

HIV/RR-TB co-infection: clinical case presentation

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HIV/RR-TB case presentation

PATIENT: 45-year-old female

On 31.10.2019 was self-referred to the family doctor with complaints of general weakness, sweating, coughing with a small amount of sputum, a progressive decrease in body weight (up to 10 kg in 2 months), an increase in body temperature to 37–37.3° C

History of the disease: considers herself ill for 2 months, when noticed an increasing fatigue, weakness, loss of appetite. Deterioration of the condition since 20.10.2019 after returning from a vacation – cough with mucosal sputum, subfebrile body temperature.

Results of the evaluation at the primary healthcare facility

Sputum microscopy on 01.11.2019 – AFB (–)

HIV test on 01.11.2019 – positive

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Patient's life history

- No history of TB
- No TB contacts reported
- Previous X-ray examination -2 years ago - no abnormalities detected (according to the patient)
- Secondary education
- Smokes, ≥ 15 , does not abuse alcohol, denies the use of narcotic substances, no history of imprisonment
- Mode of HIV infection - presumably sexual
- Sexual intercourse - protected, the spouse is HIV-negative

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Features of the objective status :

- Overall condition – satisfactory
- Body temperature – 37.3° C
- Height 166 cm, weight 52 kg, BMI – 19
- Auscultation results– harsh respiration, no wheezing
- No signs of CNS damage

Preliminary diagnosis: HIV infection, progression phase without ART, the stage requires verification after the diagnosis of secondary diseases: fever of unknown origin

Differential diagnosis of the secondary diseases:

- Tuberculosis
- Clinical CMV infection

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Evaluation results:

Immune status as of 05.11.2019:

CD 4+ 150 kl μ ml (6%)

Viral load at the start – 84352 RNA cop.

Opportunistic infections as of 05.11.2019:

Ig M HSV 1 μ 2 – negative

Ig G HSV 1 μ 2 – negative

Toxoplasma gondii Ig M – negative

Toxoplasma gondii Ig G – negative

CMV Ig M – negative

CMV Ig G – negative

GeneXpert on 05.11.2019 – M Γ (-) Rif (0)

CBC (05.11.2019) Hb-120, RBC- 4.61, WBC 2.1, platelets- 167, neutroph. – 54.2, ESR- 45 mm/h

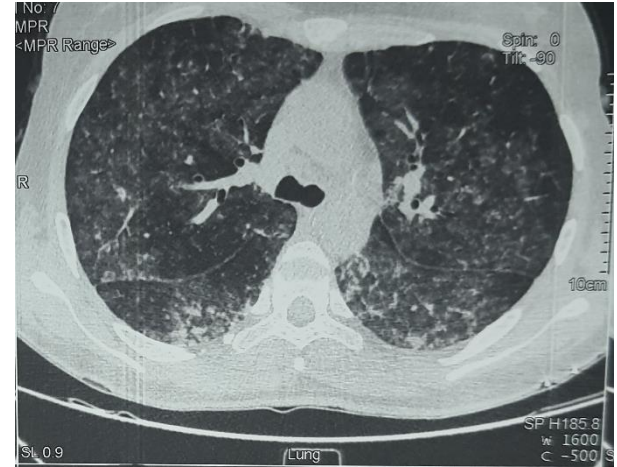
Clinical urinalysis (05.11.2019) no findings

Biochemical blood tests (05.11.2019): total bilirubin – 10.1 (direct -2.1), ALT- 10, AST- 15, creatinine – 73.2, total protein- 70.1, albumin – 42, potassium – 4.3, blood glucose – 5.0

VHC and VHB on 05.11.2019 – negative

ECG on 05.11.2019: rhythm is sinus, correct, cardiac electrical axis – normal findings, QTcF interval –330 μ C C – 76

AC CT on 06.11.2019 – LN of the abdominal cavity and retroperitoneal space paraaortic 18x13 mm, mesenteric 22x21 mm



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Treatment strategy

TB treatment with standard regimen of H₀,3R₀,6Z₁,5E_{1,2} was initiated on 08.11.2019

Biseptol – 480 mg BID

Vitamin B 6 50 mg daily

ART was initiated on 10.12.2019 : TDF/3TC/EFV

Treatment adherence – high, tolerability of treatment – satisfactory

Microbiological monitoring

Date/ Number of doses	GeneXpert	Microscopy	Culture	DST
05.11.2019 (0)	MT-RIF(0)	AFB -	MTB- (Bactec)	
09.12.2019 (30)	Was not performed	AFB -	Was not performed	
09.01.2020 (60)	Was not performed	AFB -	Was not performed	
13.02.2020 (90)	MT+RIF+	AFB +	MTB+ (Bactec) Received on 02.03.2020	gDST (kat G rpoB) – Received on 17.02.2020 PDST res+(H R Z Pt) res- (E Lfx Mfx Lzd Cfz Km Cm)

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Correction of the diagnosis and adjustment of treatment strategy:

HIV infection, clinical stage 4, severe immunosuppression.

MDR-TB (18.02.2020) both lungs (disseminated) Desrt.-MTB+ M+ M Γ + Rif+(rpoB, katG) K + resist + (H R Z Pt) resist. - (E Lfx Mfx Lzd Cfz Km Cm) Hist0 (H П, 1 line) cog 4 (2020)

Secondary leukopenia, secondary thrombocytopenia.

