



# ***Favorable outcome in patient with XDR TB***

***Irina Chernokhaeva***

***junior scientist***

**St. Petersburg Research Institute of  
Phthisiopulmonology**

**Helsinki, November 23-24, 2017**



# CASE PRESENTATION # 1

**Patient – a young man (1997), 19 years old.**

A resident of the Komi Republic

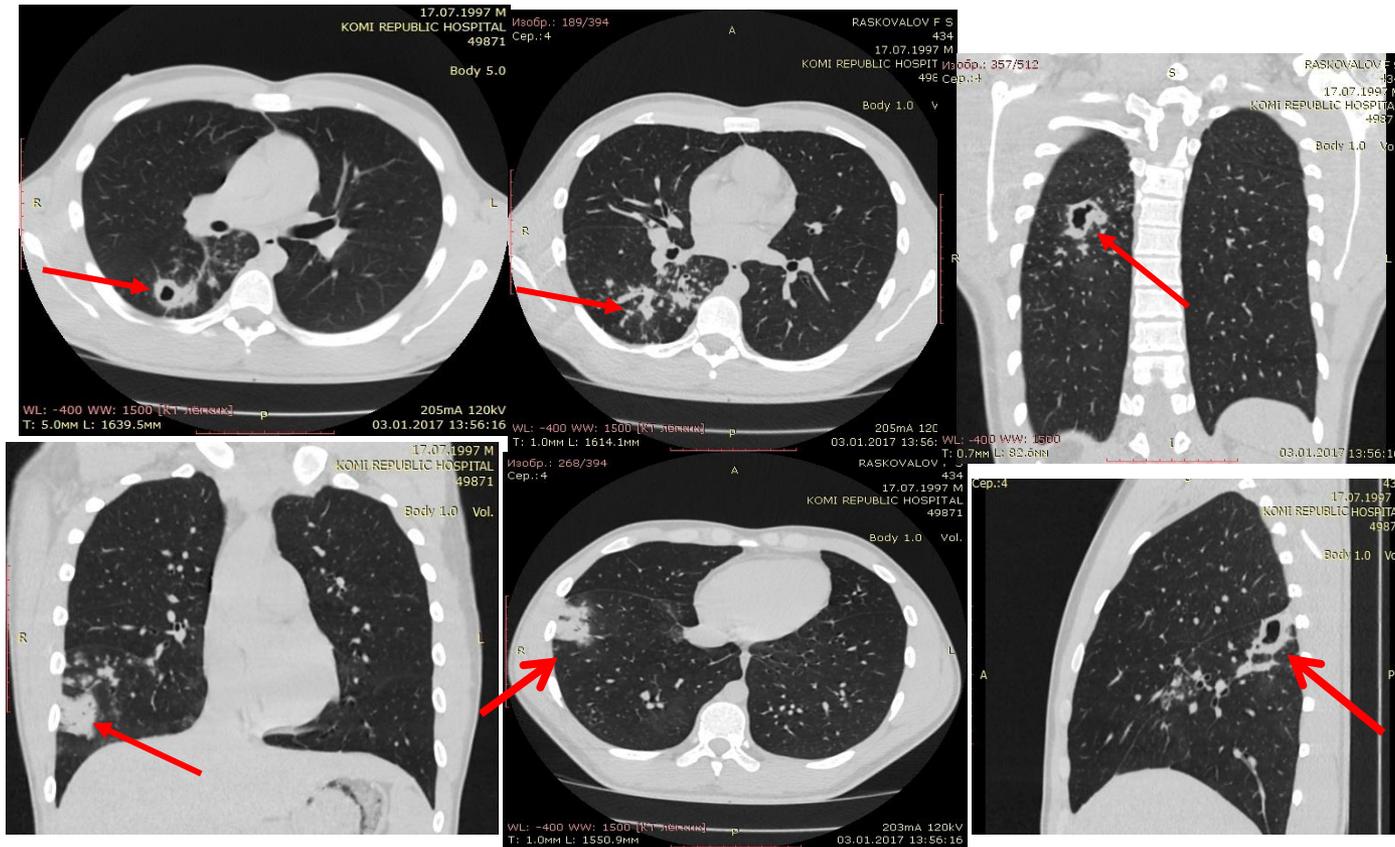
## Disease History

- Previously have not had an active TB.
- TB contact is not found.
- Chest x-ray examination was performing annually, previous one on September 2015 without any changes, (before the medical Army commission).
- Returned from the Army in November 2016 and at that time the first complaints of *unproductive cough, fever, weakness are appeared*.
- **Sharp health worsening on 01.01.2017 – pulmonary hemorrhage** (bleeding) within a few days.
- The patient was hospitalized at the thoracic Department of the Republic hospital.



