

An emerging threat: tuberculosis in HIV-infected intravenous drug users

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BACKGROUND

- Intravenous drug users (IDUs) are at an increased risk of tuberculosis (TB), which is an important cause of mortality. In Romania 149 (21,3%) of 698 newly diagnosed HIV patients in 2015 were IDUs (1).
- TB in HIV-positive patients poses diagnostic and treatment challenges, due to:
 - lower sensitivity for smear microscopy;
 - atypical chest radiographic appearances;
 - frequent extra-pulmonary localization;
 - interaction between TB medication and ART (antiretroviral therapy);
 - concurrent hepatitis C co-infection and IDU (2).

OBJECTIVE

- Assessing of clinical and laboratory characteristics of HIV-TB co-infected patients, according to their status of IDU.

METHODS

- Retrospective analysis of HIV-infected patients diagnosed between January and December 2015 with TB in six tertiary care facilities in Romania (Bucharest, Iasi, Cluj-Napoca, Timisoara, Constanta and Targu-Mures);
- Inclusion criteria : Age > 18 years old, HIV infected patients, with diagnosis of TB based on Ziehl-Neelsen stain, Lowenstein-Jensen culture and/or molecular amplification techniques (MTB/RIF Xpert);
- Differences between groups were analyzed using the Mann-Whitney U test for continuous variables and the chi-square test for dichotomous variables (SPSS v23).

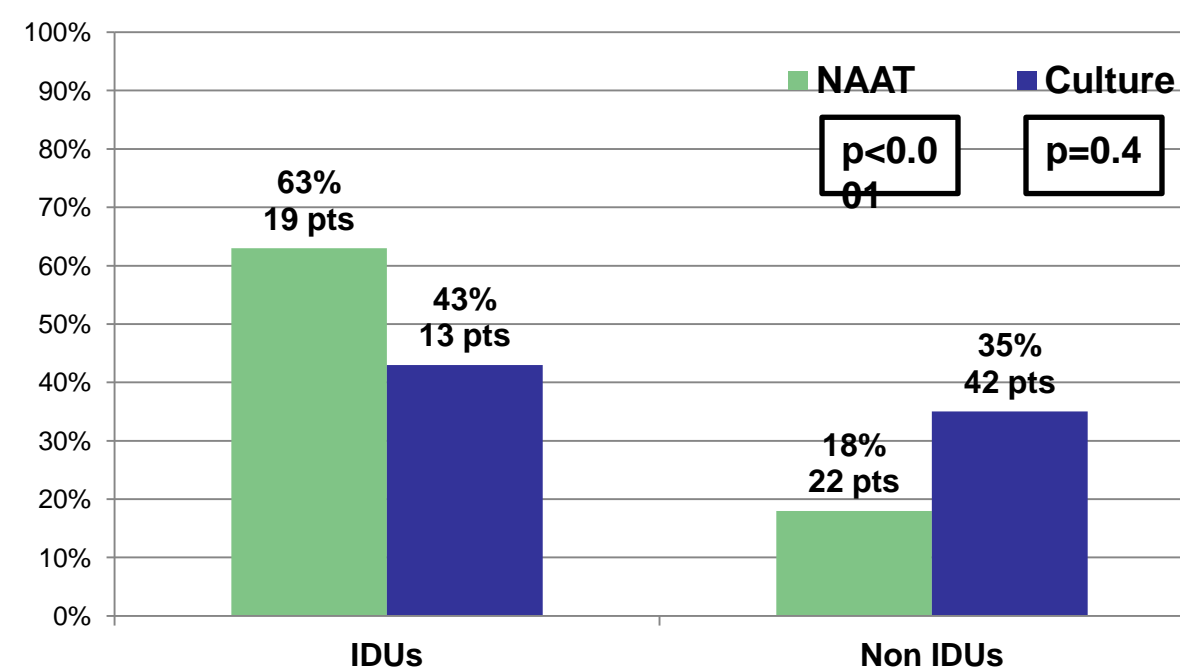
RESULTS

We identified 150 patients HIV-TB co-infected, of which 30 (20%) were IDUs. The HIV diagnosis was established before TB diagnosis in 16 (53%) cases in IDUs group and in 95 (79%) cases in non-IDUs group (p=0.009, OR=0.3, 95%CI=0.1-0.7).

