

Preliminary data on safety and effectiveness of six-month all-oral regimens in patients with rifampicin-resistant tuberculosis in Belarus

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Introduction

The duration of treatment for rifampicin-resistant tuberculosis (RR-TB) in Belarus prior to December 2022 was 18-20 months.

The efficacy of treatment was around 73% in 2018.

The development of shorter regimens is urgent.

Six-month treatment regimens are used under operational research (OR) conditions in Belarus since February 2022.

Aim:

to evaluate safety and effectiveness of six-month all-oral regimens in patients with RR-TB.

Methods

Prospective study:

- BPaLM: 24_{weeks} Bdq-Pa-Lzd_{600->300}-Mfx
- BPaLC: 24_{weeks} Bdq-Pa-Lzd_{600->300}-Cfz *

* - resistance to Mfx

Assessments:

- Treatment outcomes,
- time to culture conversion,
- time to adverse event (AE) occurrence,
- AE types, frequency, outcomes.
- Univariate analysis - factors associated with unfavourable treatment outcome.

Drugs:

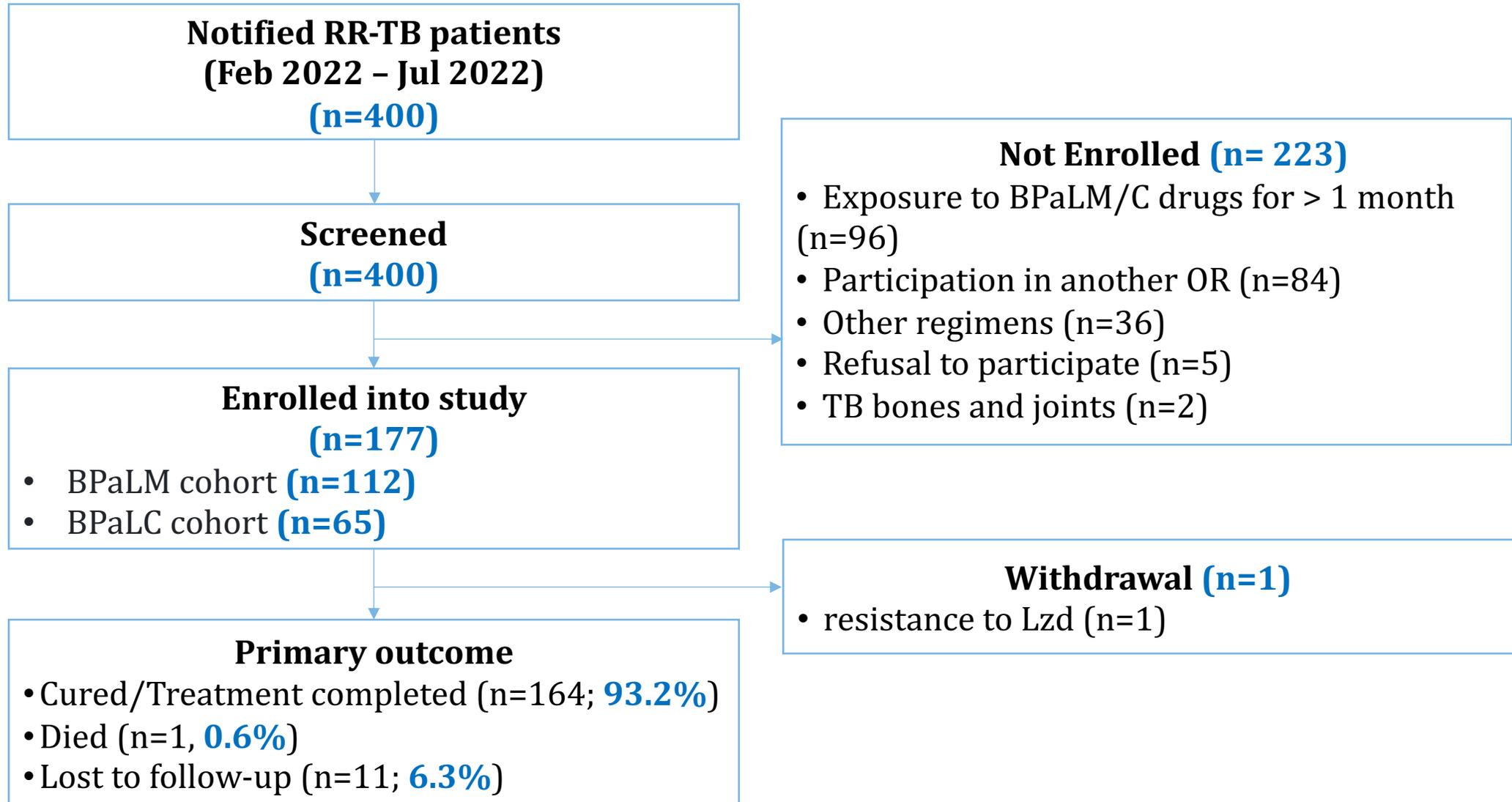
- Bdq - Bedaquiline,
- Pa - Pretomanid,
- Lzd - Linezolid,
- Mfx - Moxifloxacin,
- Cfz - Clofazimine

