Clinical Case.
Infective Endocarditis (IE) with Lesions of the Tricuspid Valve.

Municipal Nonprofit Enterprise (MNE) "Vinnitsia Clinical AIDS Centre at VOC"

Kharlamova Darya, Head of In-patient Department, Neurologist

- Woman , 32 years (4 children, 1 y/o granddaughter)
- HIV Ab detected on 16.10.2018 p., (code 113.2, 102)
- She injected opioids on a regular basis, with periodic remissions (consulted an addictions physician, started SMT on 10.06.2020)
- HAART from 07.11.2018 with ABC\3TC\DTG regimen, and from 11.06.2020 with TDF\3TC\DTG regimen.

- In 2018 she was treated at the inpatient department of the Centre for acute pyelonephritis and ascites;
- from 20.05.2020 to 29.05.2020p – for septic pneumonia; thoracic SCT performed (***Epicrisis***: signs of septic polysegmental bilateral pneumonia); 28.05.2020 - LAM test performed, result «+», referred for further examination and treatment to MNE Vinnitsia Oblast Specialized Territorial Association (VOSTMA) “Phthisiology”;
- Hospitalized to the inpatient department of the Vinnytsia Clinical AIDS Center again on June 9, 2020 after additional examination in the MNE VOSTMA "Phthisiology", tuberculosis diagnosis excluded.

Features of the Clinical Progression

•Rise in body temperature to 38-39 * C with chills and excessive sweating on the background of non-specific antibacterial therapy
•Prolonged low-grade fever
•Expressed constant tachycardia at rest or with minimal exercise
•Expressed shortness of breath at rest or with minimal exercise
•Cough with hemoptysis
•Pain in the heart, chest with deep breaths
•Auscultatory over the Tricuspid valve (TV) and above the apex - rough systolic murmur, "gallop rhythm"

QUESTIONS ???

Primary manifestations of damage to the right side of the heart with infectious endocarditis?

A. symptoms of pneumonia;

B. symptoms of pulmonary embolism;

C. symptoms of right ventricular failure.

Laboratory Tests

- Complete Blood Count

	WBC	RBC	HGB
15.06.20	11.1	2.48	70
30.06.20	5.9	2.36	76
20.07.20	12.6	3.52	119
30.07.20	10.4	3.58	119
18.08.20	6.2	3.58	121

- Additional Tests

06.07.2020, Xpert MBT\RIF (sputum smear)	Not detected
01.07.2020, IgG та IgM to Aspergillus fungi	Negative
09.06.2020, IgM to SARS-CoV-2	Negative
12.06.2020, PCR for viral RNA of COVID-19	Negative
01.07.2020, IgG to SARS-CoV-2	Negative
15.06.2020, CD4+	33.87% - 807.67 cells/mL
10.04.2020, VL	<40 RNA copes/mL

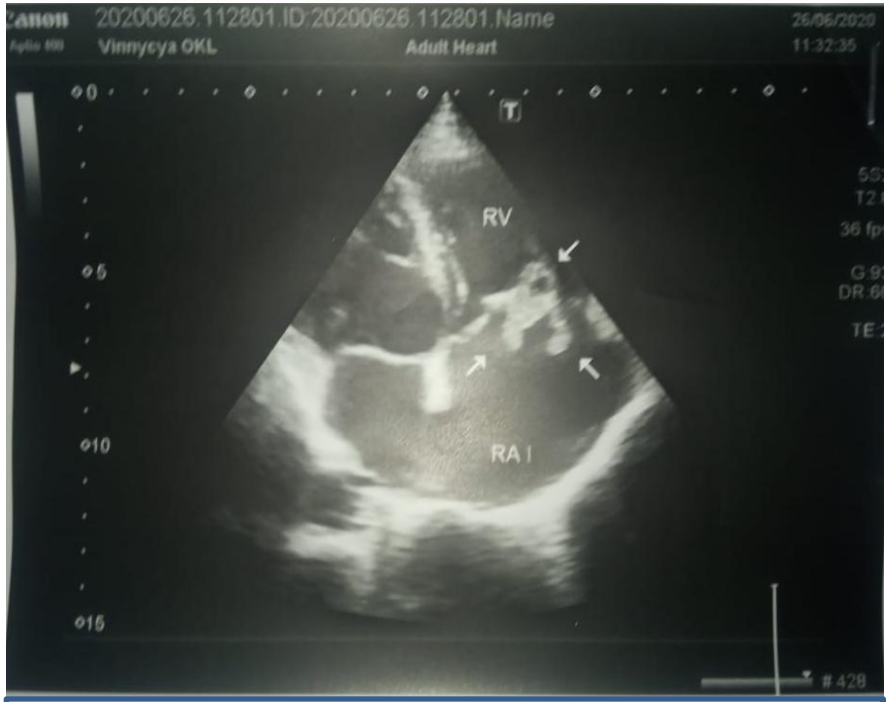
Diagnosis
(preliminary, at hospitalization)

