«UMSA»

Pediatric Surgery

# Purulent-septic pathology in children. Tumors in children.

# Thematic plan

## Purulent-septic pathology in children. Tumors in children.

1. Acute destructive pneumonia (GDP), intra-pulmonary forms.
2. Acute destructive pneumonia (GDP) (pulmonary pleural form): pythorax, pyopneumothorax, pneumothorax.
3. Classification, etiopathogenesis, diagnosis, conservative, instrumental and surgical treatment.
4. Acute hematogenous osteomyelitis
5. Metaepiphyseal osteomyelitis of newborns
6. Ethiopathogenesis, classification, clinic, features of diagnosis, principles of treatment, features of surgery in children of different age groups, prevention of complications.
7. Benign and malignant tumors, embryonic tumors.
8. Teratoma, teratoblastoma.
9. Nephroblastoma.
10. Neuroblastoma.
11. Leyo-, rhabdomyosarcoma
12. Bone tumors.
13. Vascular abnormalities: vascular tumors and malformations

# Acute hematogenous osteomyelitis

- **Acute hematogenous osteomyelitis–** is acute inflammation of the bone, which is characterized involvement in the process all elements of the bones and this process often generalized.

**Long tubular bones are often affected (70-80%), flat bones (10-15%), short tubular bones (5-8%).**

**The bones of the lower extremities are often affected by 60%, upper extremities– 20%.**

**50% - femoral bone and tibia**

## Clinical manifestations.

**-Fever (39-40 C) and malaise**

**-Strong pain in the bone and joints**

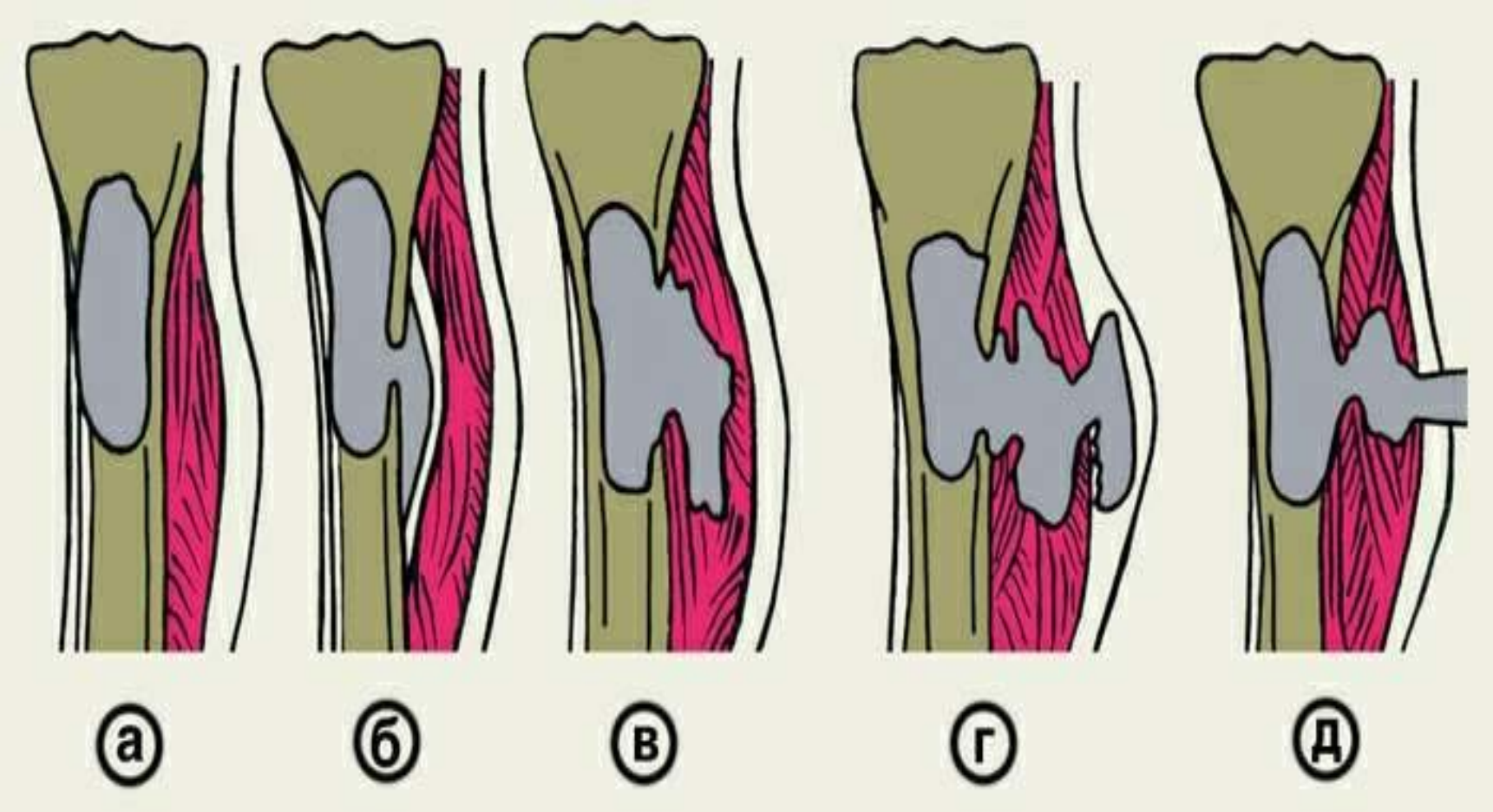
**-These signs appear earlier in infants than in older children**