Ethics.

This study was approved by

- the MSF Ethics Review Board (ERB)
- the Belarus Independent ERB.

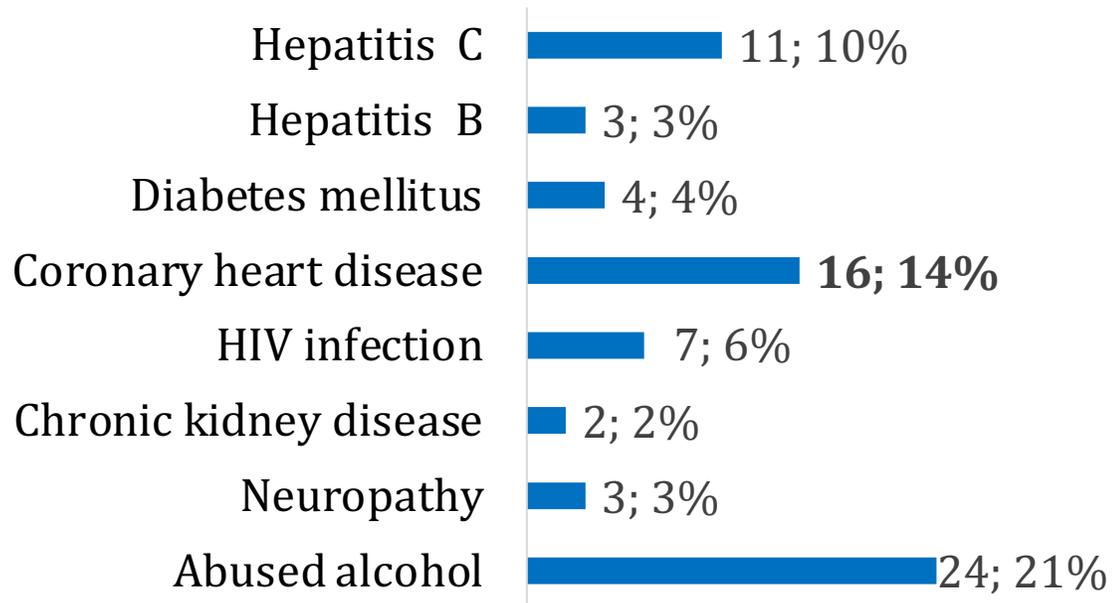
Enrolment flow diagram



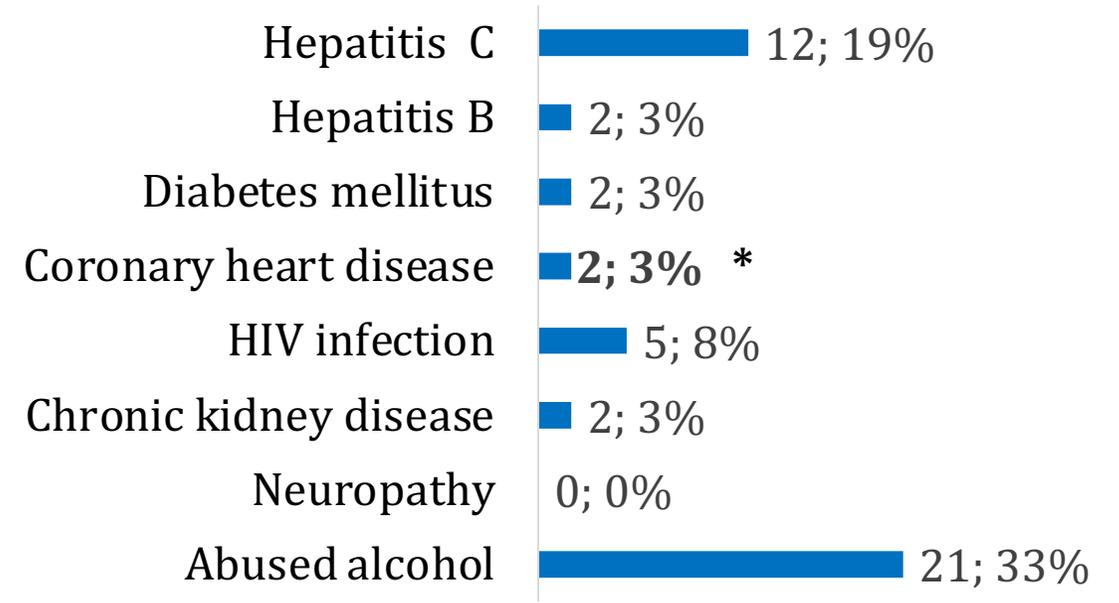
Characteristics of patients, BPaLM/C, n=176

Characteristics	BPaLM cohort n=112	BPaLC cohort n=64	P value
Age, Median (25; 75 percentile)	47 (37; 55)	41 (34; 55)	0.002
Male/Female	86 (77%) / 26 (23%)	47 (73%) / 17 (27%)	> 0.05
BMI < 18,5 kg/m ²	15 (13%)	10 (16%)	> 0.05
Previously treated	25 (22%)	17 (27%)	> 0.05
Characteristics of TB process			
Bilateral X-ray changes	36 (32%)	22 (34%)	> 0.05
Cavitary lesion	39 (35%)	20 (31%)	> 0.05
Sputum smear positive	33 (29%)	19 (30%)	> 0.05

