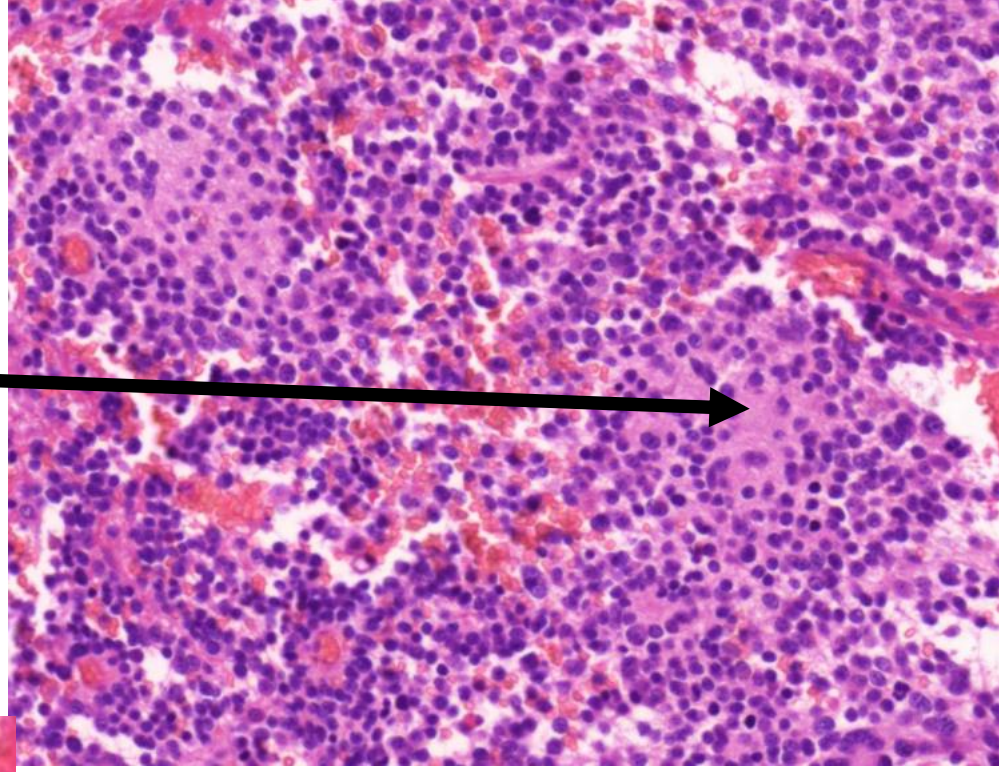
- Small round blue cell tumor
- Homer-Wright-pseudorosettes
- neuropil
- Markers: neuronspec.enolase (NSE), chromogranin-A positivity