# Classification (Krasnobaev, 1939)

**Clinical stages** :

1. **Generalized stages** :
   - Toxic stage
   - Septicopyemic stage
2. **Local stage**
3. **Atypical stages** (such as abscesses Brodi, antibiotic osteomyelitis etc.)

# Acute stage hematogenous osteomyelitis:
## Phase



# Osteomyelitis. Diagnosis

- The presence of great toxic and localized pain suppose osteomyelitis
- Measurement intrabones pressure-increases to 200-400 mm . (norm- 80-100 mm)
- Roentgenographic examination does not reveal the process of inflammation at least for 5 days in small children, in older children – to 10-14 days.
- Roentgenographic signs- spotting, the heterogeneity of the structure of the bone, osteoporosis, sequestra, periosteum reaction.
- Leucocytosis of 15000 to 25000 cells or more

# Roentgenographic signs of osteomyelitis

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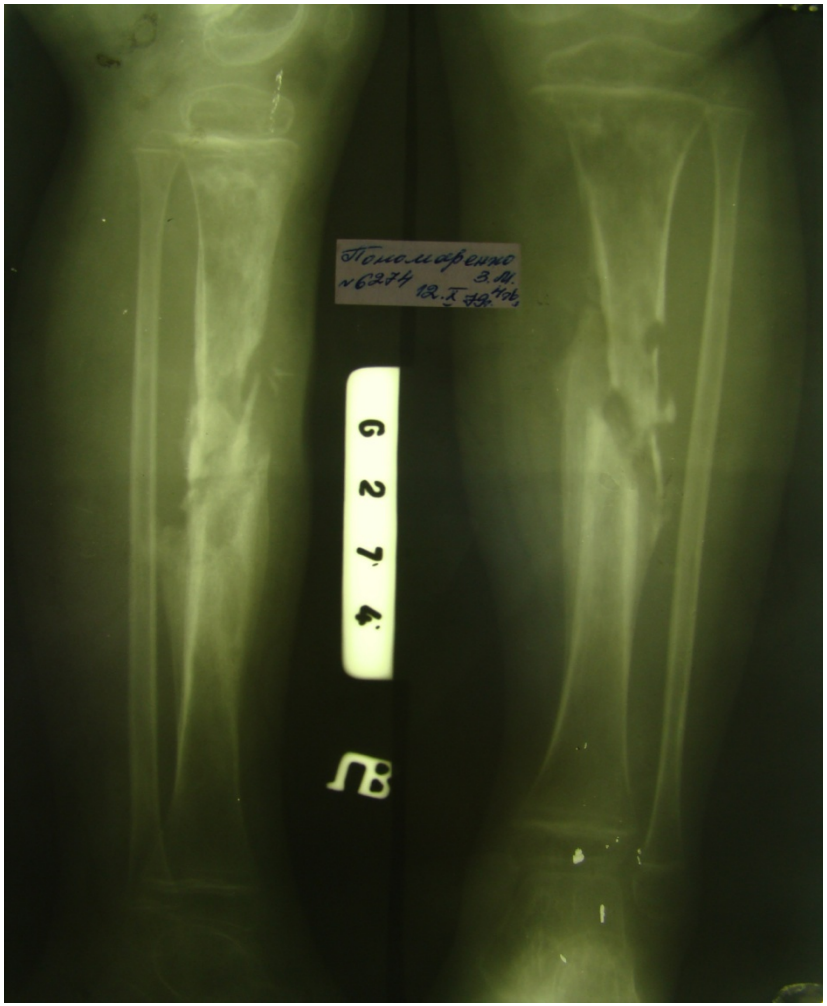


