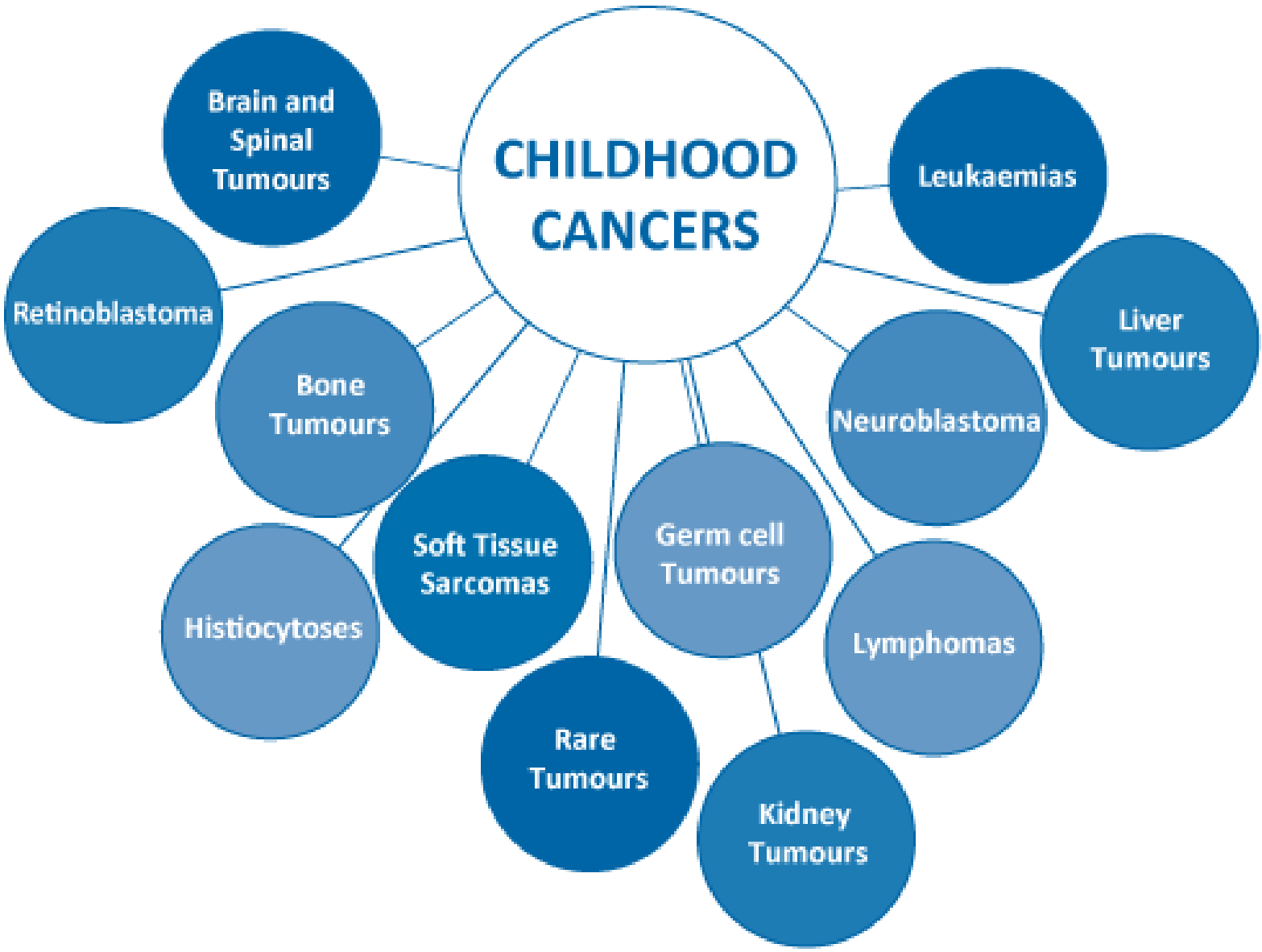
«UMSA»

Pediatric Surgery

Tumors in children.


CHILDHOOD CANCERS
Brain and Spinal Tumours
Leukaemias
Retinoblastoma
Liver Tumours
Bone Tumours
Neuroblastoma
Soft Tissue Sarcomas
Germ cell Tumours
Histiocytoses
Lymphomas
Rare Tumours
Kidney Tumours

TUMOR -

is the excessive proliferation of some tissues of any location.

Benign tumors - growing separates surrounding tissue, often capsule consisting of differentiated cells ,do not metastasize and did not recur after radical surgery

Malignant tumors - have autonomy development, anaplasia capable infiltrative growth in the surrounding tissues, metastasis through the blood and lymph vessels are immune, hormonal, biochemical and other atipizm.

5 main locations of tumors in children - *a blood-forming organs, bones, retroperitoneal space, central nervous system, eyes*

