

# CHARACTERISTICS OF HIV-TB CO-INFECTION IN ARAD COUNTY DURING 2006-2019

Gheorghe Nini<sup>1</sup>, Mirandolina Prișcă<sup>1</sup>, Manuela Plujar<sup>2</sup>

<sup>1</sup> "Vasile Goldiș" West University of Arad, Faculty of Medicine, Pharmacy and Dental Medicine

<sup>2</sup> County Emergency Clinical Hospital, Arad, Pneumology Clinic

**ABSTRACT.** The epidemiological aspect of HIV-TB co-infection represents an evaluation of the cases, over a certain period of time, on a certain territory, at the country level as well as worldwide for the evaluation of the diagnostics of the therapeutic success.

**KEYWORDS:** tuberculosis, HIV, epidemiology, Arad.

## INTRODUCTION

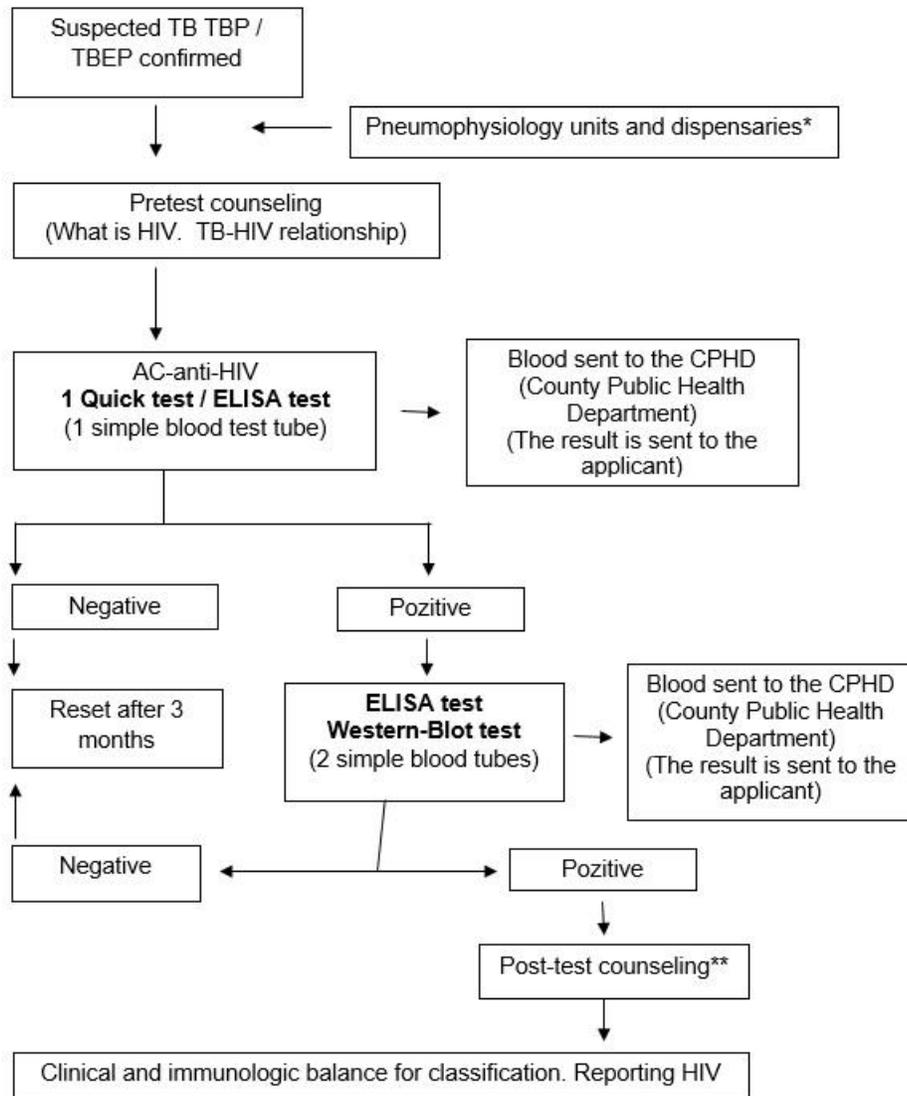
Tuberculosis and HIV infection are a major public health problem in the world, with considerable mutual interaction. Worldwide, HIV infection is a challenge for tuberculosis control. The probability of developing tuberculosis in HIV-infected persons is more than 29 times greater than in non-HIV-infected subjects. Tuberculosis is responsible for one third of deaths among people with HIV infection, which can be prevented. These data underscore the need for early diagnosis and proper treatment of tuberculosis in HIV patients.

HIV infection contributes to the progression of tuberculosis infection through the following moments:

- HIV infection is the most important risk factor contributing to the progression of active tuberculosis in both TB infected patients and those who have recently developed tuberculosis
- HIV infection increases the rate of recurrent tuberculosis through endogenous reactivation or exogenous re-infection. These aspects lead to increased risks of tuberculosis transmission in the general population
- tuberculosis is the primary factor contributing to the increase in mortality among HIV positive people
- the level of immunodeficiency, at the moment when the HIV infected person contracts tuberculosis, is associated with a high fatality rate of tuberculosis cases.