Adrenal gland:
cortex
medulla
neuroblastoma

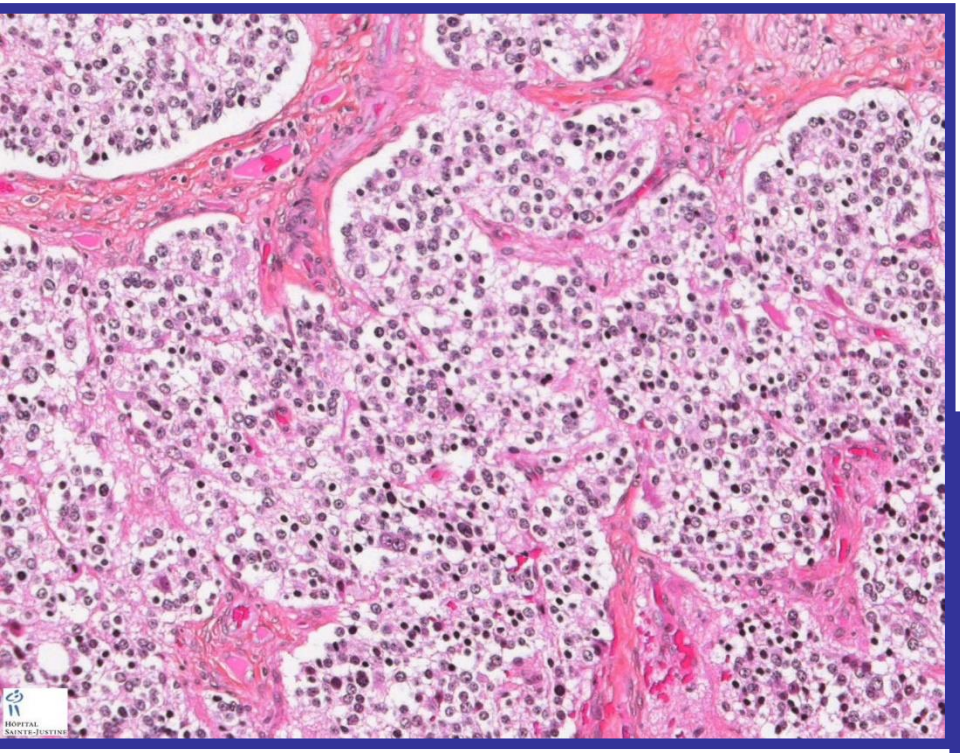
neuropil
Homer-Wright
pseudorosettes

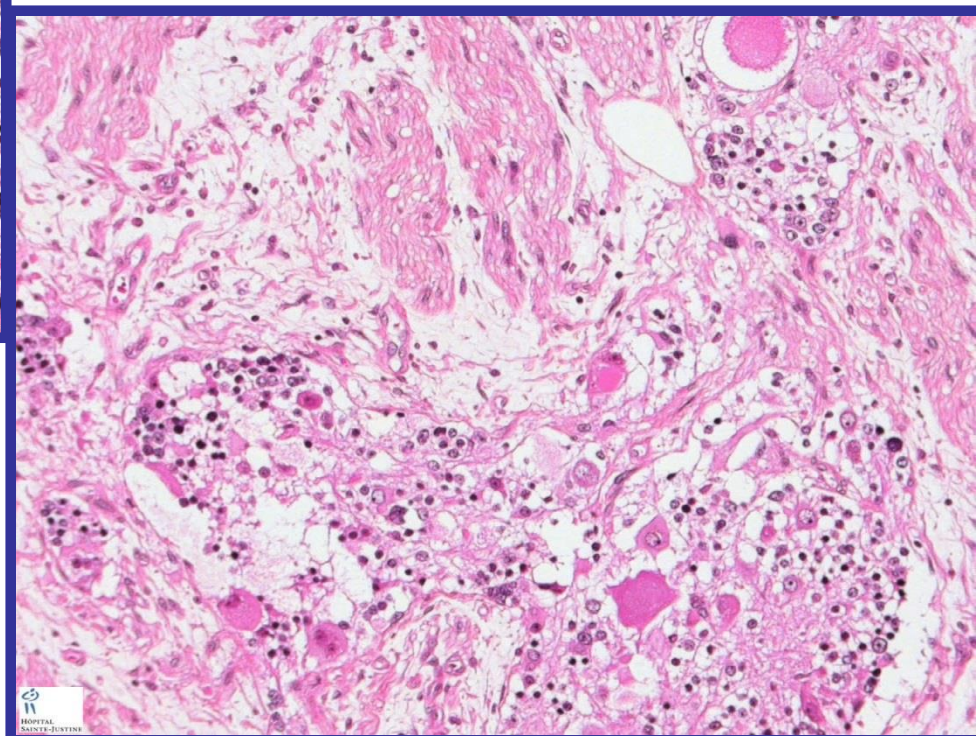
Small round blue tumorcells