Features of diagnosis of tumors in children

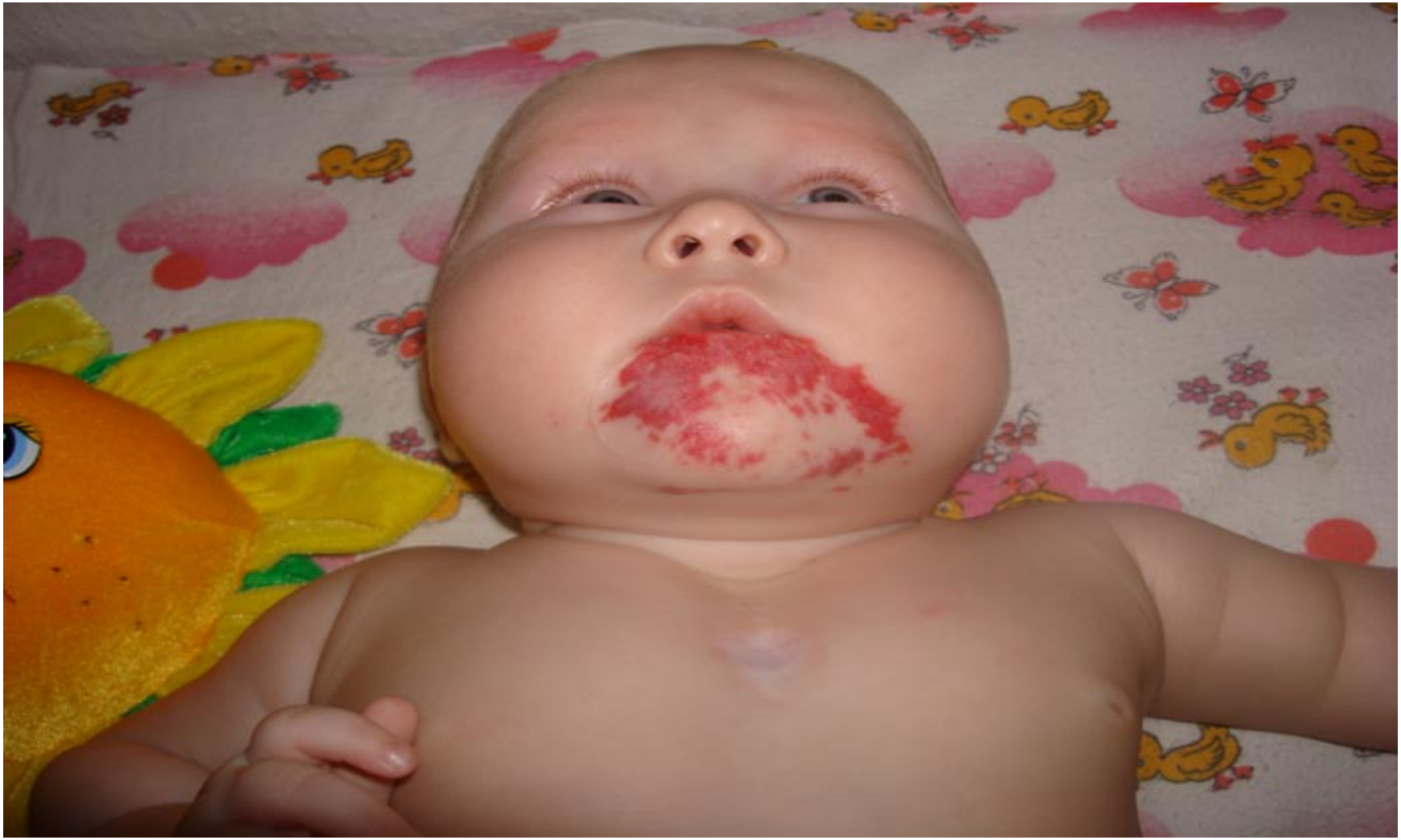
- Difficulties in getting complaints from young children (no complaints)
- Common symptoms predominate over of the local ones
- A small number of visually observable tumors
- Preferential location of the tumor in inaccessible for direct study areas (the central nervous system tumor, retroperitoneal)
- Masking tumors under the numerous "masks" (any disease, malformations)
- The need for anesthetic management

The predominance of the common symptoms of the local

- Weakness
- slackness
- Decreased appetite
- Periodic headache
- Nausea, vomiting
- Recurrent abdominal pain
- Low-grade fever

- **Stage I** – tumor is limited by organ or tissue in which it is located.
- **Stage II** – is tumor beyond the organs or tissues, in which it originated.
- **Stage III** – tumor lesions the nearby organs or tissues and spread to regional lymph nodes, tumor effusion in serous cavities that area of the body where the tumor is located.
- **Stage IV** - the presence of distant metastases

Hemangioma



Hemangioma

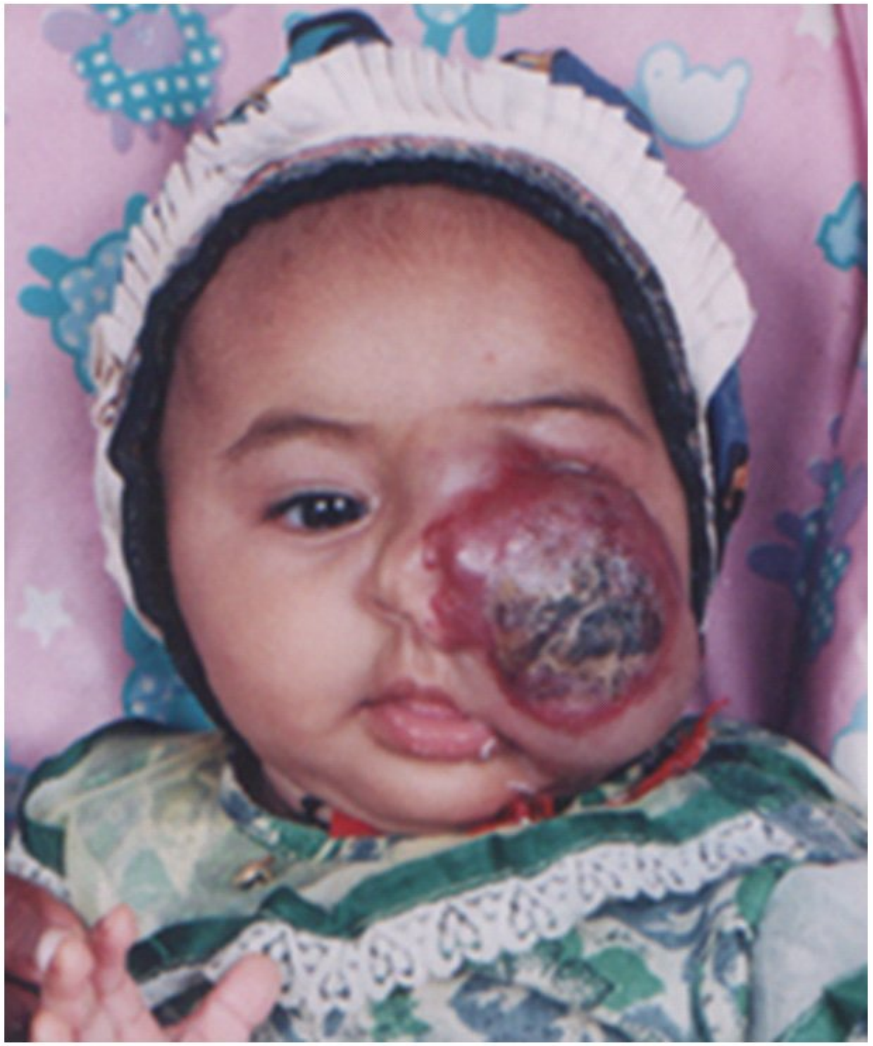
- Benign vascular tumor. Makes 45.7% of all skin tumors and soft tissue
- **Classification** (Fedoreyev GA):