B 22.2. Clinical stage IV. Exhaustion syndrome. Weight loss of more than 10% (history). Severe bacterial infections (Recurrent bilateral polysegmental pneumonia - 01.2020, 05.2020 - septic. Myocarditis?).
Recurrent oropharyngeal candidiasis.
Angular cheilitis. PGL.
HCV - related liver cirrhosis, class A according to Child, compensated (diagnosis was established by the Department of Infectious Diseases of VNMU named after Pirogov in 2018).

Portal hypertension.

Consultation with a Cardiologist from VOCH named after Pirogov, echocardiogram on 10.06.2020

- Complete diagnosis: acute infectious endocarditis with lesions of the tricuspid valve. Severe TV insufficiency. 1-st degree MV Insufficiency. Pronounced sinus tachycardia. CI IIa-b, FC II, EF 55%.
- **Recommendations:** to consult specialists at Kyiv SRI named after Amosov



Ultrasound - signs of severe TV failure on the background of septic embolism (infective endocarditis). 1-st degree mitral insufficiency. The heart cavities are not dilated. The contractile ability of the myocardium is preserved. Tachycardia

Clinical Diagnosis

B 22.2. Clinical stage IV. Exhaustion syndrome. Weight loss of more than 10% (history). Severe bacterial infections (Nosocomial recurrent bilateral polysegmental (septic with destruction) pneumonia - 01.2020, 05.2020. Acute infectious endocarditis with TV lesion. Severe TV insufficiency. 1-st degree MV insufficiency. CI IIa-b, FC II, EF 55%).Severe cervical dysplasia. Recurrent oropharyngeal candidiasis. Angular cheilitis. PGL.

Treatment Prescribed

From 09.06.2020 she received treatment with broad-spectrum antibiotics (different groups and in different combinations), which had no positive clinical effect: persisting fever with sweating, constant tachycardia and shortness of breath, cough with hemoptysis.

From 01.07.2020 the regimen of etiological treatment was changed (receives it till now):