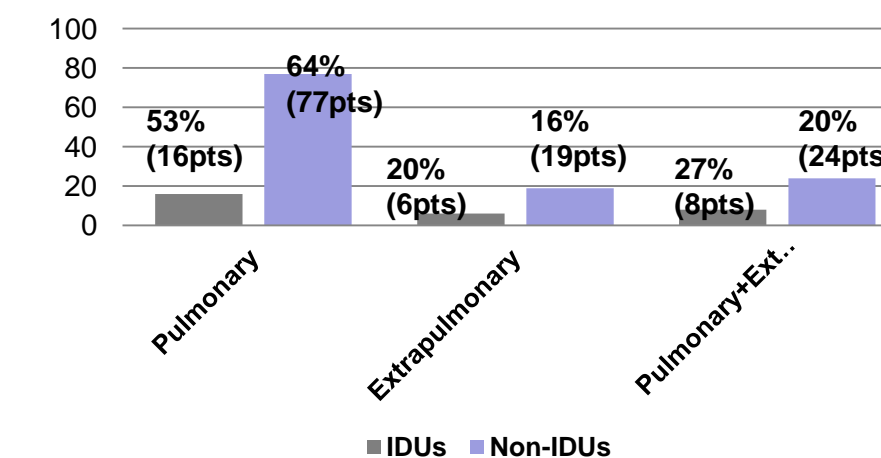
Patient characteristics

	IDUs N=30	Non-IDUs N=120	p value OR [95%CI]
Male, N(%)	25 (83)	71 (59)	0.01 0.3 [0.1-0.8]
Age (years)(median,IQR)	30 (26-34)	27 (26-39)	0.577
Stage C, N(%)	22 (73)	110 (92)	0.01 0.25 [0.08-0.7]
CD4 T-cell count at HIV diagnosis (cells/mm ³)(median), IQR	100 (24-424)	192 (81-384)	0.3
CD4 T-cell count at TB diagnosis (cells/mm ³)(median), IQR	23 (10-83)	83 (23-206)	0.001
ART coverage at TB diagnosis, N(%)	9 (30)	75 (63)	0.002 0.2 [0.1-0.6]
Prophylactic Trimethoprim/Sulfamethoxazole therapy N(%)	5 (17)	57 (48)	0.002 0.2 [0.08-0.6]
In-hospital mortality, N(%)	8 (27)	17 (14)	0.09 2.3 [0.8-6]

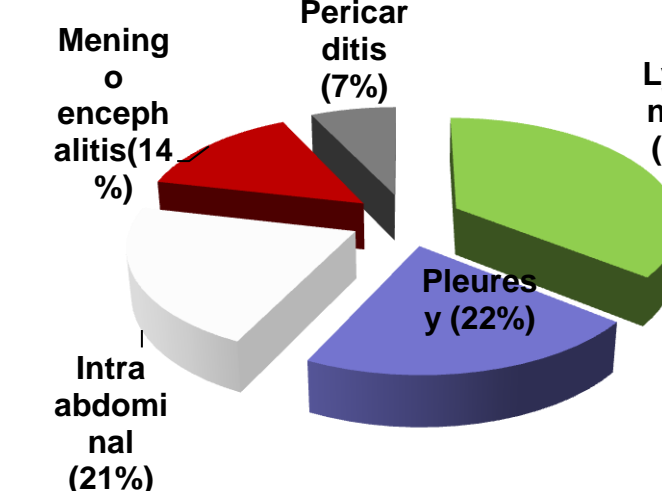
TB diagnosis



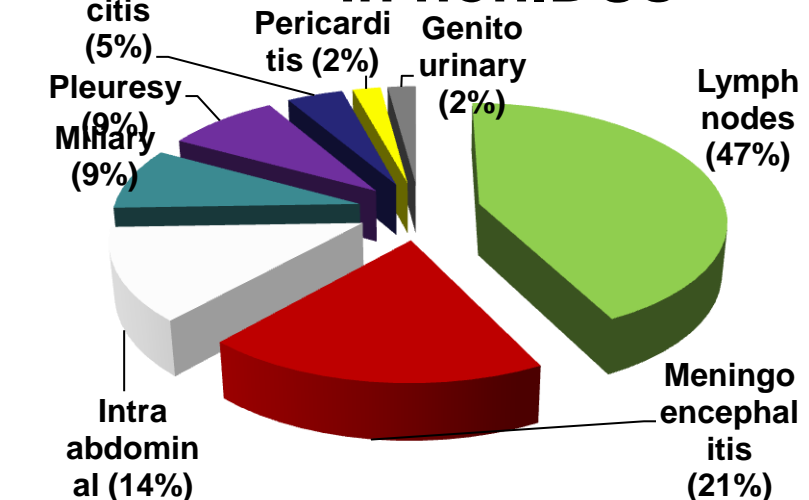
TB localization



Extrapulmonary TB in IDUs



Extrapulmonary TB in nonIDUs



CONCLUSIONS

- The majority of HIV-TB co-infected patients were late presenters;
- Co-infected IDUs patients were more immunosuppressed at the moment of HIV diagnosis, as well as at the TB diagnosis;
- Although most of the patients already had AIDS defining illness, only half of the IDUs and two thirds of the non-IDUs were on ART before TB diagnosis;
- Drug resistance was similar in both groups, while the mortality was significantly higher in IDUs.

REFERENCES

- European Centre for Disease Prevention and Control/ WHO Regional Office for Europe. HIV/AIDS surveillance in Europe 2015. Stockholm: ECDC; 2016.
- Efsen et al - Major Challenges in Clinical Management of TB/HIV Coinfected Patients in Eastern Europe Compared with Western Europe and Latin America, PLoS One 2015