Baseline evaluation at the start of MDR-TB treatment ;

Weight: 54 kg

CBC (13.02.2020) Hb-123, RBC 4.58, WBC2.1, Platelets172, neutr.- 54, ESR- 25

Biochemical blood tests (13.02.2020): total bilirubin - 10.4 (direct -3,1) ALT- 12, AST- 15, creatinine - 70,15, total protein- 68, albumin 31,7 potassium - 4.81 magnesium 1.2 sodium - 139, calcium - 2.52, amylase - 30, lactic acid - 2.0, blood glucose - 4.7

ECG on 18.02.2020: rhythm is sinus, correct, cardiac electrical axis - normal findings, QTcF interval -342, Heart rate - 78

Immunity status:

18.02.2020 - CD4+ 203 kly/ml (10%)

MDR-TB treatment initiation on 19.02.2020 on mSTR in the framework of the operational study :

Bdq+ Lfx +Lzd+ Cfz+ Cs

ART adjustment on 18.02.2020 ~~TDF+3TC+DTG~~



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Evaluation 3 months after mSTR treatment initiation :

Weight: 56 kg

CBC (18.05.2020) Hb -118, RBC - 4.21, WBC -6,1, platelets - 210, neutr.- 52, ESR- 22

Biochemical blood tests (18.05.2020): total bilirubin - 10.4 (direct) ALT- 9,2, AST- 17, creatinine - 88, total protein - 65, albumin 50, potassium - 3,86, amylase - 39, lactic acid - 1.75, blood glucose 4.3

ECG 18.05.2020: rhythm is sinus, correct, cardiac electrical axis - normal findings QTcF interval - 340, heart rate - 76

Evaluation 6months after mSTR treatment initiation :

Weight: 58 kg

CBC (18.05.2020) Hb-122, RBC 4.33, WBC.-6,8, platelets -180 , neutr.- - 50, ESR - 15

Biochemical blood tests (18.05.2020): total bilirubin - 12.24 (direct) ALT- 28, AST - 33, creatinine - 92, total protein- 68, albumin 48, potassium - 4.81, amylase - 32, lactic acid - 2.0, blood glucose - 3.8

ЭКГ 18.05.2020: rhythm is sinus, correct, cardiac electrical axis - normal findings, QTcF interval - 366, heart rate- 72

Evaluation 9 months after mSTR treatment initiation :

Weight : 59 kg

CBC (18.11.2020) Hb-123, RBC.- 4.58, WBC 6,2 ; platelets- 220, neutr.- - 54, ESR - 10

Biochemical blood tests(18.11.2020): total bilirubin - 8.42 (direct), ALT- 20, AST - 30, creatinine - 70,15, total protein - 72, albumin 45, potassium - 4.09, amylase - 22, lactic acid - 0.9, blood glucose - 4.5

ECG 18.11.2020: rhythm is sinus, correct, cardiac electrical axis - normal findings QTcF interval - 368, heart rate - 78

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Microbiology tests

	M 0	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8	M 9
Sputum microscopy	AFB+	AFB -	AFB -	AFB -	AFB -	AFB -	AFB -	AFB -	AFB -	AFB -
Culture examinations	MTB+ (Bactec)	MTB- (Bactec)	MTB - (Bactec)	MTB - (Bactec)	MTB - (Bactec)	MTB - (Bactec)	MTB - (Bactec)	MTB - (Bactec)	MTB - (Bactec)	MTB - (Bactec)

Treatment completion date – 17.11.2020

Patient received 273 doses of AMPP

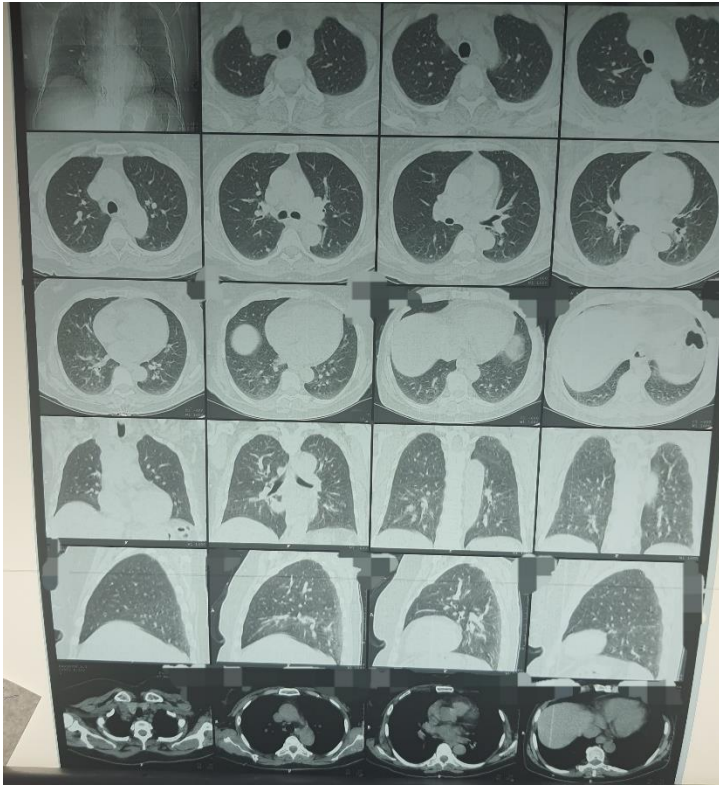
Immune status (18.11.2020)

CD4+ 277 kl/ml (15%)

Viral load – undetectable (under 40 PNA cop.)

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CT follow up on 18.11.2020





THANK YOU!