Moxifloxacin 400 mg od

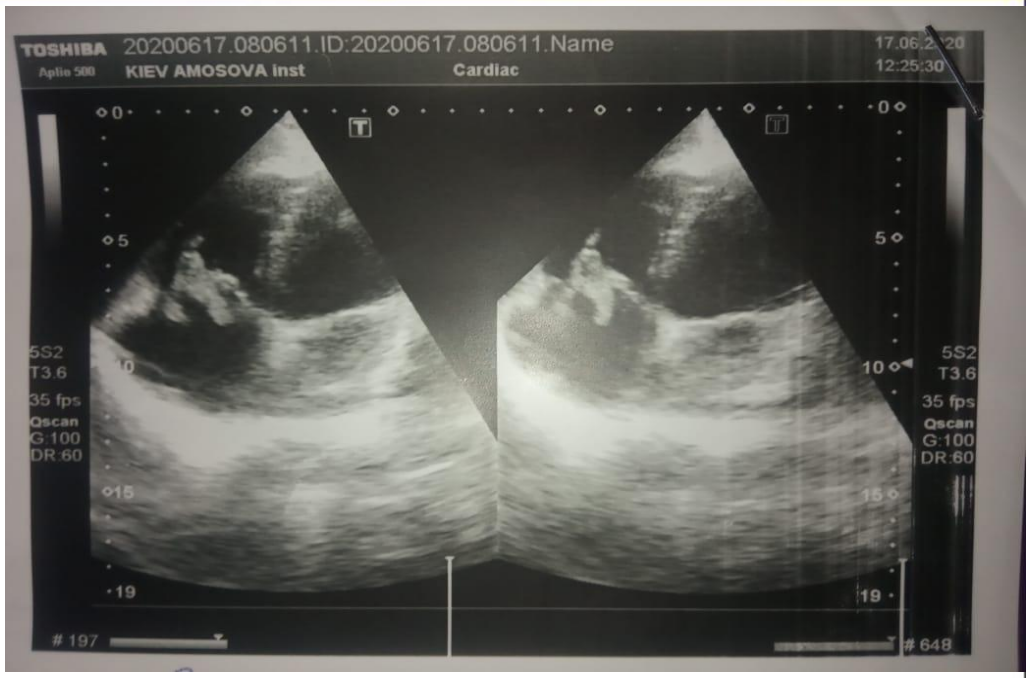
Rifampicin 150mg tid

Amikacin 250mg tid

Fluconazole 800 mg / od

Consultation with Cardiologist of the National Institute of Cardiovascular Surgery named after M.M. Amosov, echo-CG from 17.06.2020

- **Complete diagnosis**: acute infective endocarditis with lesion of the tricuspid valve (significant tricuspid insufficiency). Massive vegetation with the threat of separation. Slight insufficiency of MV. GLA. IIa degree CI.
- **Recommendation**: tricuspid valve replacement ?; medicinal inpatient treatment; significant restrictions on physical activity.



Ultrasound impression - tachycardia. Infective endocarditis with TV lesion. Regional LV contractility is satisfactory. Pulmonary artery hypertrophy.
Massive vegetation with the threat of separation.