# Differential diagnosis

- Rheumatic fever- more often affect in the older children. They have the changes of infarction.
- Tuberculosis bones
- Purulent diseases of soft tissues
- Primary or metastatic neoplasm.
- Leukemia
- Sprain

# Treatment

1) Total treatment

- - intravenous antibiotic therapy- may last for 10-14 days or more, oral therapy from 3 to 4 weeks.

2) Local therapy

- the principal treatment is immediate drainage of the joint or bones

- The children under 3 years need to puncture joint and gypsum immobilization, older children- surgical drainage of the methaphysis

# Acute destructive pneumonia

- Acute lung destruction, acute destructive pneumonia (15% of pneumonia) - is a serious infectious inflammatory disease of the lungs characterized by inflammatory infiltration with subsequent purulent disintegration (destruction) of the pulmonary parenchyma due to nonspecific abnormal action, and conditional pathogenic microorganisms. This disease lead the formation of cavities and intrapulmonary prone to complications of purulent inflammation in the pleura, pathological changes in vital organs and severe violation of homeostasis.
- Complications occurs in 7-9% of patients with ADP, and among pleural pulmonary forms of ADP in the first place pneumoempyema - 40-43% piothoraks - 25-27%.

# Classification(M.K. Rokitskiy,1970)

I. Primary lesion

a) Primary (complications of bacterial pneumonia)

b) conditional primary - congenital malformations of the lungs, cystic fibrosis, respiratory viral infection

II. Secondary lesions (hematogenous route of infection).

Form:

Overdestructive states:

a) microbial pneumonia (staphylococcal, streptococcal, Pseudomonas)

b) acute lobitis.

ADP - pulmonary form

a) fractional multiple focal destruction

b) intrapulmonary destruction

c) giant cortical abscess

d) bullous form of destruction

ADP – pulmonary- pleural form:

a) piothoraks (limited, total,)