# Examination Data

SCT (03.01. 2017).



**Fibrobronchoscopy 03.01. 2017:** pulmonary bleeding from bronchus segment 6

**Fibrobronchoscopy 10.01.2017:** temporary occlusion of B6 with a Fogarty catheter.

**Sputum:** ZN MT (+) (sputum smear, BAL (10.01.17), MDR TB (H, R - GenExpert, 09.01.17).



**Ds: Infiltrative lung tuberculosis (S6) with cavity, MTB (+), MDR**

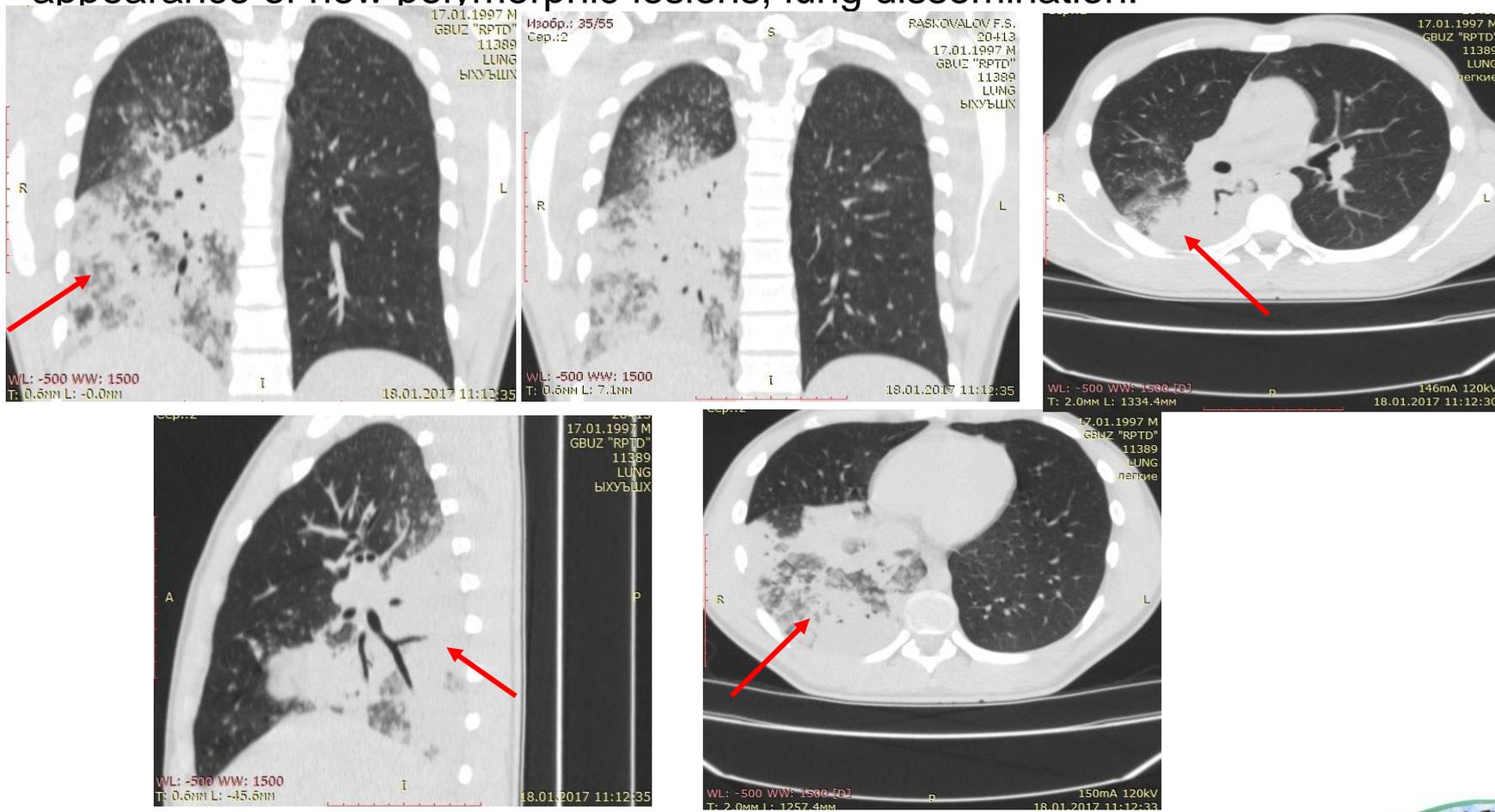


**TB Treatment** from 16.01.17:

**Z 1,5, E 1,2, Cm 1,0, Lfx 0,75, Cs 0,75, Pas 10,0.**

**Clinical worsening:** increase intoxication syndrome, breath shortening

**CT (18.01.2017) - the sharp progression:** increase of infiltration, the appearance of new polymorphic lesions, lung dissemination.



## In St. Petersburg Research Institute of Phthisiopulmonology

- **08.02.2017** – worsening a general condition, Ps - 110 per min, respiratory rate – 22, AD – 122/84 mm Hg.
- **Complaints:** *shortness of breath, severe weakness, sweating, pale skin.*
- **Sputum:** MT(+) by **microscopy** and by culture (09.02.2017).

Blood sample	09.02.17
RBC (x10 <sup>12</sup> /l)	4,29