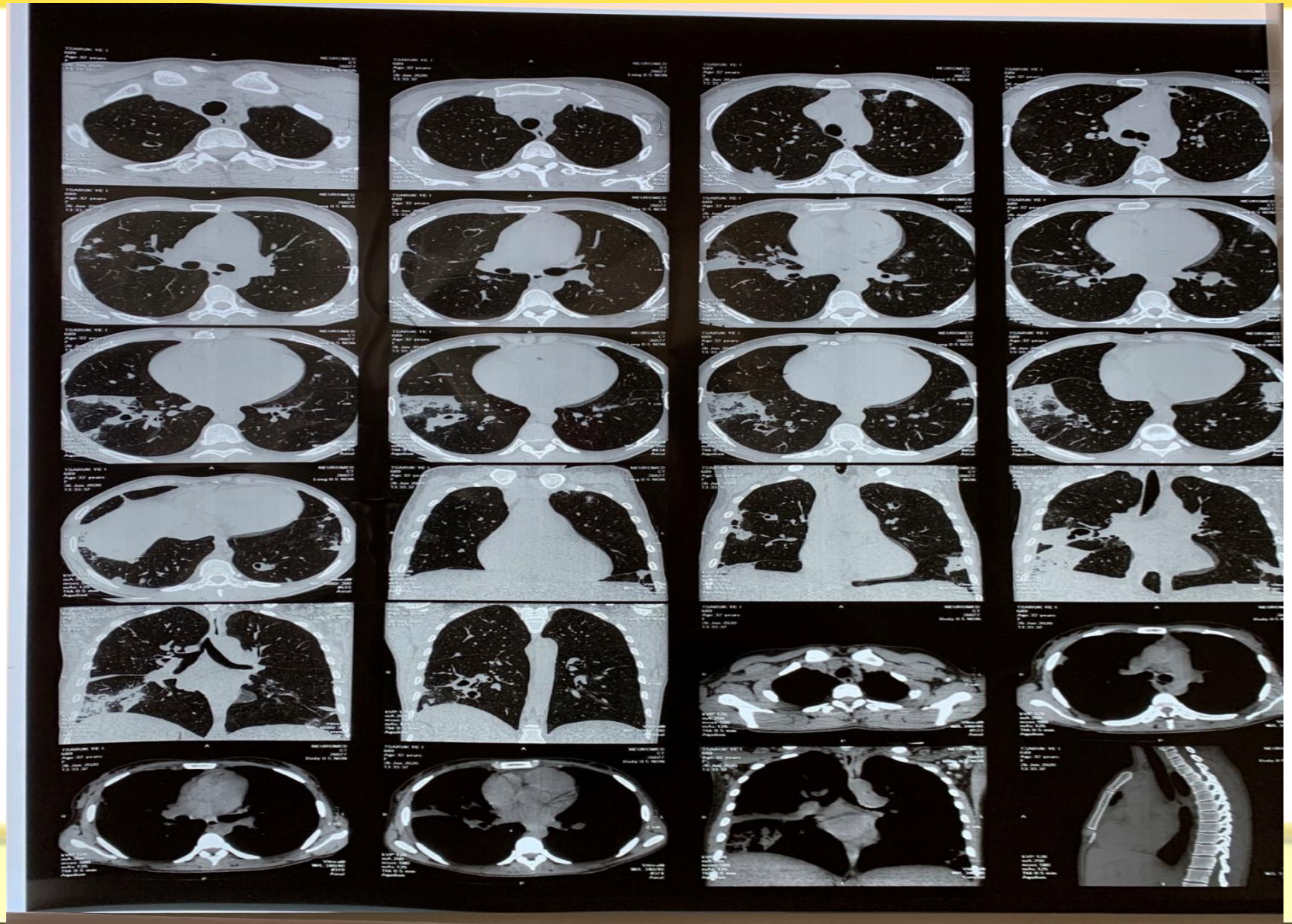
Computerized Tomography 26.06.2020p

(over time since 25.05.2020p**)**

- **Thoracic organs.** Pneumatization of lung tissue is changed due to inflammatory changes in all segments of both lungs, which are represented by areas of consolidation of lung tissue in sizes from 5 to 33 * 18 mm with decay cavities. In the D8 segment of the right lung the appearance of the pavement-type area is observed, and similar areas are observed in the segments D4, D6 and D9 of the right lung and S1/2 and S4 segments. In the basal parts of both lungs - areas of the ground glass are observed.

Conclusion: CT-based signs of negative development of bilateral polysegmental pneumonia (more data on aspergillosis, pneumocystis genesis)

SCT of Thoracic Organs of 26.06.2020



Follow-up Examination by Cardiologist at VOCH named after Pirogov, echo-CG of 12.08.2020
(on the background of an efficient treatment regimen)

Complete diagnosis:
subacute infective endocarditis with lesions of the tricuspid valve. Severe TV insufficiency. Massive vegetation with the threat of separation. 1-st degree insufficiency of MV. Sinus tachycardia is pronounced. Pulmonary hypertension (Groups 1-2). HI IIa, FC II, EF 55%.
Recommendation: follow-up consultation with a cardiac surgeon at Kyiv SRI named after Amosov; continue antibacterial therapy; CT of the lungs.

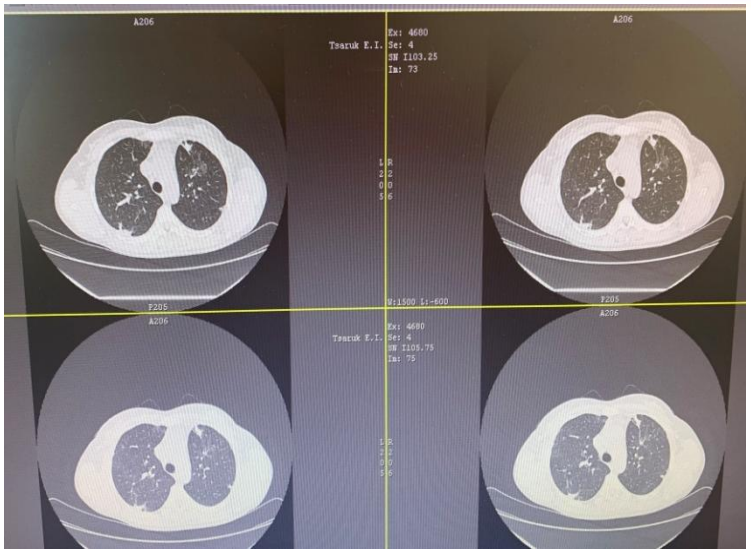
Echo – CG: positive development
Ultrasound - signs of severe TV failure on the background of septic valve damage (infective endocarditis). Regurgitation on TV III. 1-st degree mitral regurgitation. Moderate dilatation of the right atrium. Pulmonary hypertension (Groups I - II). The contractile ability of the myocardium is preserved. Tachycardia. EF 60%.