Characteristics of patients, BPaLM/C, n=176



BPaLM, n=112

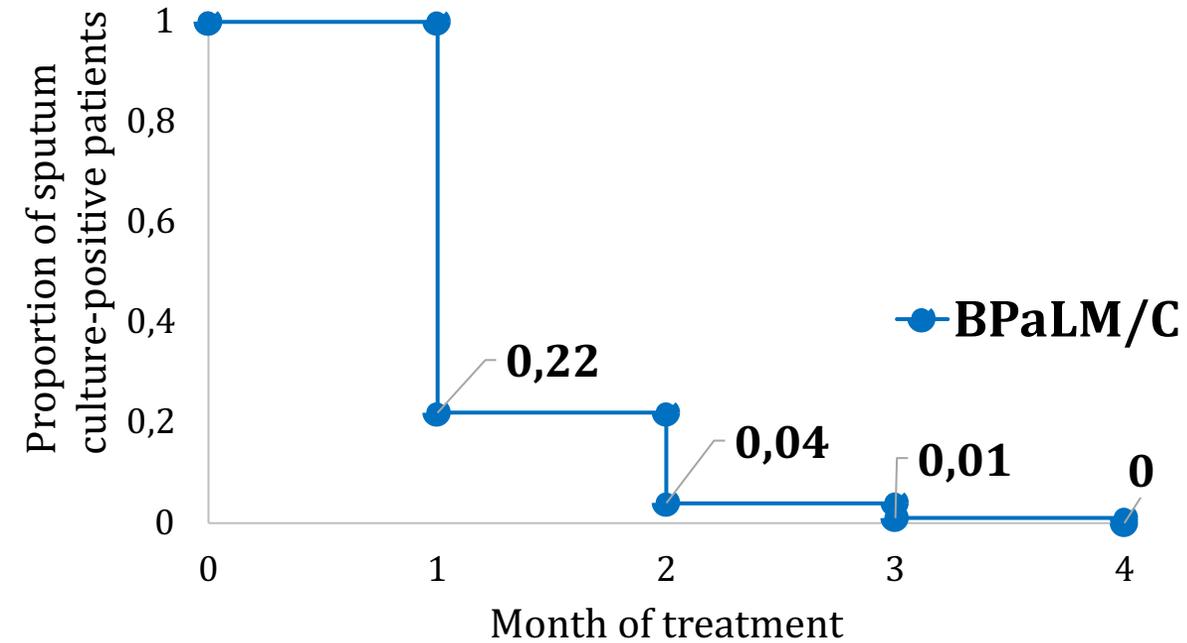


BPaLC, n=64

* p = 0.02

Results

Culture conversion

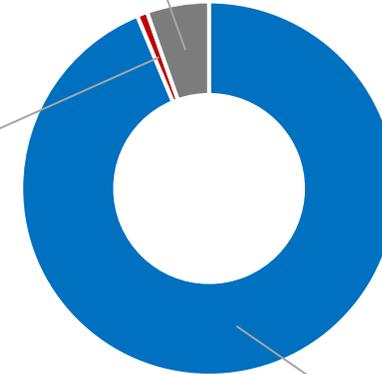


Median (IQR) time to culture conversion was 27 (25-29) days in BPaLM/C cohorts

Primary outcome

Lost to follow-up; 6; 5%

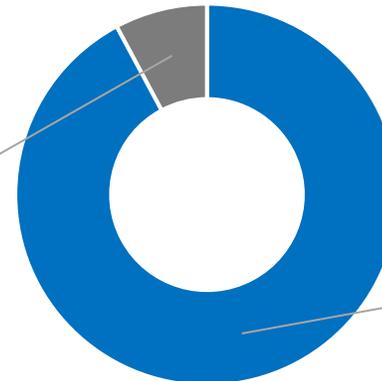