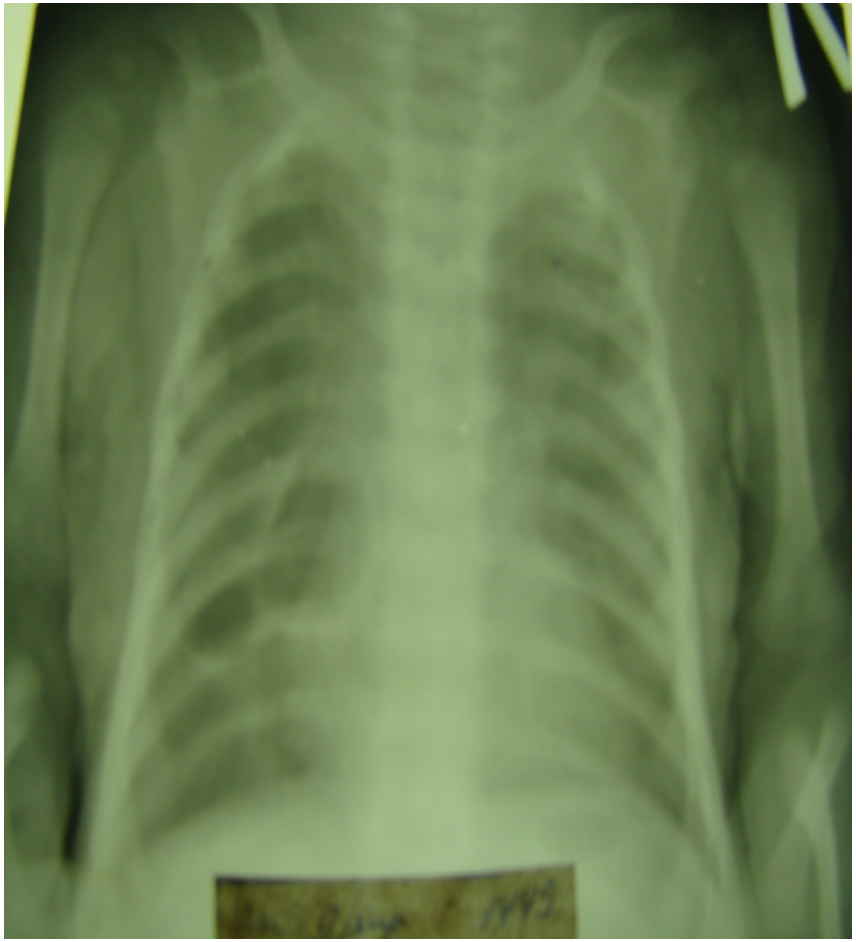
b) pneumoempyema (simple, intense, limited total)

c) pneumothorax (simple, intense, limited total)

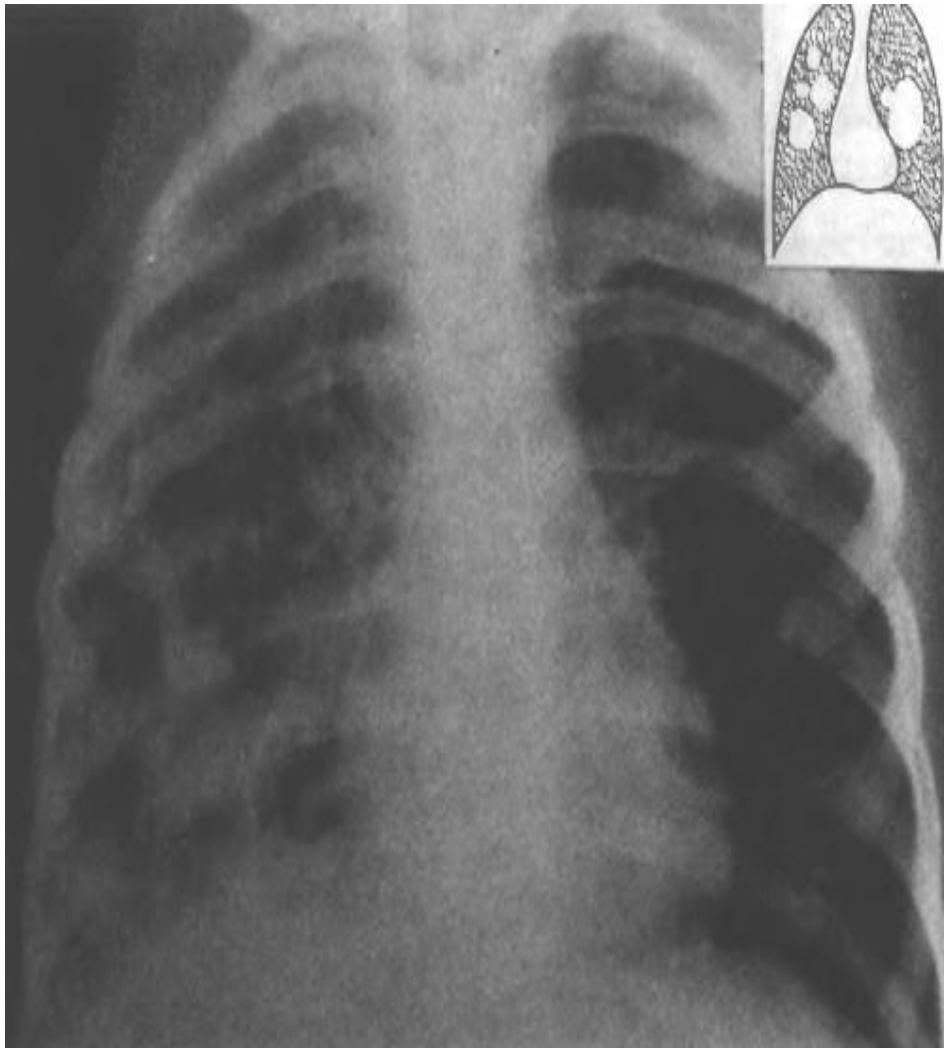
- III. The course of disease
- acute
- protracted
- septic
- I. Complications inside lungs
- A. Abscesses
- B. Bulla
- II. Pulmonary pleural
- A. Pyothoraks
- B. pneumoempyema
- B. Pneumothorax
- **APD Complications**: sepsis, pericarditis, emphysema ,bleeding.
- Chronic forms combined in chronic respiratory syndrome, occurring in 20.8% of cases after the GDL (secondary pulmonary cysts, chronic abscess, fibrothoraks, chronic empyema with fistula, bronchiectasis).