--true (capillary, cavernous,)

--false (flat, star-shaped, piokokovi granulomas, medial spots)

- **Location:** the upper half of the body, mostly a head and the neck
- It has a tendency to rapid, often unpredictable, growth.
- There is a possibility of spontaneous regression of capillary hemangiomy
- **Complications:** cosmetic defect, ulceration, bleeding

Hemangioma



Treatment:

-surgical;

-injection;

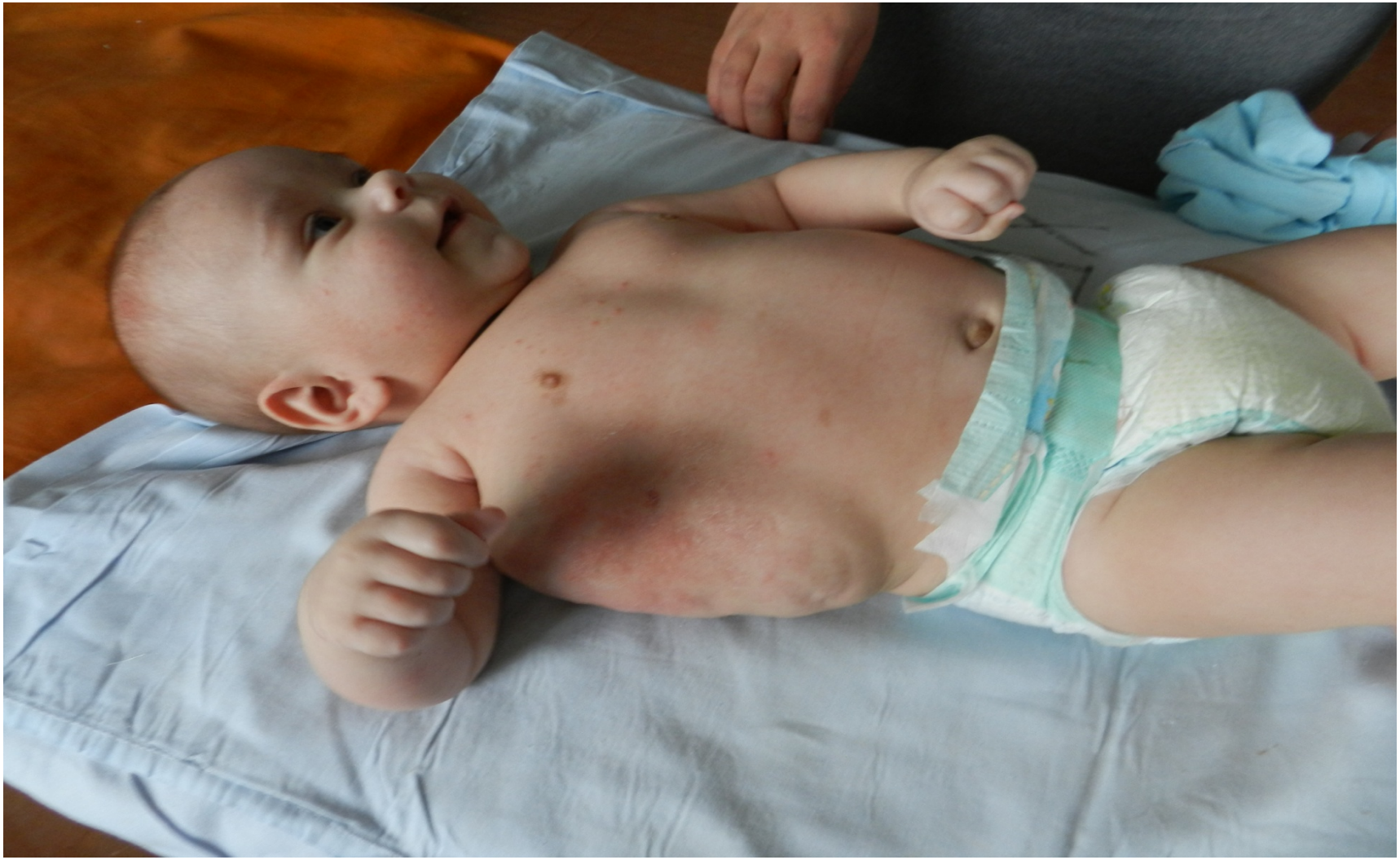
-cryotherapy;

-electrocoagulation;