HGB	135
<b>ESR</b>	<b>38</b>
<b>WBC (x10<sup>9</sup>/l)</b>	<b>11,3</b>
EO (%)	-
П (%)	-
C (%)	58
LYM (%)	32
MON (%)	10
PCT (x10 <sup>9</sup> /l)	364

B/chemical tests	09.02.17
Protein	81
Glucose-B	4,07
Creatinine-B	62
Albumin-B	-
ALT	18
AST	37
Bilirubin (total)	12,4
Uric acid	5,1
Globulin-B	-
Potassium-B	4,31

**Ds:** Caseous pneumonia of the right lung (lower lobe) with cavity and hematogenous dissemination in both lungs, MT (+) MDR (H,R)

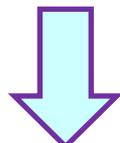
**Complication diagnosis:** TB intoxication. Respiratory failure.



## Drug resistance of MT - 14.02.2017

S, H, R, E, Z, Eth, A, Ofx, Cm, Mfx (0,5), Lfx, K

sensitivity to Mfx, Lzd, PAS. (Bactec MGIT 960– date 17.03.17)



**Chemotherapy Corection**  
**20.03.2017**

- **cycloserine** 0,75;
- **tioureidoiminometilpiridiniya perchlorate** (Tpp) 0,6;
- **linezolid** (LZD) 0,6;
- **p-aminosalicylic acid** (PAS) 12,0;
- **amoxicillin+clavulanic acid** (Amx/clav) *intravenous drip* 1,2;
- **meropenem** *intravenous drip* 1,0;
- **bedaquiline** (*according to the scheme*);