# Diagnostics

- physical examination
- auscultation, percussion
- X-ray examination methods- plan radiography of the chest;
- diagnostic pleural puncture

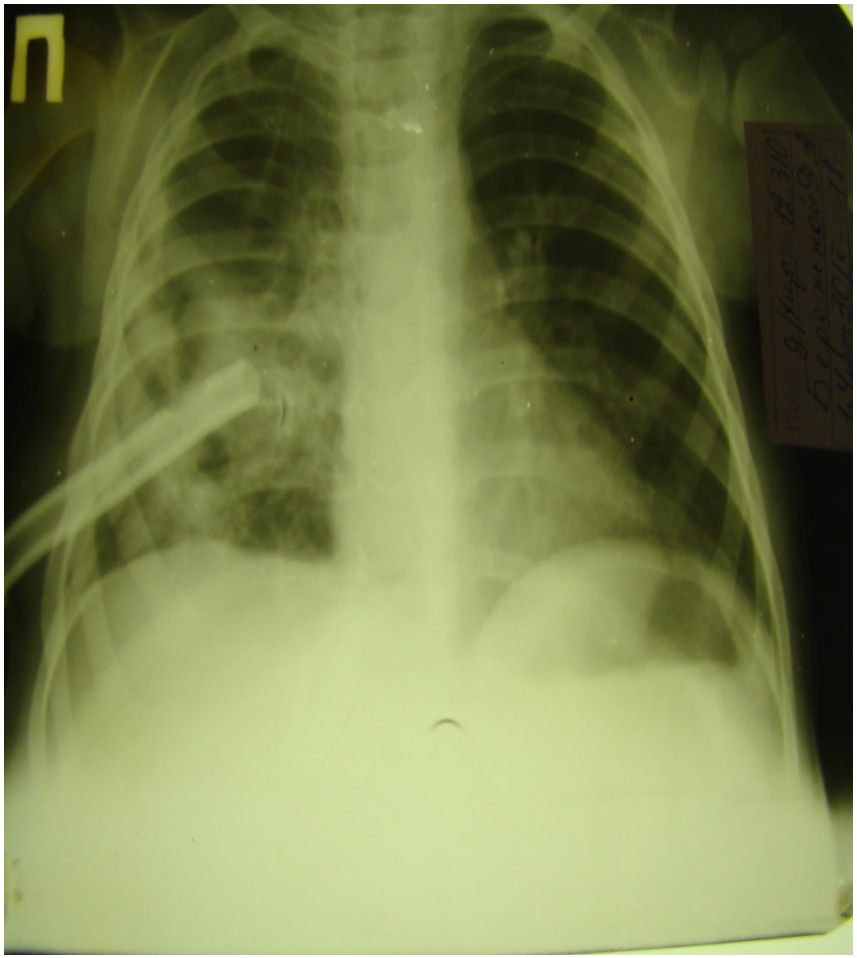