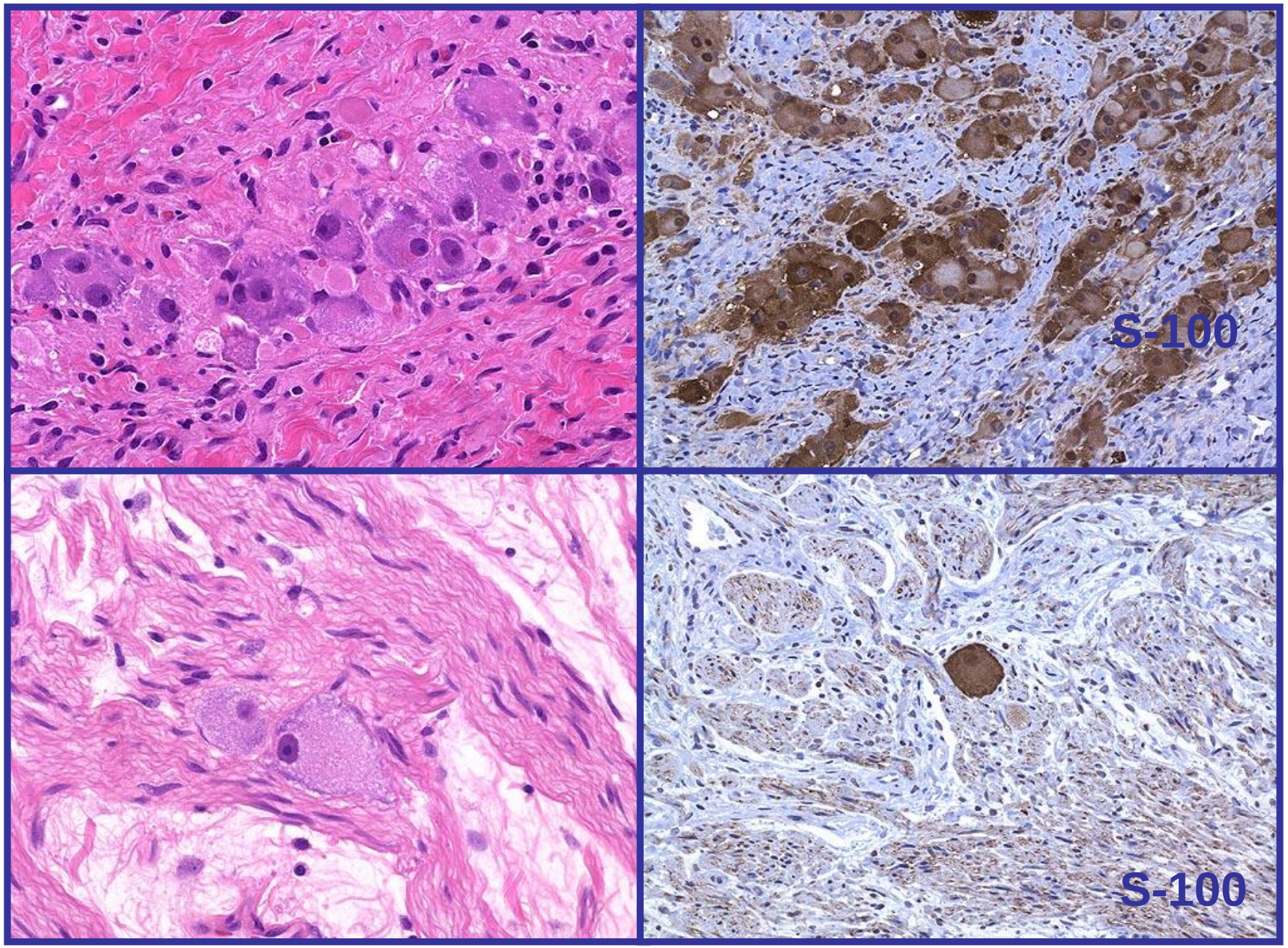


Ganglioneuroblastoma





Ganglioneuroma



Wilms tumor - nephroblastoma

- Palpable big abdominal mass
- Pain
- Ileus
- Hematuria
- Hypertension
- 11p 13 del.(WT-1 gene), 11p 15.5 (WT2 gene)