# TREATMENT

## 6-7 drugs:

Cs, Tpp, Amx/clav, Lzd,  
Bdq, PAS, Mpn

## Oxygen

Detoxification therapy  
Hepatoprotectors  
Vitamins

## Adverse drug reactions:

- 1) **Secondary convulsive syndrome;**
- 2) In four months – **hypotireozis.**

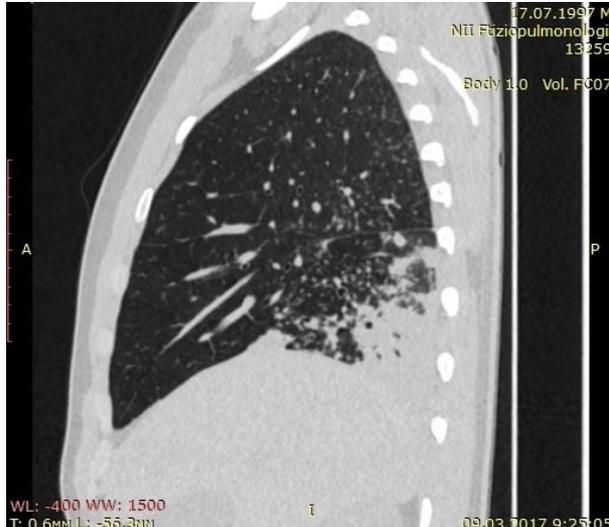
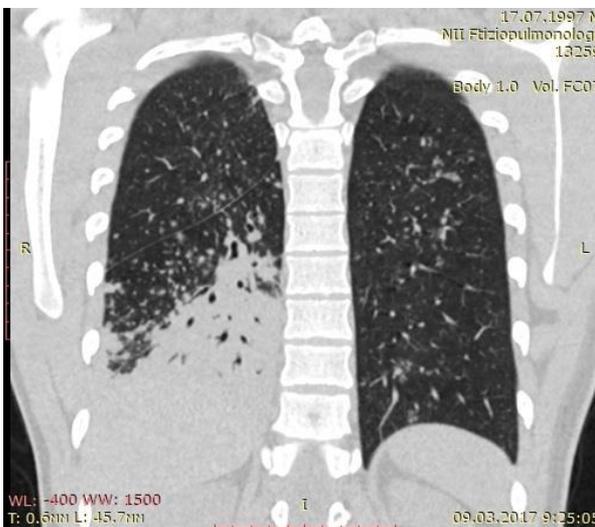
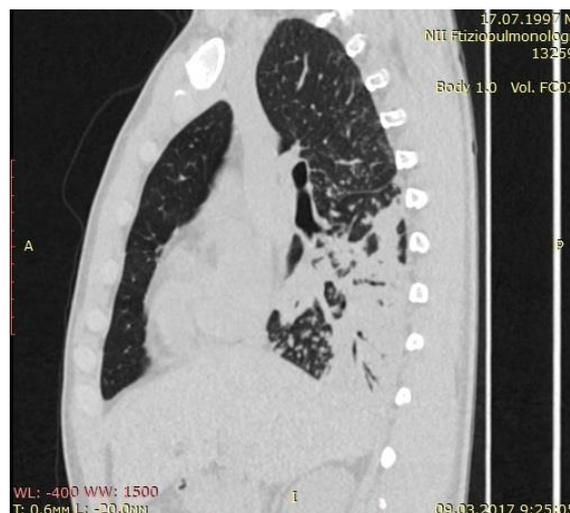
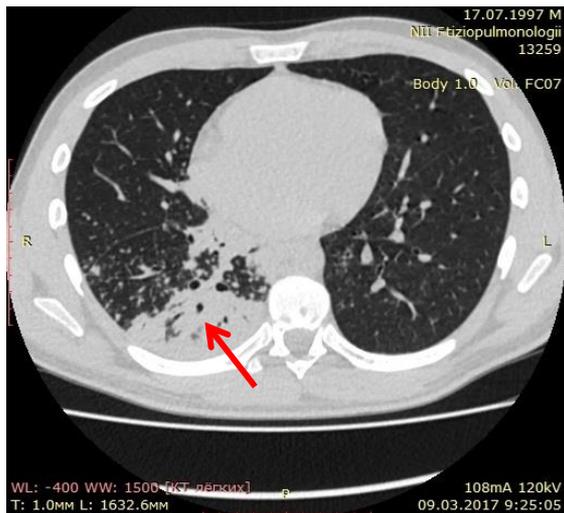
## Treatment:

- 1) Anticonvulsant therapy
- 2) Levothyroxine, consultation and following up by endocrinologist, thyroid-stimulating hormone control.