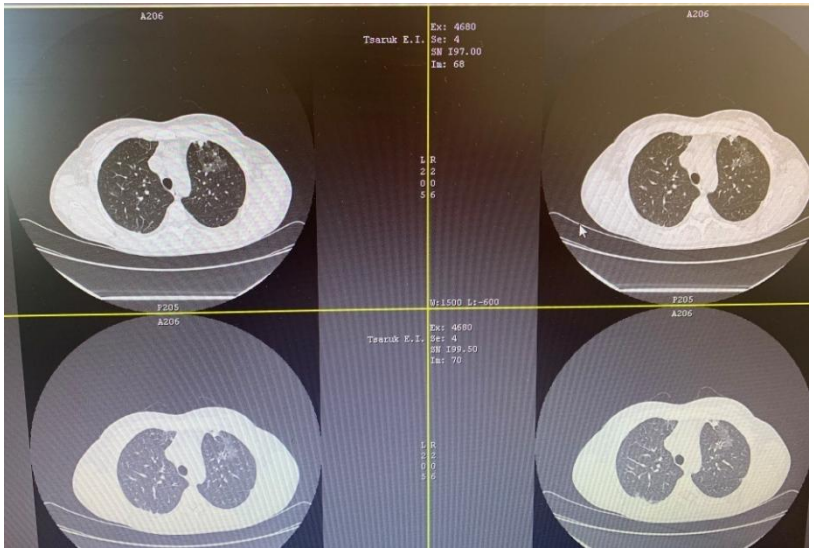
Computerized Tomography 14.08.2020 (over time since 26.06.2020)

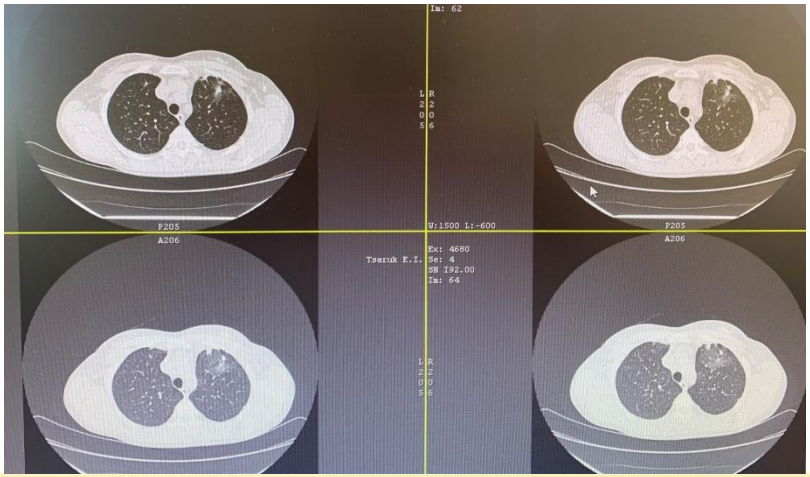
- **Thoracic organs.** Pneumatization of lung tissue is unevenly reduced over the entire area of the right and left lungs, with an infiltration of lung tissue of the ground glass kind from 10 to 40 mm in diameter, as well as an infiltration of a consolidation kind subpleurally in D2, D3, D4, D6, S3, S , S8, S9 segments of the right and left lungs (10 to 40 mm in diameter). The roots are heavy. Pleural cavities are free.