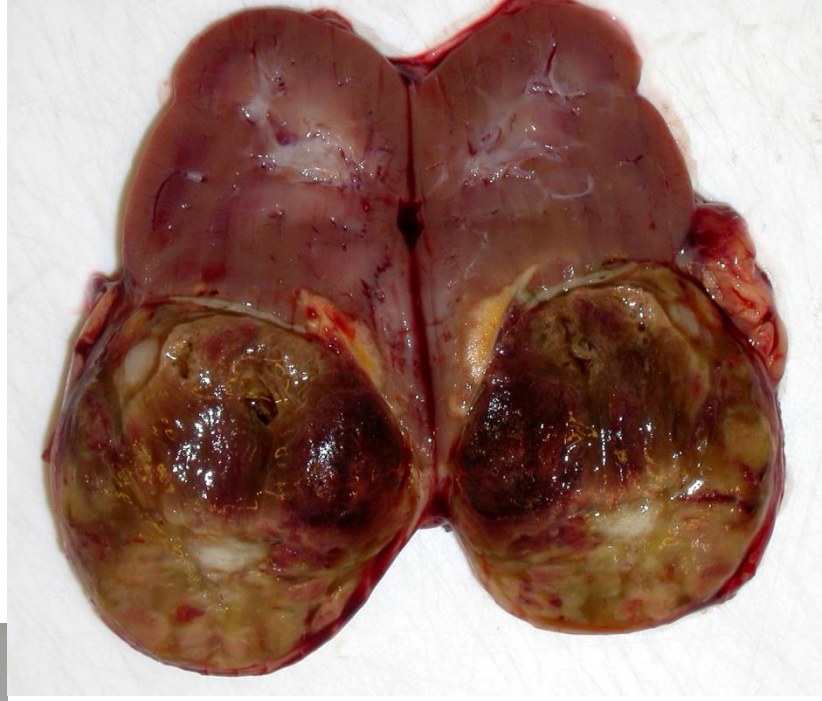
Pathology

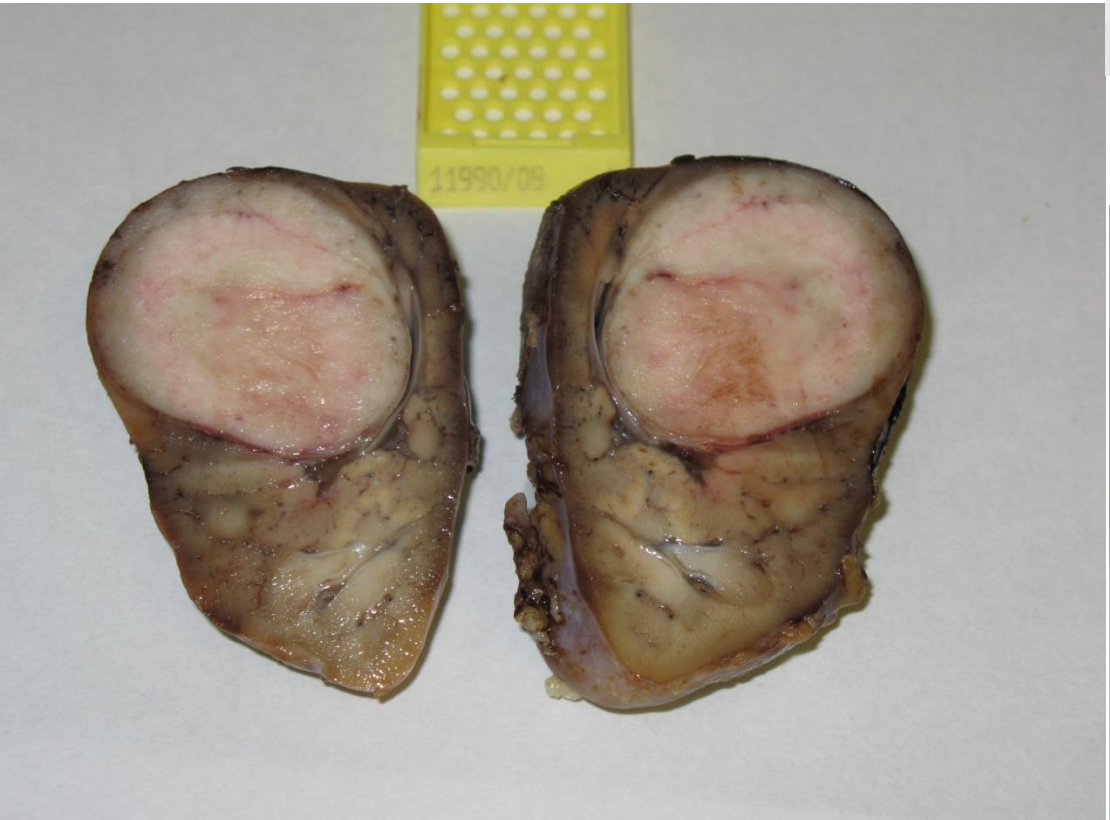
- **Unilateral** or bilateral (**<**5%)
- Encapsulated and vascularized tumors
- Metastasis formation most commonly in the lungs
- Triphasic tumor:

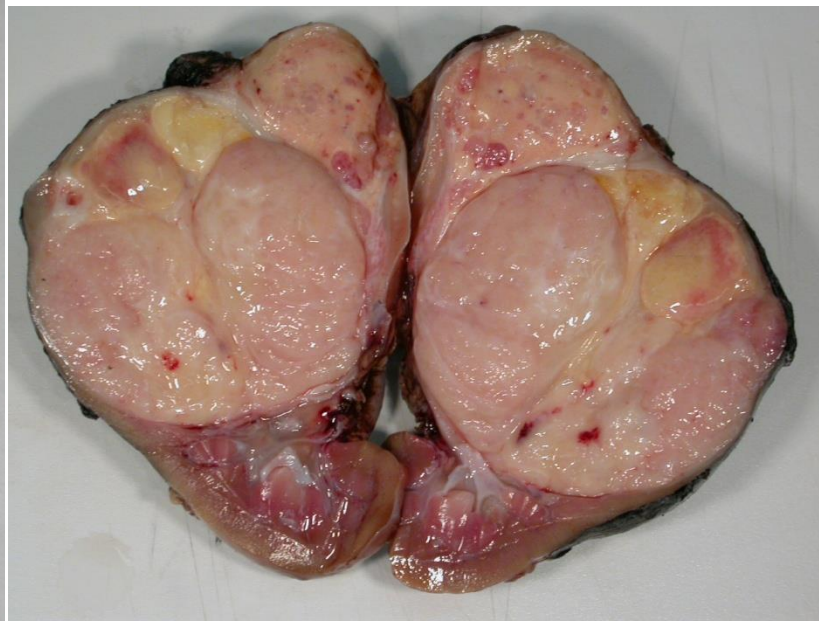
  - **blastema (metanephric)**
  - **mesenchymal (stroma): skeletal muscle, cartilage, bone, connective tissue**
  - **epithelial (abortive tubules, glomeruli)**

Rhabdomyoid component may show malignant features: Rhabdomyosarcomatous Wilms.