Death; 1; 1%



**BPaLM,
n = 112**

Cured + Treatment completed; 105; 94%

Lost to follow-up; 5; 8%



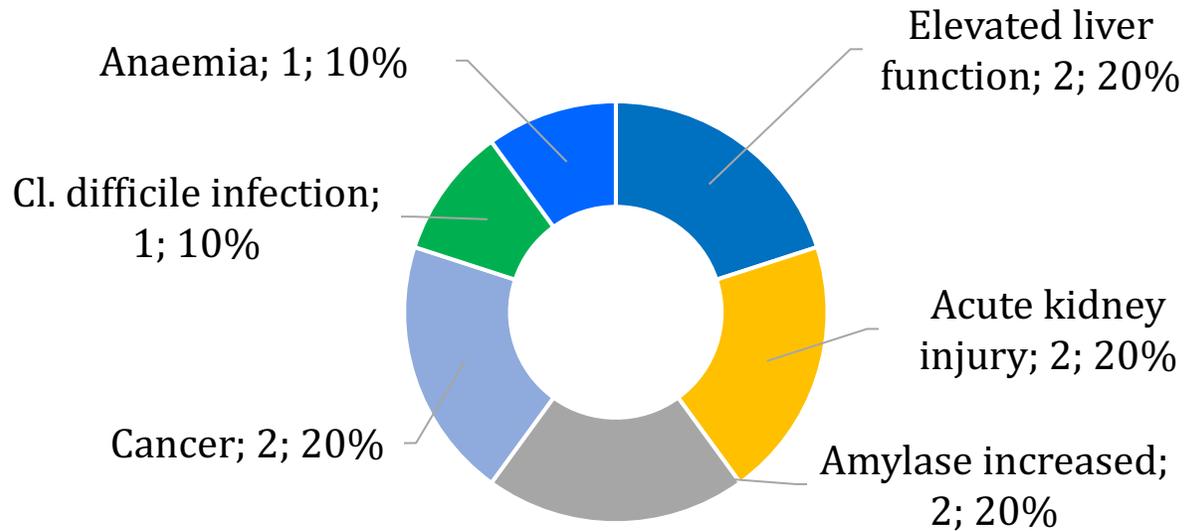
**BPaLC,
n = 64**

Cured + Treatment completed; 59; 92%

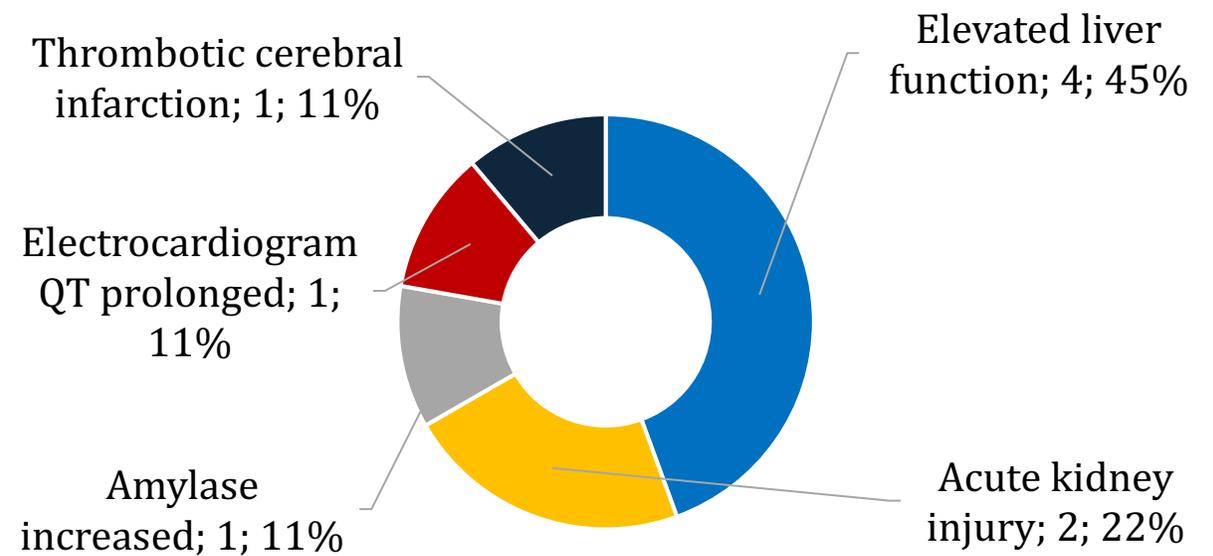
BPaLM/C safety profile, n=177

7% of patients in **BPaLM**, 9% of patients in **BPaLC** cohorts had serious adverse event (SAE)