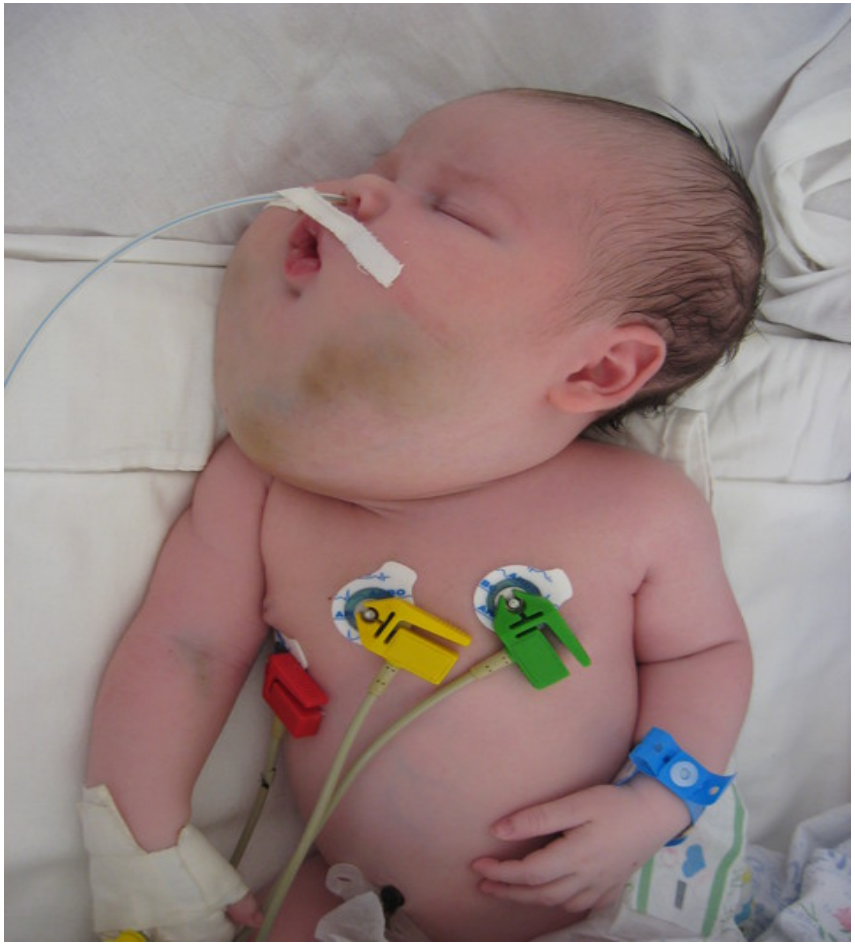
-radiation therapy

-hormonal therapy.