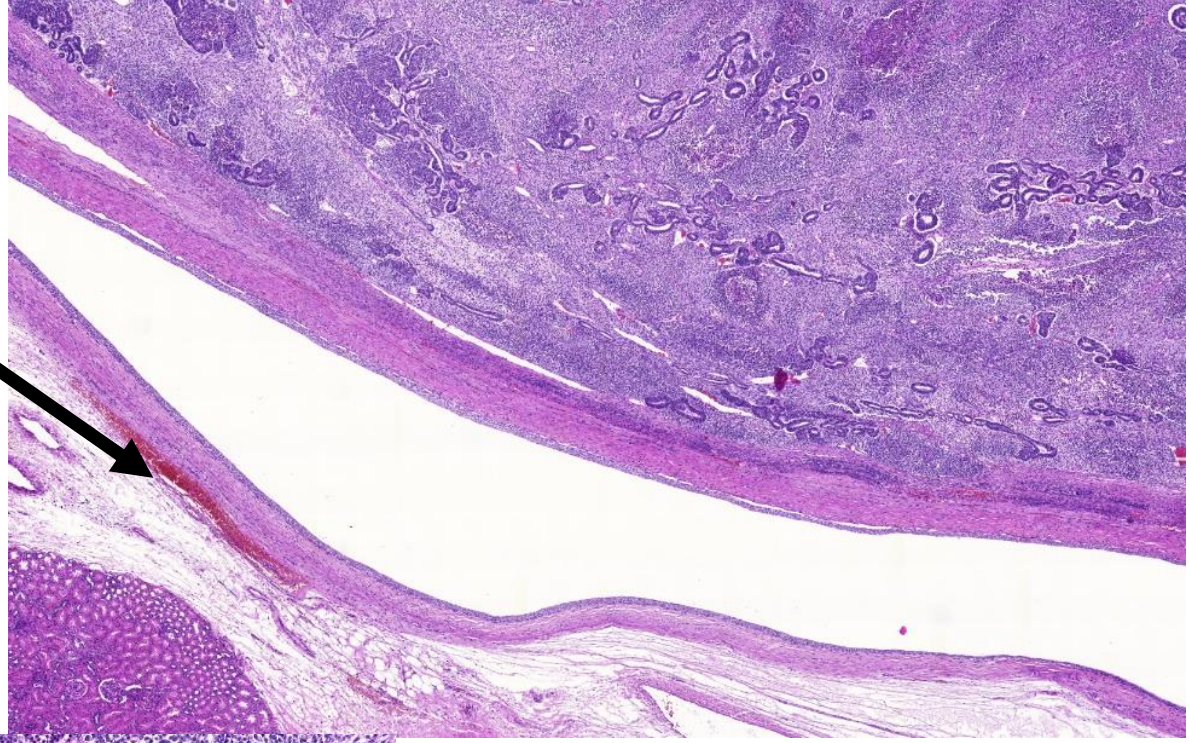
Wilms tumor

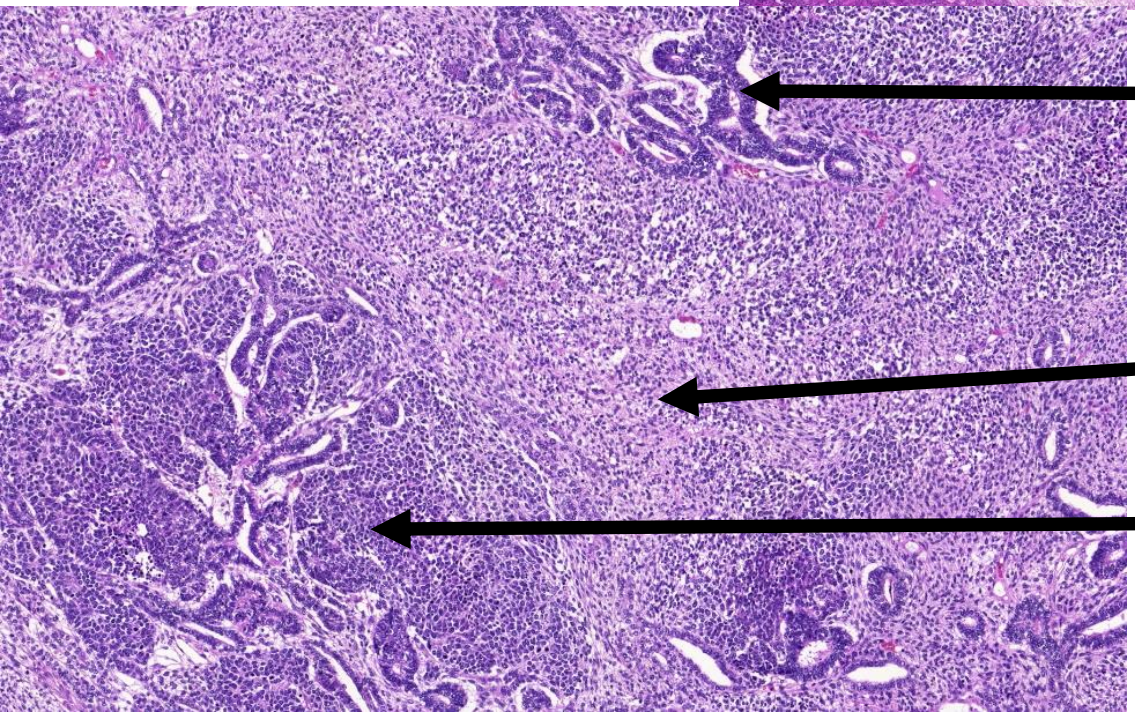






Kidney pyelon





abortive tubules and glomeruli

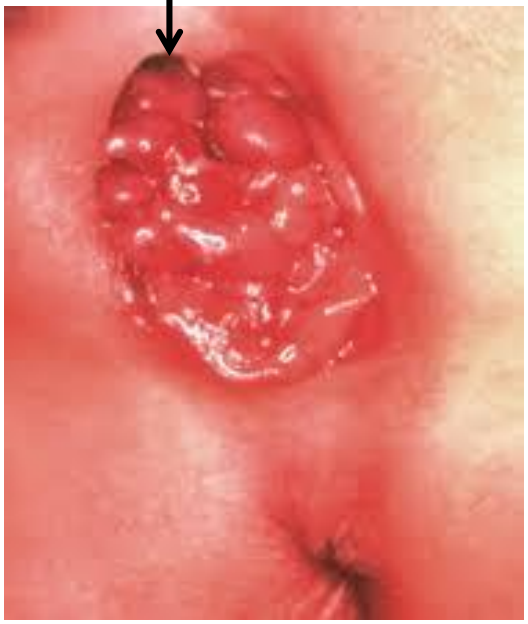
stroma

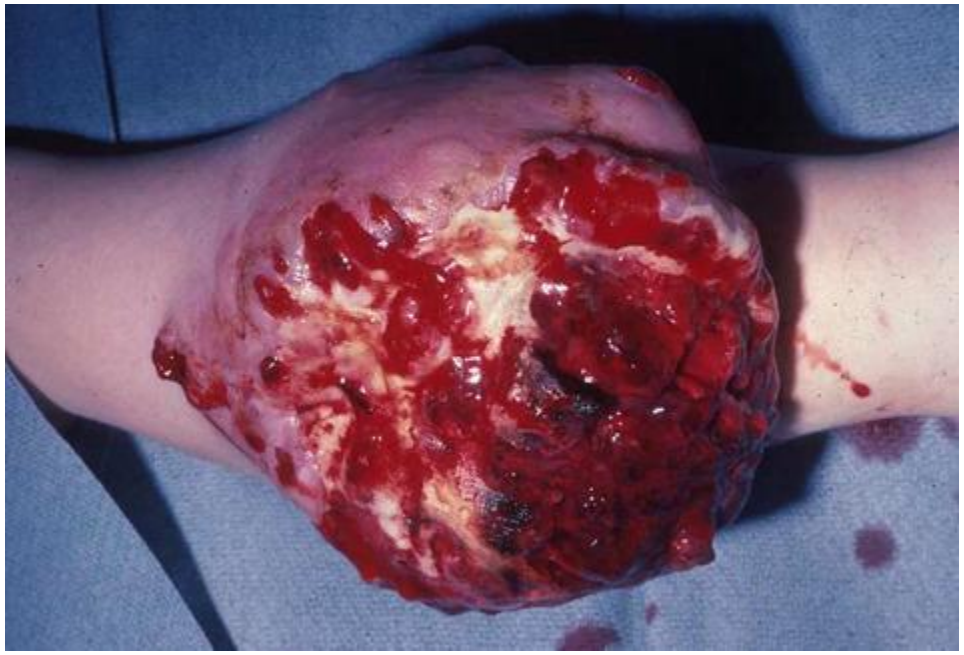
blastema