# BULLA



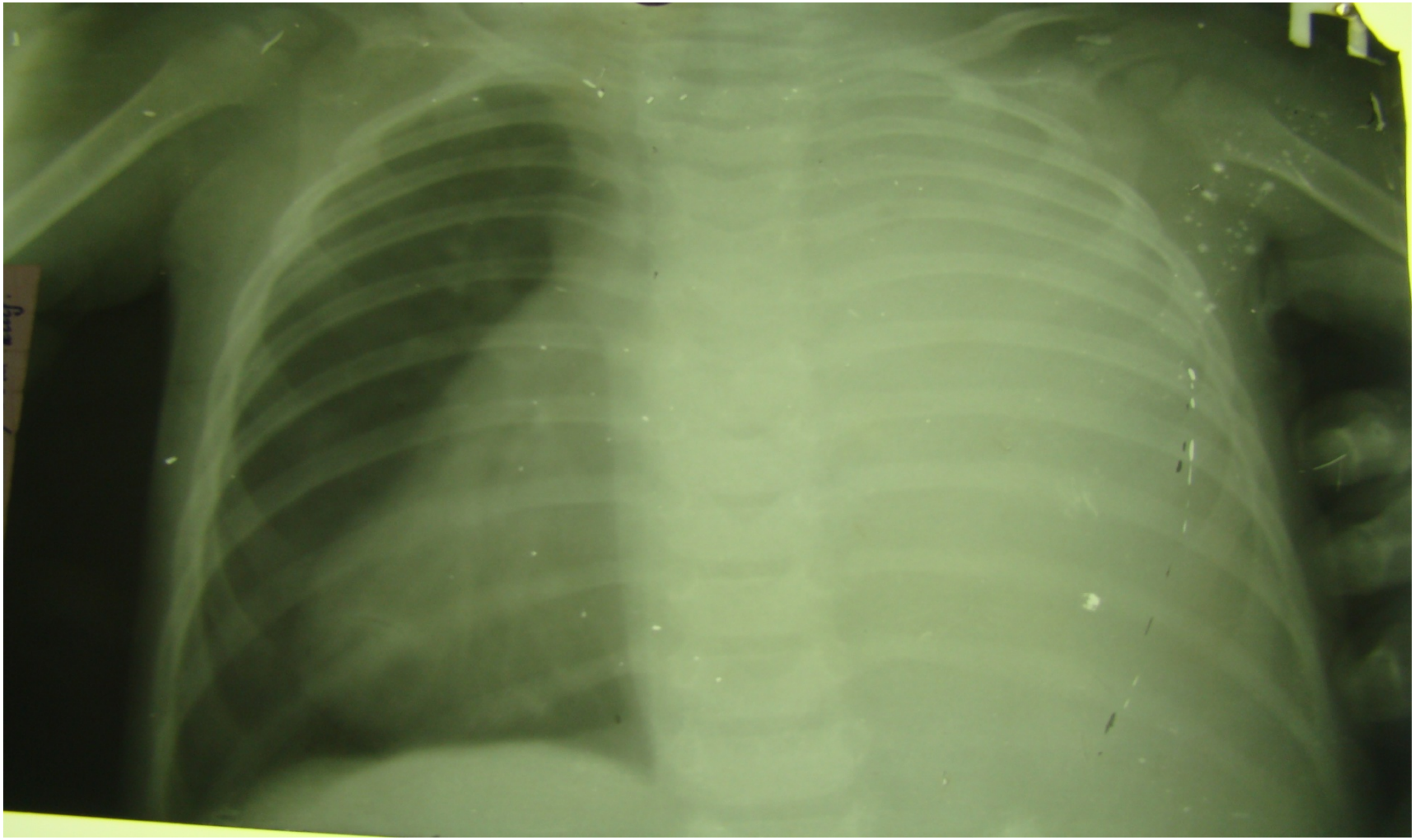
- Bulla- is a thin air cavity rapidly changing shape and size, is inclined to spontaneous regression. This is a sign of a favorable course.