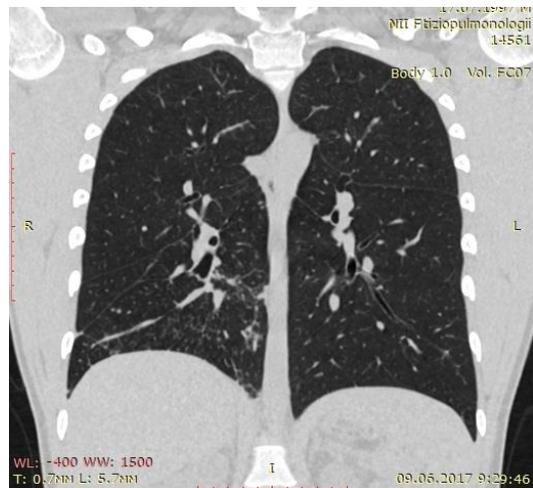
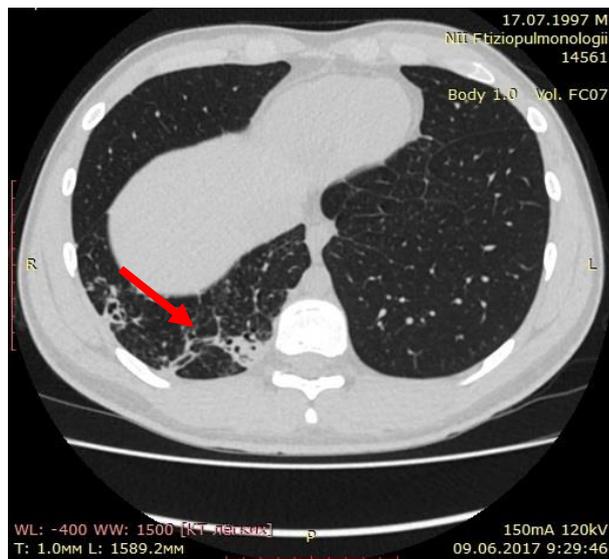
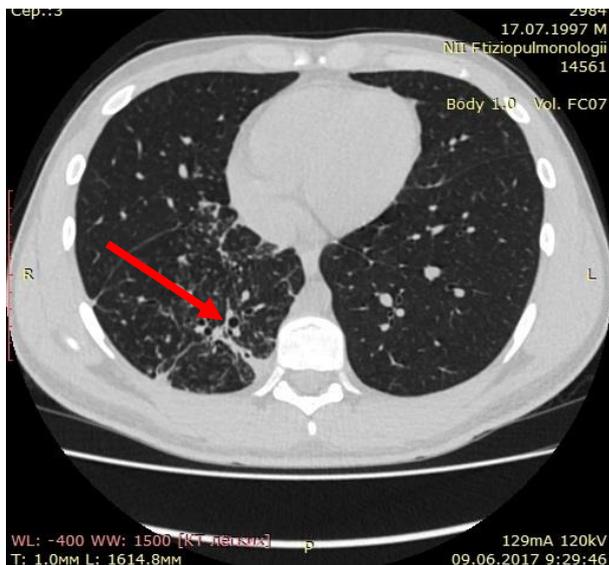


Control CT09.03.2017

Partial resolution of infiltration in S6 and S2 of the right lung



# Control CT 09.06.2017



The patient was discharged from the hospital 23.06. 2017 for the continuing the treatment in sanatorium

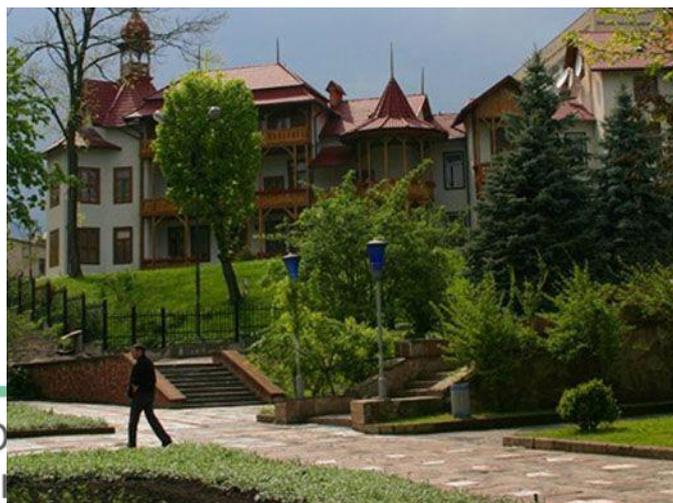
**Ds:**

**Infiltrative tuberculosis of the lower lobe of the right lung in the phase of the beginning resorption and compaction of the lung tissue, MT(-).**