Lymphangioma

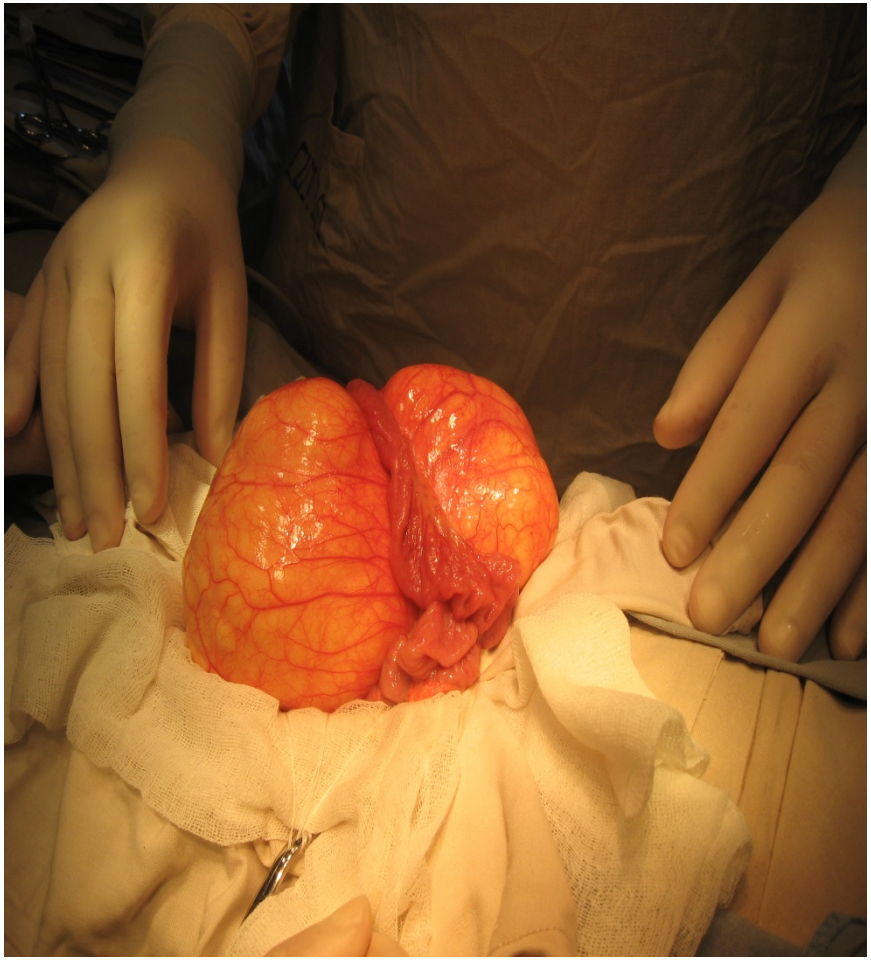


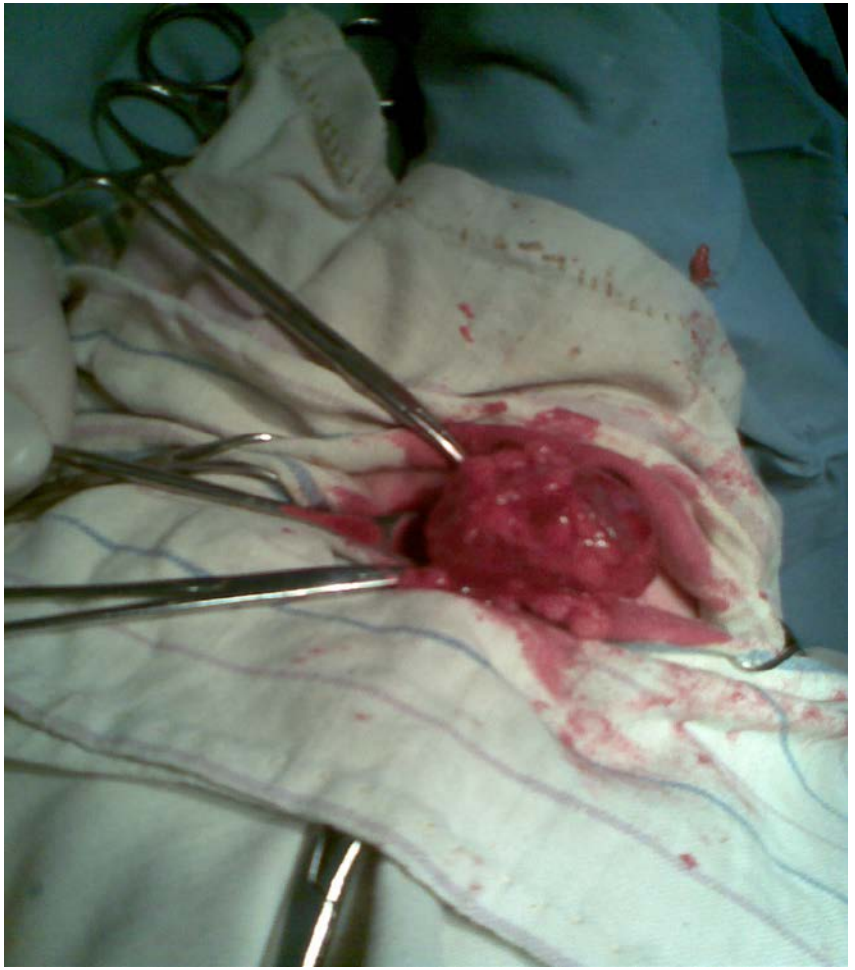
Lymphangioma



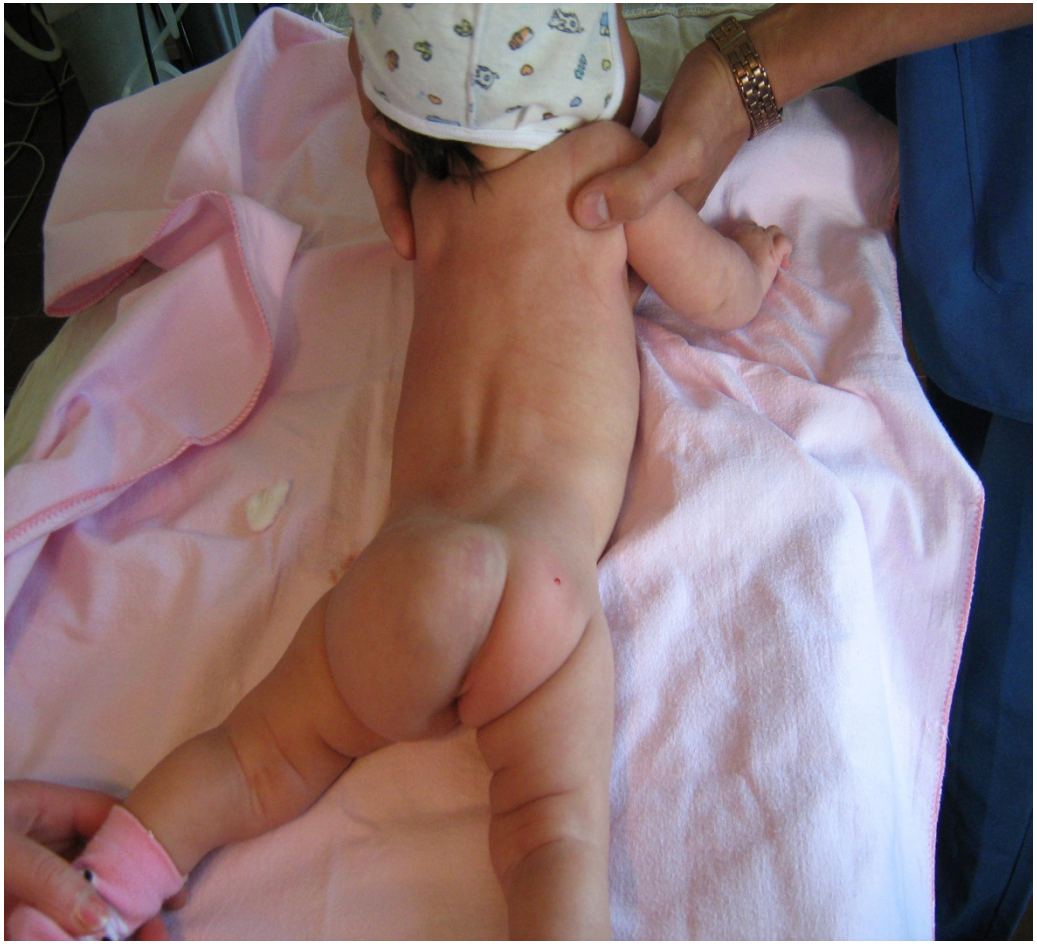
- Congenital benign tumor composed of lymph vessels.
- Makes 10-12% of all benign formations in children
- **By building** may be simple, diffuse, cavernous and cystic lymphangioma.
- **Location**: axillary area, neck, cheeks, lips, tongue, inguinal area, at least - the root of the mesentery, retroperitoneal space, mediastinum
- **Complications**: ignition, compression of important organs