SAE



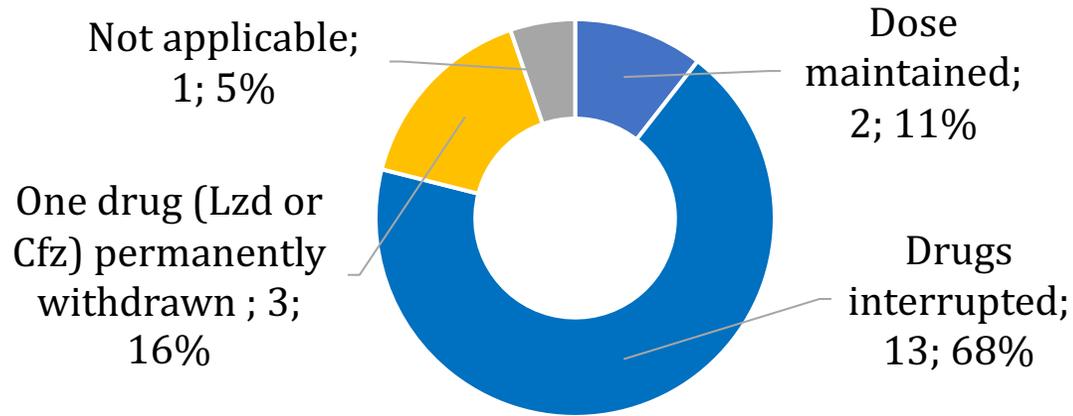
BPaLM, n=112



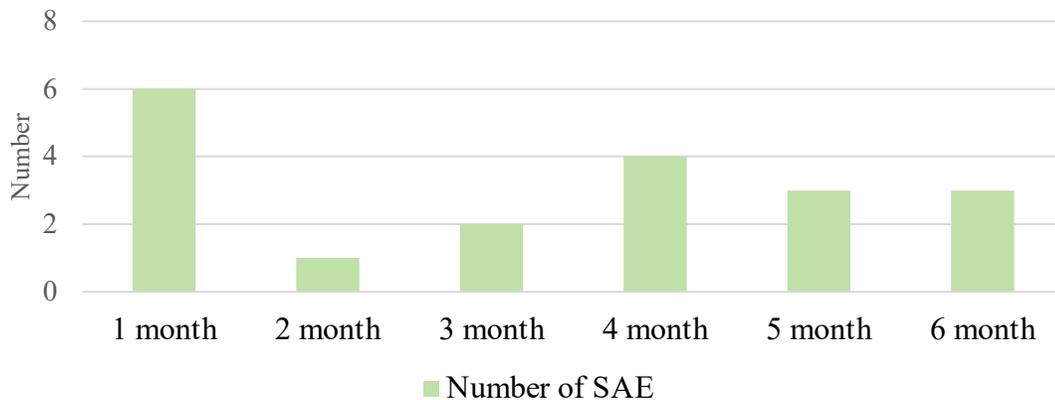
BPaLC, n=65

BPaLM/C safety profile, n=177

Actions to manage SAE

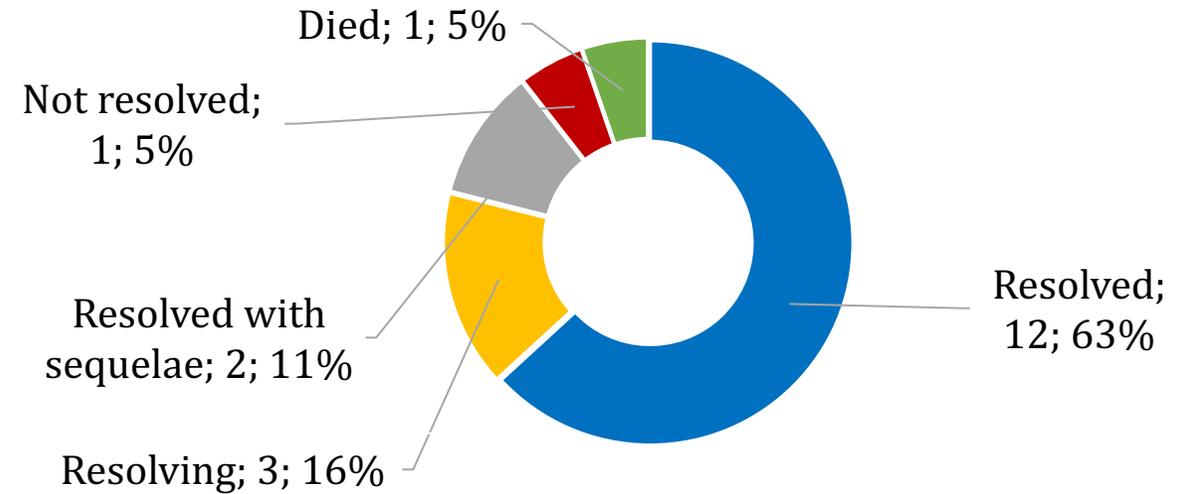


Time to SAE occurrence



Median time to the first SAE occurrence was 92.5 (IQR, 12.5-143) days

SAE outcomes



BPaLM/C

Predictors of unfavourable treatment outcome, BPaLM/C, n=176

Sputum smear positive result at treatment start

Abused alcohol