# Pleural abscess without complications

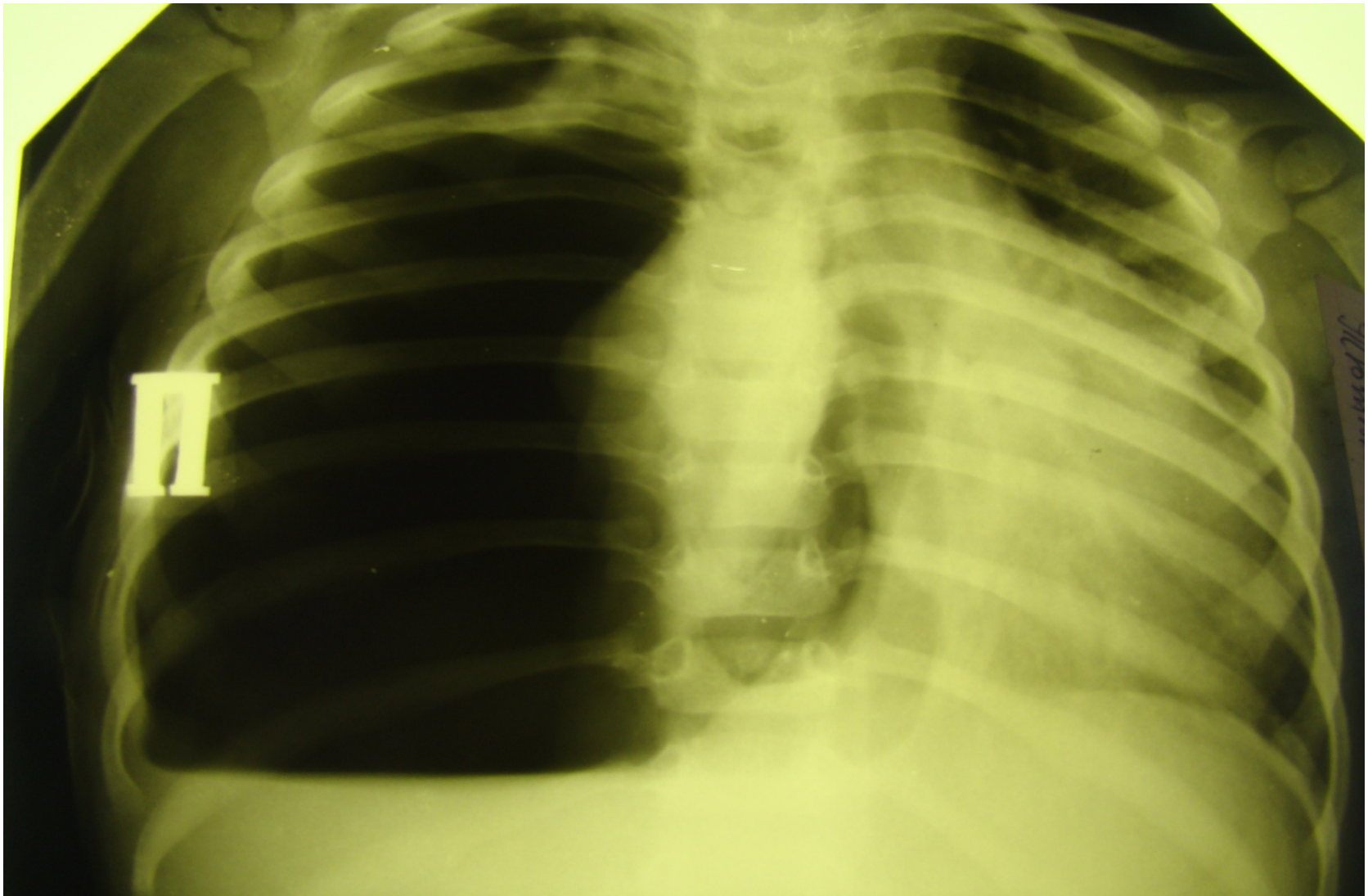


- frequency of up to 11%
- Form:
- Pus-filled abscess (not drained in the bronchus)
- Abscess with fluid level (which is drained into the bronchi)
- Treatment for draining abscesses- sanitation of purulent drainage cavity by creating provisions, physiotherapy, rehabilitation and bronchoscopic , antibiotic therapy.
- In not drained abscesses - puncture and drainage of abscess