Lymphangioma



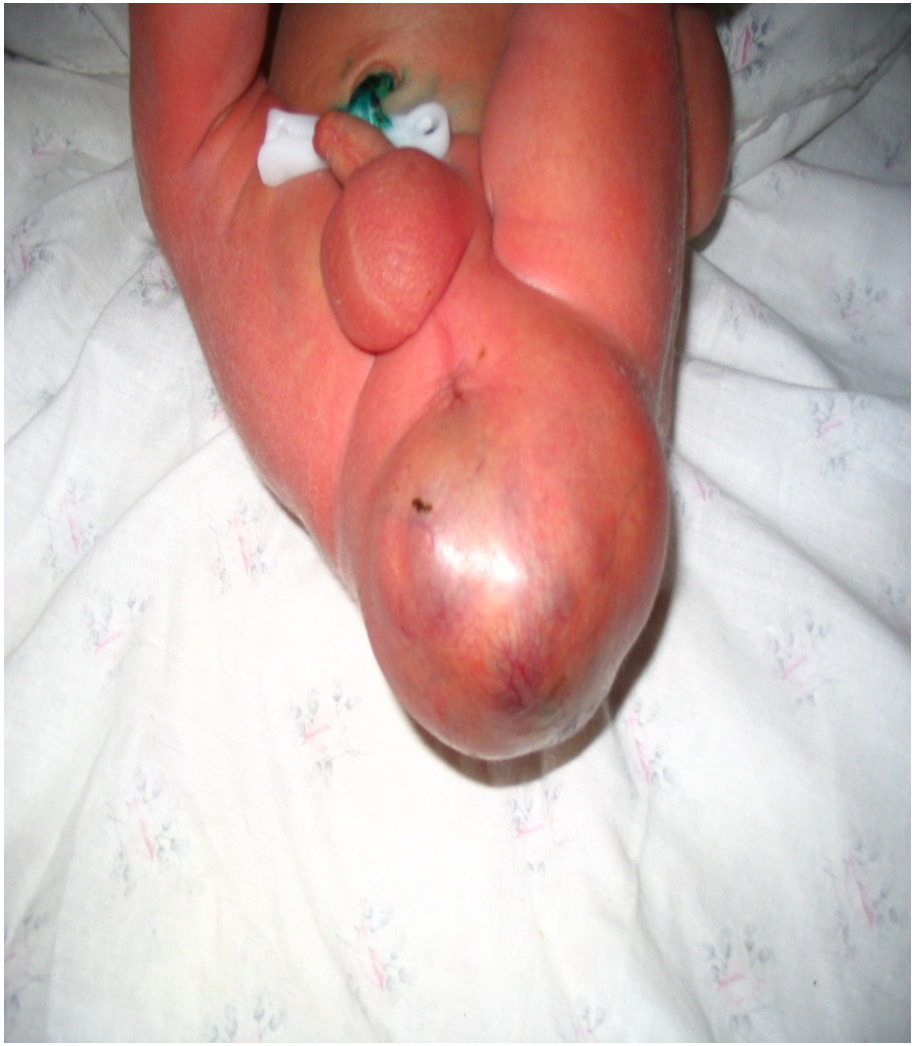


Teratoma



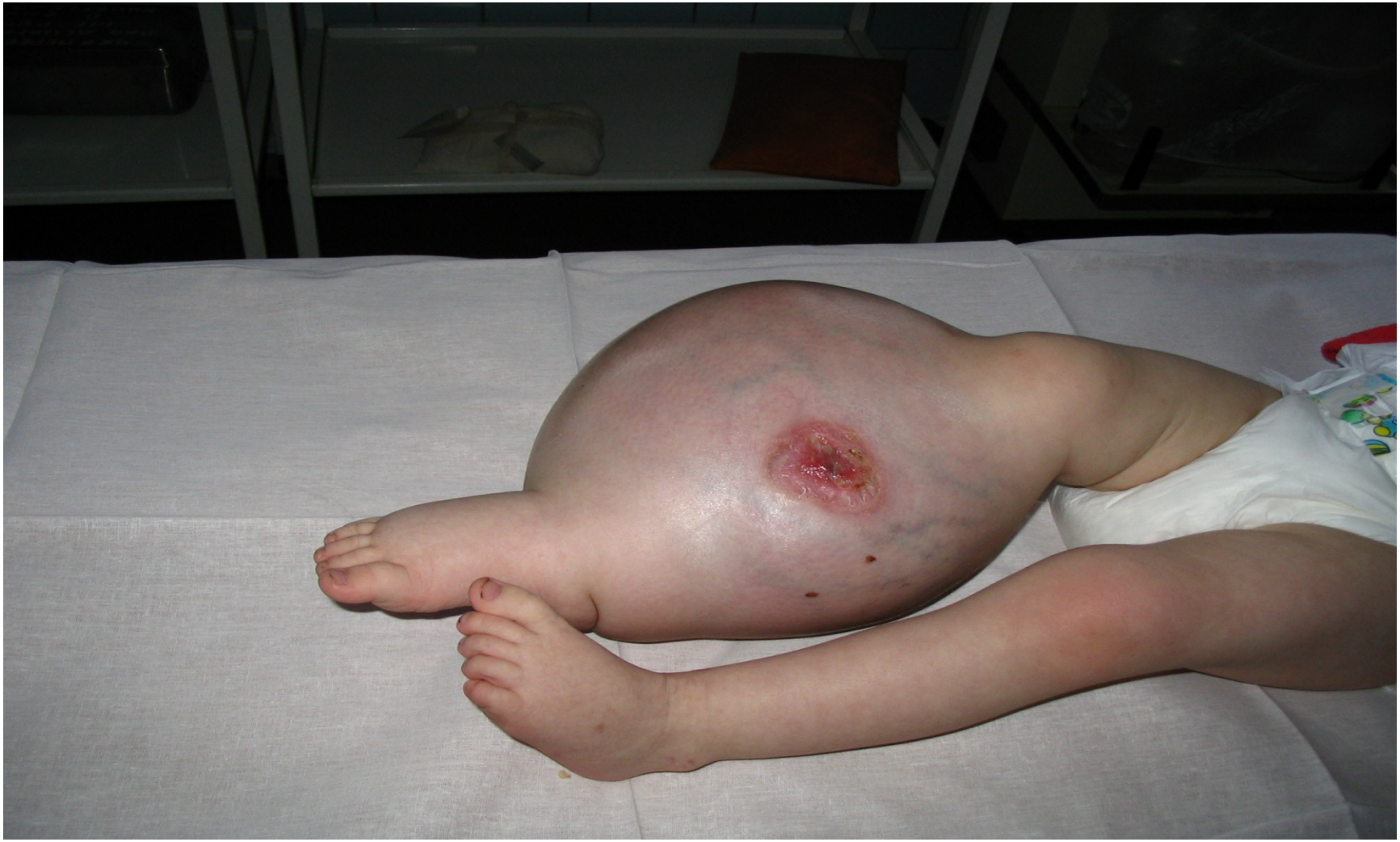
- Teratomas composed of tissues that are derivatives of all germ layers, occurs in 2% of all children with tumors.
- Teratomas are located in different parts of the chest cavity, ovaries, retroperitoneal space.
- The most common sacro-coccyx teratomas, which are located between the coccyx and rectum.

Teratoma. Complication:



- ulceration, infection, necrosis
- compression of the rectum and the urinary tract
- malignancy and metastasis in teratoblastomu

Soft tissue sarcoma in children



Soft tissue sarcoma - a group of malignant tumors of mesenchymal origin

- **Incidence** - 9 cases per 1 million child population
- The typical age of manifestation - 5 years (80%)
- The share of rhabdomyosarcoma accounts for 50% of all soft tissue sarcomas.
- There are four types rabdomiosarkom: embryonic, botroyidnyy, alveolar and pleomorfnyy.
- Embryonic rhabdomyosarcoma type often localized in the head and pelvis.
- The default option is the localization botryoyidnoho urethra, bladder, vagina.
- Alveolar rabdomiosarkoma usually found in the area of the trunk and limbs.
- The characteristic tendency to infiltrative growth, germination in anatomical education, which are located around (bone, nerve trunks, vessels), propensity for recurrence and metastasis.
- Metastasis - hematogenous route (to the lungs, bone marrow, bone, liver) and lymphogenous way.