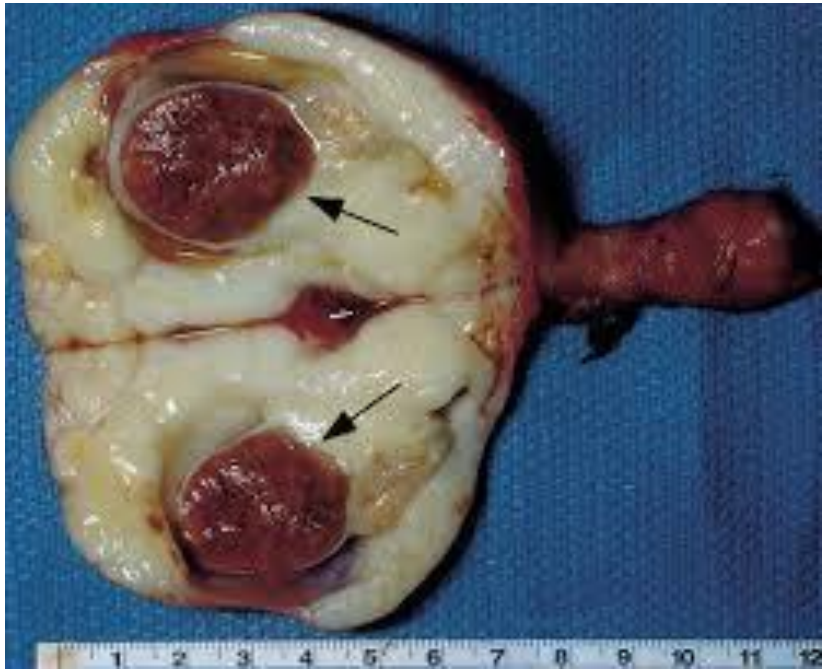
Rhabdomyosarcoma

- Common sarcoma type of childhood
  - Head-neck region, urogenital area
- Embryonal type
  - Botryoid
- Alveolar type
  - Young adults, extremeties
- Pleiomorphic type
  - Adults, lower limb