Disability since 17.02.2017

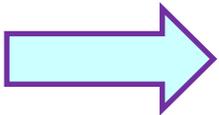
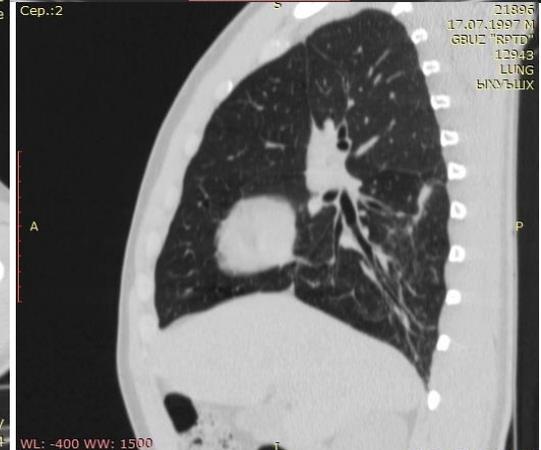
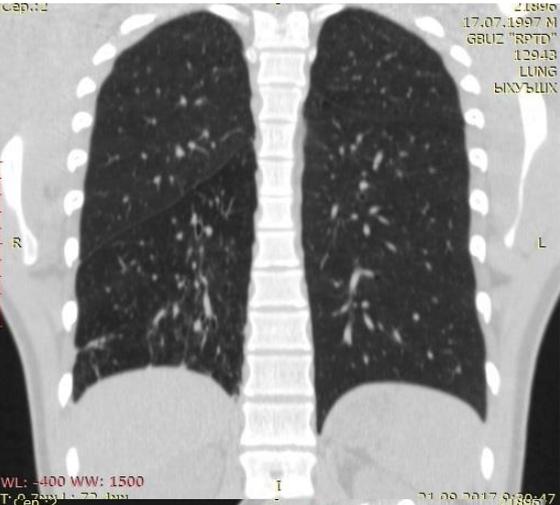


**Sanatorium  
«Lesnoe» (Tolyatti)**



- Sanatorium «Lesnoe» (Tolyatti): 25.06.17- 25.09.17
- Chemotherapy: Bdq, Lzd, Z, Pas, Tpp, Amx.
- MT(-) bacterioscopy and culture 07.05.2017

CT 21.09.2017



**Outpatient treatment is continued at the Republic Dispensary**

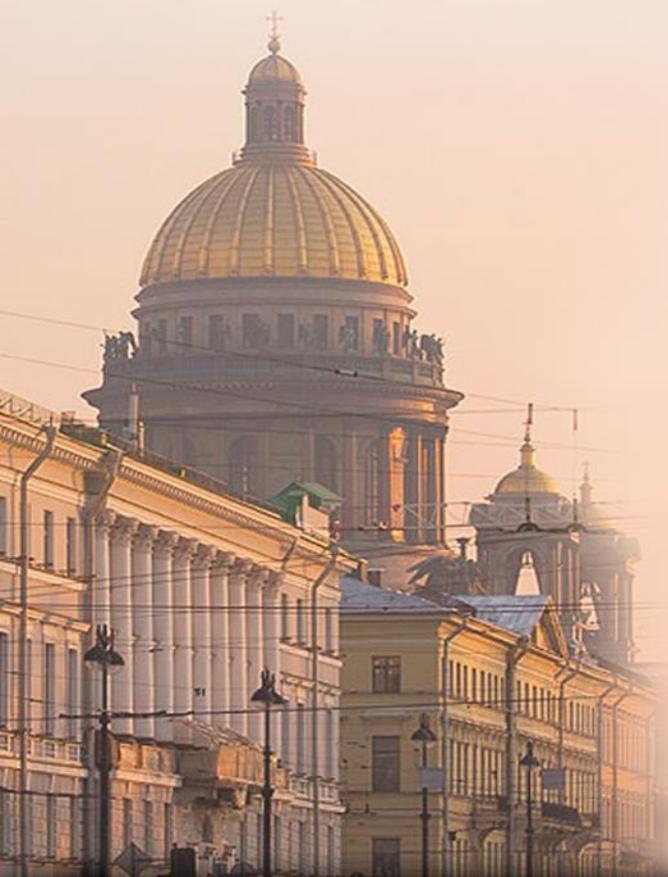


# Conclusions:

- Molecular genetic methods for determining drug resistance is allowed to start an adequate treatment in case of MDR/XDR-TB
- Individualized regimens of therapy with the inclusion of second and third line drugs, including new drugs is important
- The continuity in treatment between TB hospital, sanatorium, and dispensary also is significant in positive outcome of any TB.



*Thank you for your  
attention!*



ФГБУ «Санкт-Петербургский научно-исследовательский  
институт фтизиопульмонологии» Минздрава России