Osteogenic sarcoma

- OSTEOGENIC SARCOMA- is malignant bone tumor that develops as a result of malignant transformation of osteoblasts rapidly proliferate, and is composed of spindle cells form malignant osteoid

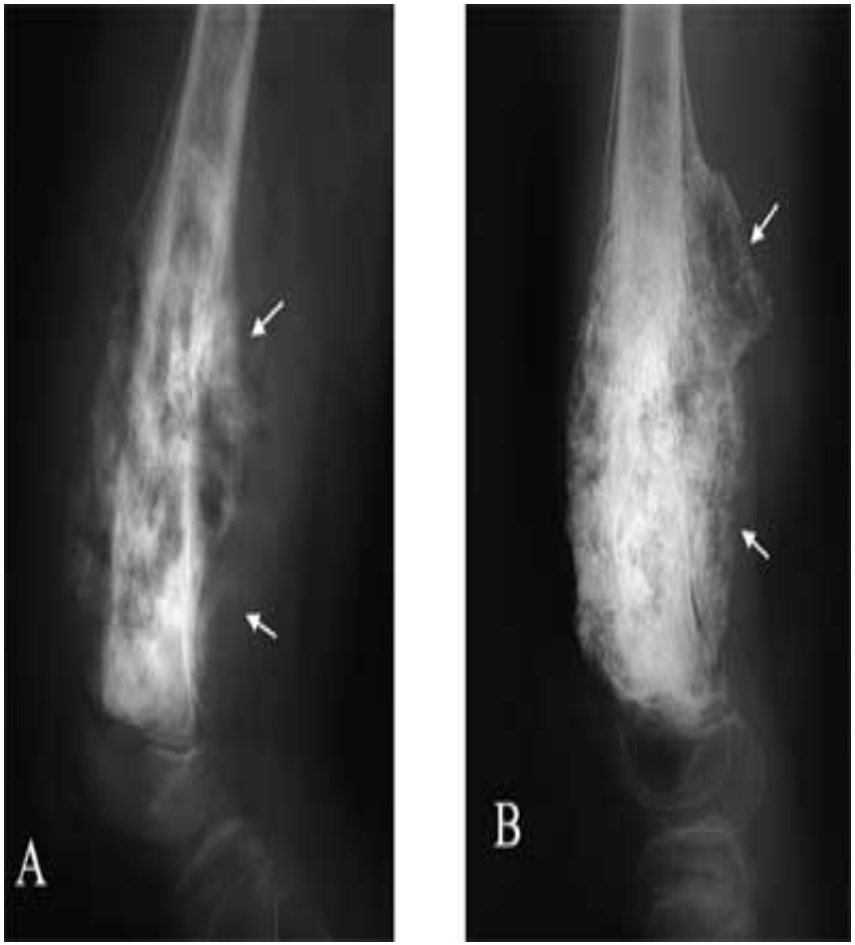
- Incidence - 1,6-2,8 cases per 1 million child population

- The typical age of manifestation - over 5 years and adolescence

- Localization - knee joint area (70%), 20% metadiafiz proximal humerus, rarely - skull, pelvis, spine

- Metastasis - early, mainly in the lungs

Osteogenic sarcoma



- **radiological signs:** bulbous reactive periostitis, hyperostosis is defined as a peak or a triangular spur, situated at an angle to the longitudinal axis of the bone (peak or triangle Kodmann), spicules - perpendicular to the axis of the bone.

Ewing's Sarcoma

- The malignant tumor that develops in the bone and out of the bone marrow stromal cells
- The incidence - 0.6 cases per 1 million child population
- The typical age of manifestation - over 10 years
  Localization - diaphysis of long bones and flat bones
- Metastasis - the lungs, bones, bone marrow metastatic lesions

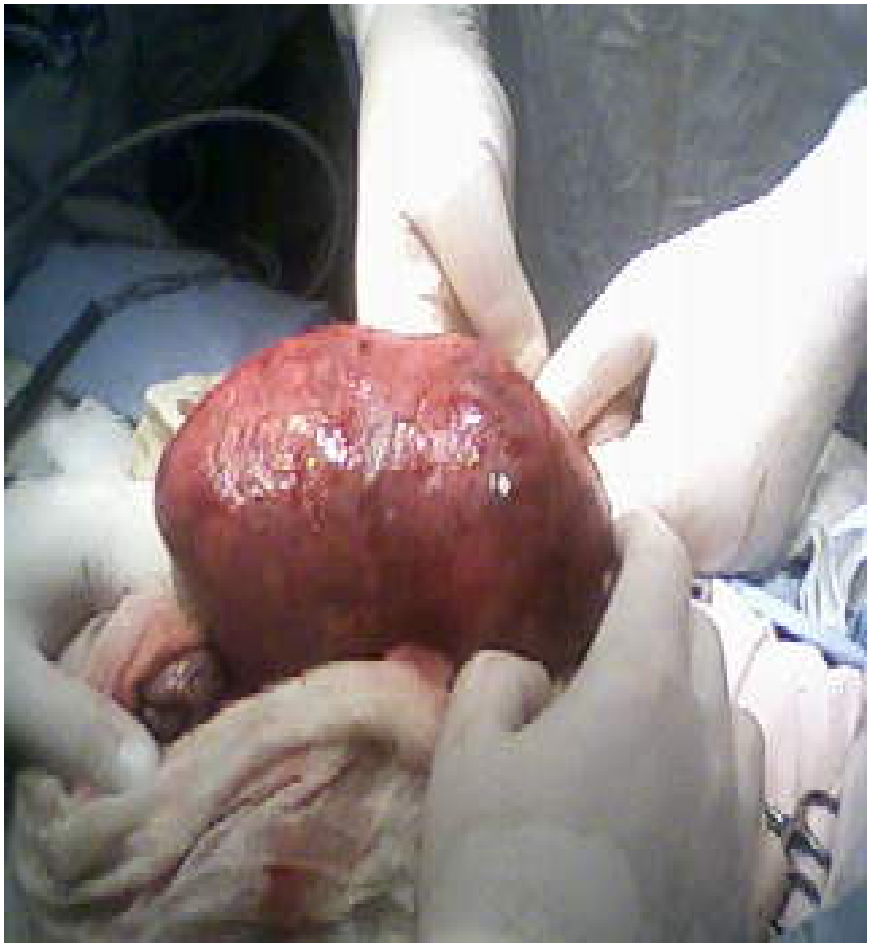
Nefroblastoma (Wilms tumor) - embryonic kidney malignant tumor