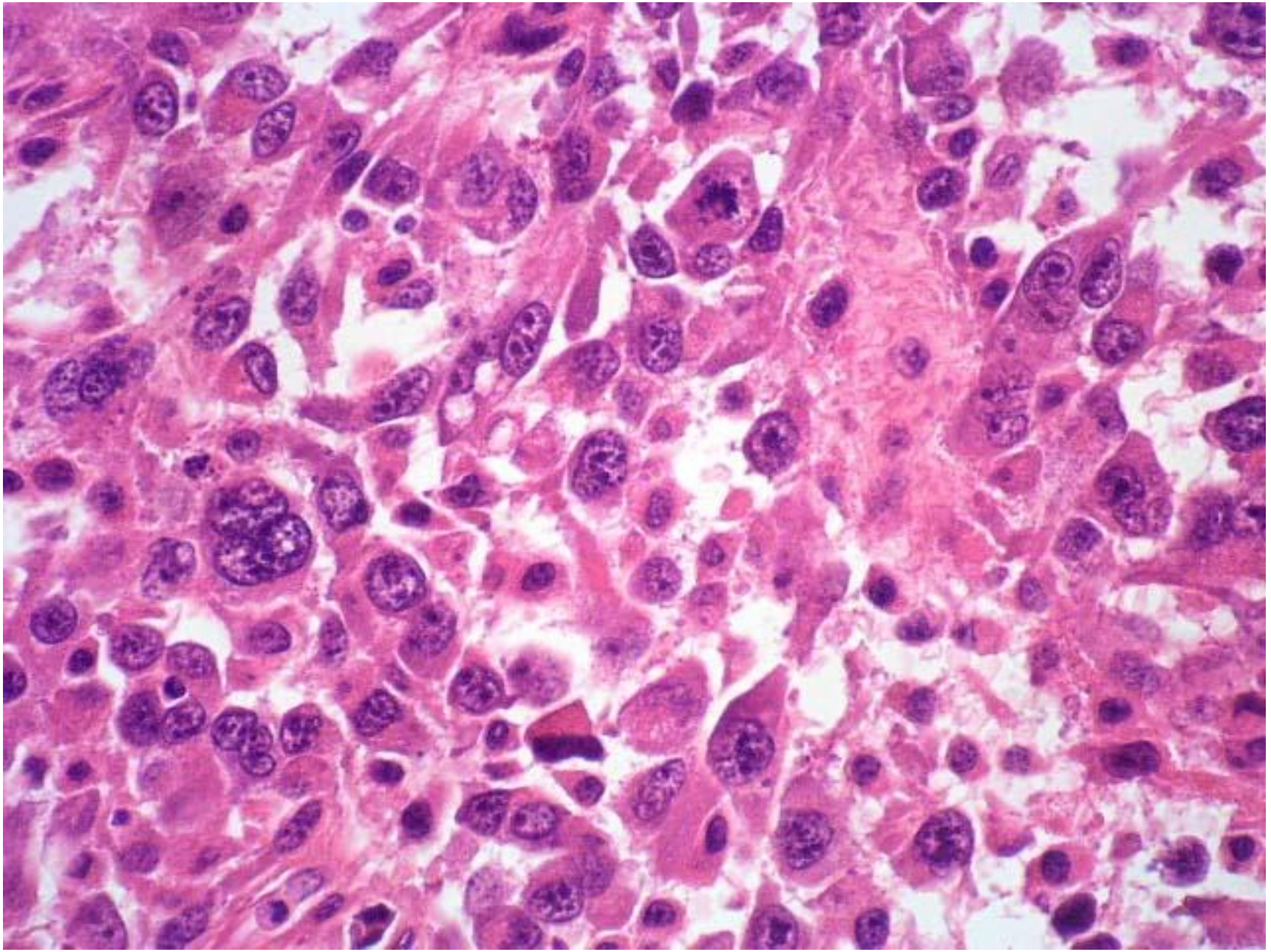
vagina





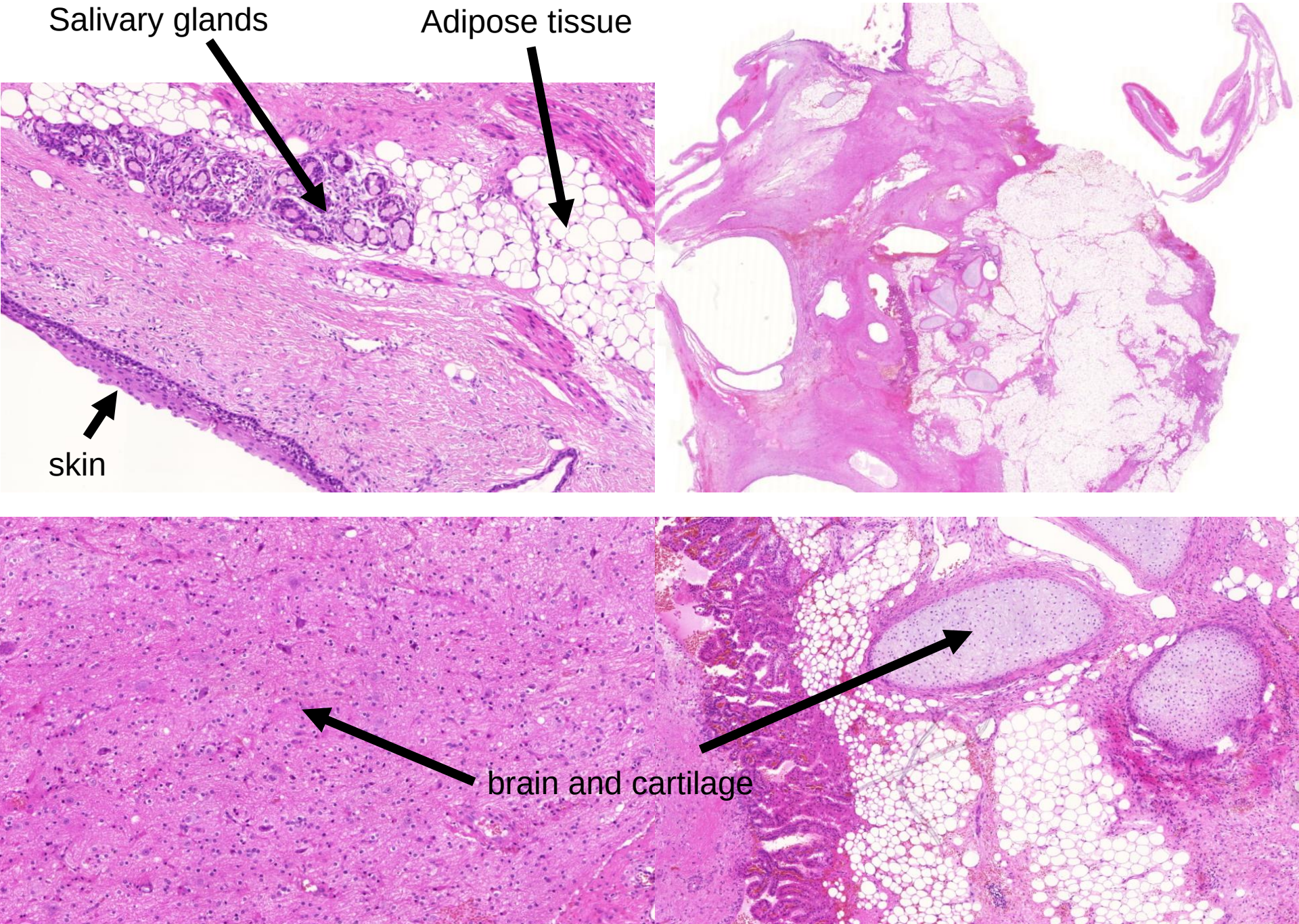


Botryoid type



Teratoma

- Germ cell neoplasm
- Ovary, testis, sacral region
- Often cystic
- Tissues seen from all three germ layers:
  - Ecto-, meso- and endodermal
- Benign (mature) and malignant (immature) teratoma


Salivary glands
Adipose tissue
skin
brain and cartilage