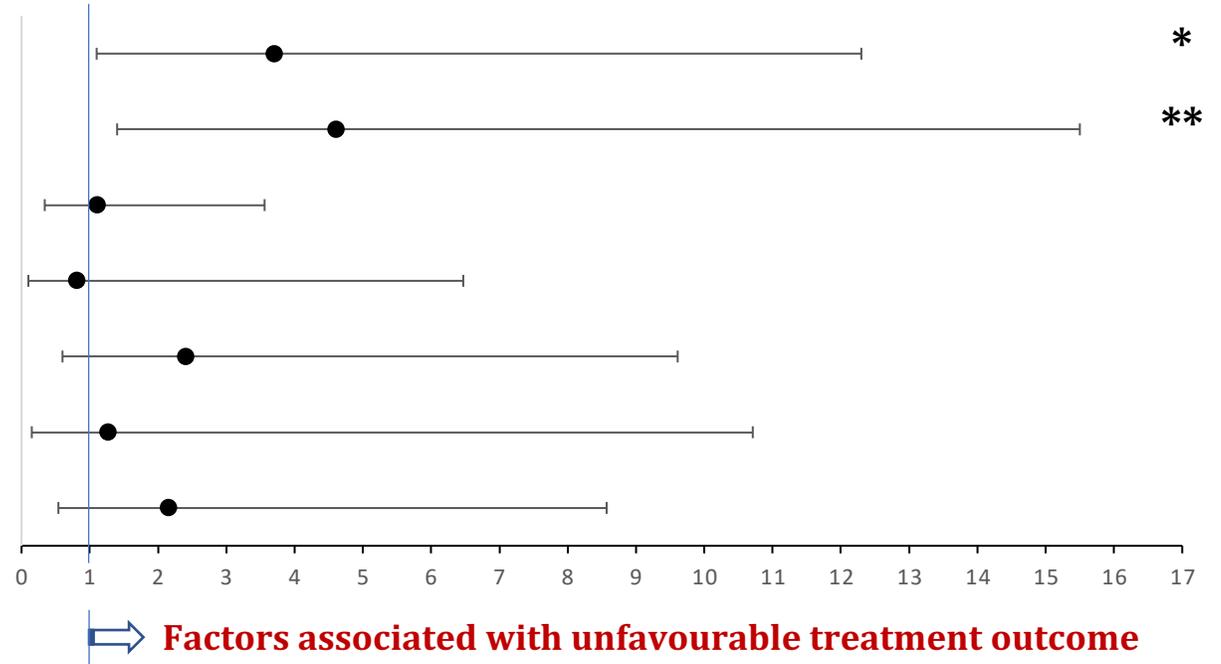
Age > 44 years

Coronary heart disease

Hepatitis C

HIV Infection

BMI <18,5 kg/m²



Odds Ratio for unfavourable treatment outcome

Univariate analysis

* p = 0.03

** p = 0.01

Acknowledgements

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- **NTP, regional monitors,**
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- **Staff of all Tuberculosis clinics and outpatient departments in Belarus.**