Conclusion: CT signs of polysegmental bilateral pneumocystis pneumonia**.**

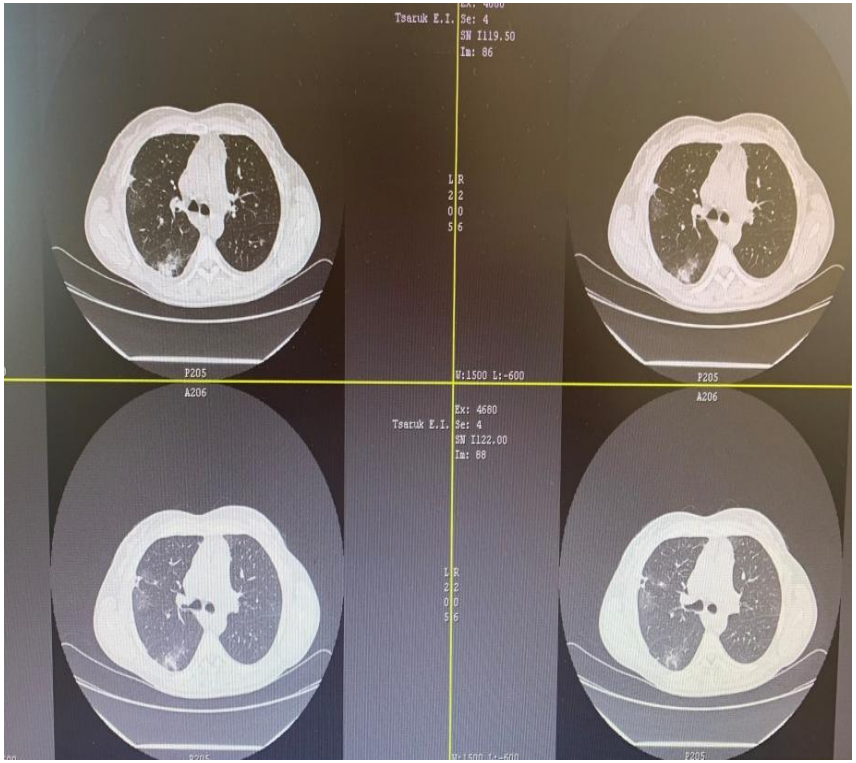
CT Scan of 14.08.2020p

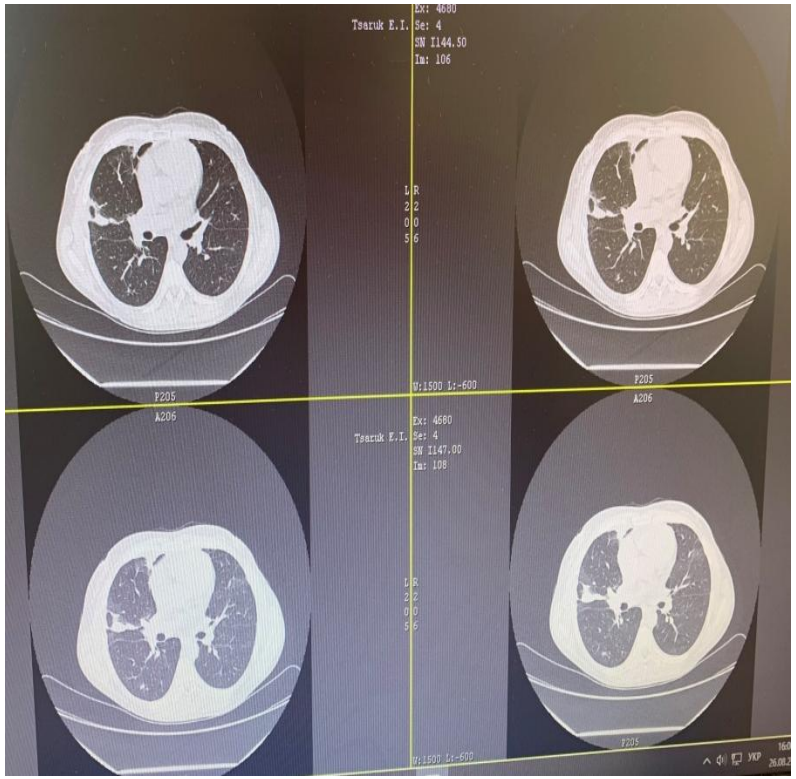






CT Scan of 14.08.2020p





Conclusions (1)

- Patients with HIV infection have a number of comorbid conditions that are not associated with the manifestations "MAIN DISEASE"

(for example: cataracts, nosebleeds, hypertension, diabetes)

Etiological factors of IE: bacteria (staphylococci, streptococci, enterococci) fungi, very rarely chlamydia, mycoplasma. Mixed etiology is often observed in PWID. The etiological pathogen cannot be determined in ≈10% of cases.

Conclusions (2)

- **Situations that contribute to the development of native valve IE**: decreased immunity, intravenous drug use by addicted individuals (*lesions of the valves of the right side of the heart*).
- **Typical lesions of the right side of the heart**: cough and pleural pain in the chest; hemoptysis and shortness of breath; there are no signs of MV or LA valve insufficiency; with the pulmonary embolism with the accompanying fever it is always necessary to exclude IE.
- **Duration of treatment**: LONG-TERM treatment (4 - 6 - 8 weeks) with the decision on the need of invasive treatment.

https://empendium.com/ua/chapter/B27.II.2.13

QUESTIONS ???

Invasive surgery for the patien?

- A. contraindicated;
- B. urgent or immediate surgical intervention is indicated;
- S. planned surgical treatment in combination with antibiotic therapy.

Thank you!