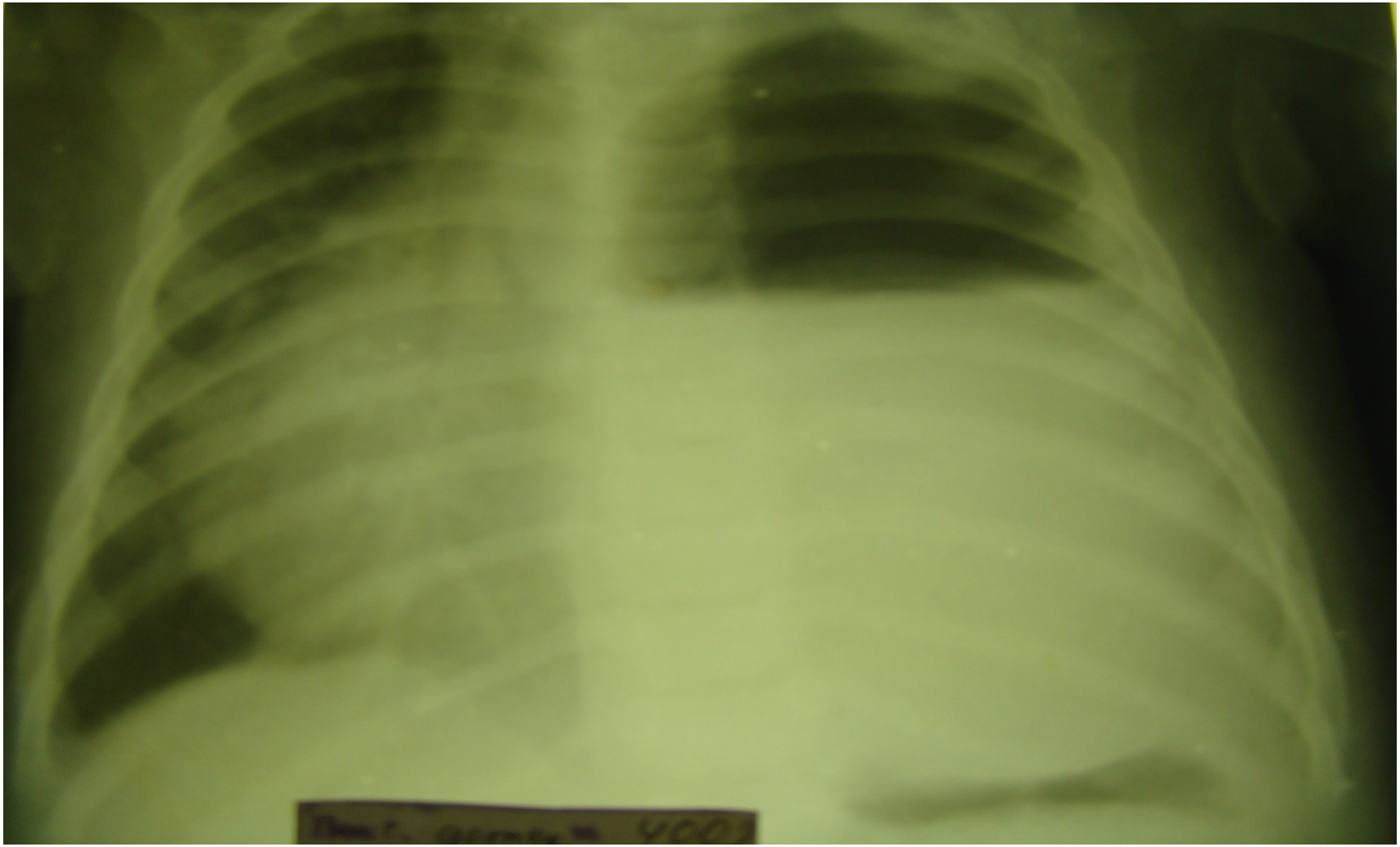
# Pyothorax



# Pneumothorax



# Pyopneumothorax



# Thoracostomy for Byulau