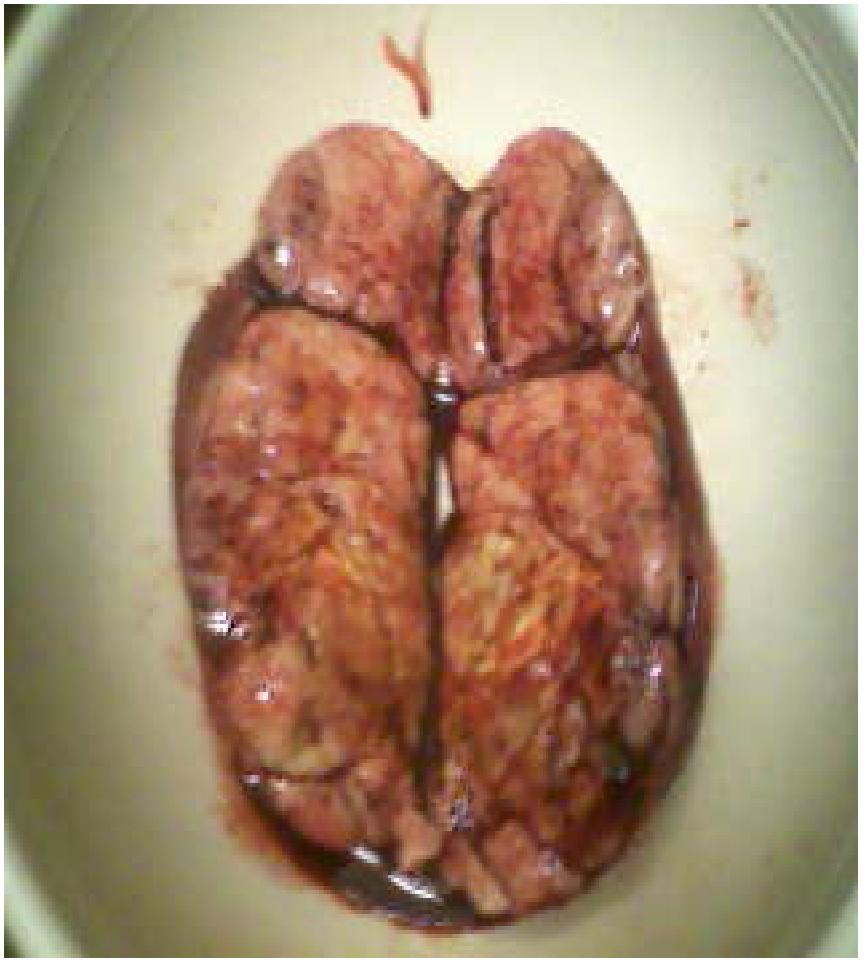
- The incidence - 7-8 1 million children under the age of 14 years
- The typical age of manifestation - 5 years
- **Stages nefroblastomy:**
- **I** - the tumor is localized in the kidney and not germinate own capsule:
- **II** - tumor extends beyond the kidney, but are not germinate own capsule, metastases absent;
- **III** - tumor invades their own capsule tissue around the kidney or lumbar muscles and organs, have lesions of regional lymph nodes, tumor rupture before or during surgery;
- **IV** - the presence of distant metastases (in the lungs, liver, bones and other organs)
- **V** - bilateral lesions

Nefroblastoma (Wilms tumor)

- **Clinical manifestations:**
- In the early stages unstable and nonspecific. In 25% of cases there is gross hematuria. Determined tumor formation ("symptom bathroom")
- **Diagnosis:** full urological examination. A biopsy is contraindicated

Nefroblastoma (Wilms tumor)





Neuroblastoma - congenital tumor that develops from embryonic neuroblasts of the sympathetic nervous system

- **Incidence** - 6.8 children per 1 million
- The typical age of manifestation - about 2 years
- **Localizatio**n: localization SNS ganglia located paravertebral, adrenal medulla
- **Neuroblastoma** - a hormone-producing tumor that is capable of secretion of catecholamines (epinephrine, norepinephrine, dopamine). Clinical manifestations are catecholamine crisis - increased blood pressure, diarrhea, sweating, emotional lability, "marbling" of the skin, headaches, intermittent subfebrilitet.
- **Metastasis** - hematogenous route (to the lungs, bone marrow, bone, liver, skin) and lymphogenous way.

Tumors of the mediastinum

- **The incidence** of mediastinal tumors ranged from 0.5% to 3% for the summary statistics.
- **Clinical manifestations** of disease symptoms consist of compression and destruction of tissues and organs of the chest cavity and symptoms of intoxication appear in the asymptomatic general symptoms: cyanosis, asphyxia.
- **Neurogenic tumors:**
- - In the case of mature forms of clinical presentation occurs when the large size of the tumor,
- - At the immature forms, especially in infants, clinical manifestations determined kateholaminovoyu intoxication
- **Vascular tumors:**
- - Arise in the area of large vessels and trachea,
- - First of all there is compression syndrome of the superior vena cava,
- compression of the trachea manifested cyanosis, chest pain, paresis of the vocal cords.
- **Bronchogenic tumors** are often asymptomatic, can be detected attacks of coughing, stenotic breathing, symptoms of compression of the esophagus.

Tumors of the mediastinum

- **Teratodermoid** formation have long asymptomatic. For those tumors that are large, typical violations hemodynamics and deformity of the chest.
- **Lipoma, fibroma, chondroma** in small amounts in the initial stages have no clinical symptoms, then there is chest pain, uncomfortable feeling.
- **Thymoma** grow slowly, with large amounts of tumor compressing unnamed veins that causes difficulty outflow of blood through the venous system.
- **Pericardial coelomic cysts** are rare. In 30% of cases, the clinical picture is not available, can be determined by chest pain, heart, cough, breathlessness, weakness.
- Malignant degeneration observed in children with tumors retrosternal cancer. Immature neural tumors belong to the group of potentially malignant. The total percentage of malignant tumors is 2%.