Manifestations	Immune deficiency	
	Early stage CD4 + over 200 / mm3	Advanced stage CD4+ under 200/mm3
Clinical	Pulmonary tuberculosis	Pulmonary tuberculosis severe forms
Radiological	Affection of the upper lobes, usually cavity forms	Interstitial, miliary, adenopathic, pleural disorders
Bacteriological	Frequent positive smear	Frequent negative smear

Fig. 1 The clinico-radiological aspect of TBP in people living with HIV



\* Valid for PF units - to estimate the number of rapid HIV and ELISA tests that would be required for the following year and to be announced at the CPHD - until June 30 - the current year  
 \*\* Sheets of pre / post testing, see the annex

Fig. 2 Diagnostic algorithm for people with HIV-TB co-infection, Source National Guide TB-HIV case management, 2017

**MATERIALS AND METHODS**

Addressing the aspects and particularities of the presentation forms of tuberculosis, the therapeutic success in HIV infection is the object of constant concern in the evaluation of the cases and the number of patients, in a certain territory, as well as at national and world level, for the eradication of the tuberculosis, the increase of the

quality of life of the patients with HIV infection, as well as developing new methods and specific concepts.

The type of study used is epidemiological observation, used in chronic diseases. For this study there were taken into account patients with HIV infection, who developed a form of pulmonary or extrapulmonary tuberculosis, confirmed by bacteriological examination, smear or culture or histopathological examination, starting

with 2006 using HIV and tuberculosis registers in both electronic and printed form .

number of 213 patients living with HIV, patients who are in the records of the Arad HIV Clinic compartment, 30 of them developed at one point in time, a form of pulmonary or extrapulmonary TB.

### RESULTS AND DISCUSSIONS

The study was conducted in the county of Arad, from 2006 to the present. The study shows that out of a

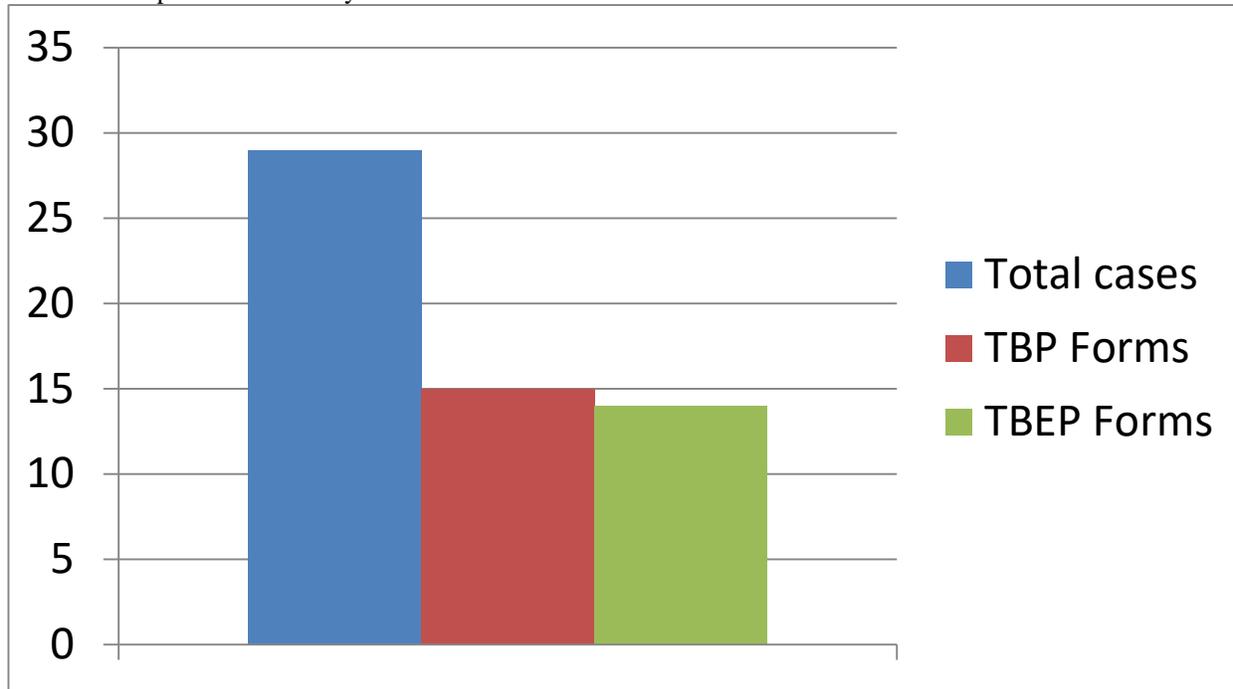


Fig. 3 Percentage of TBP and TBEP cases in patients living with HIV in Arad County.

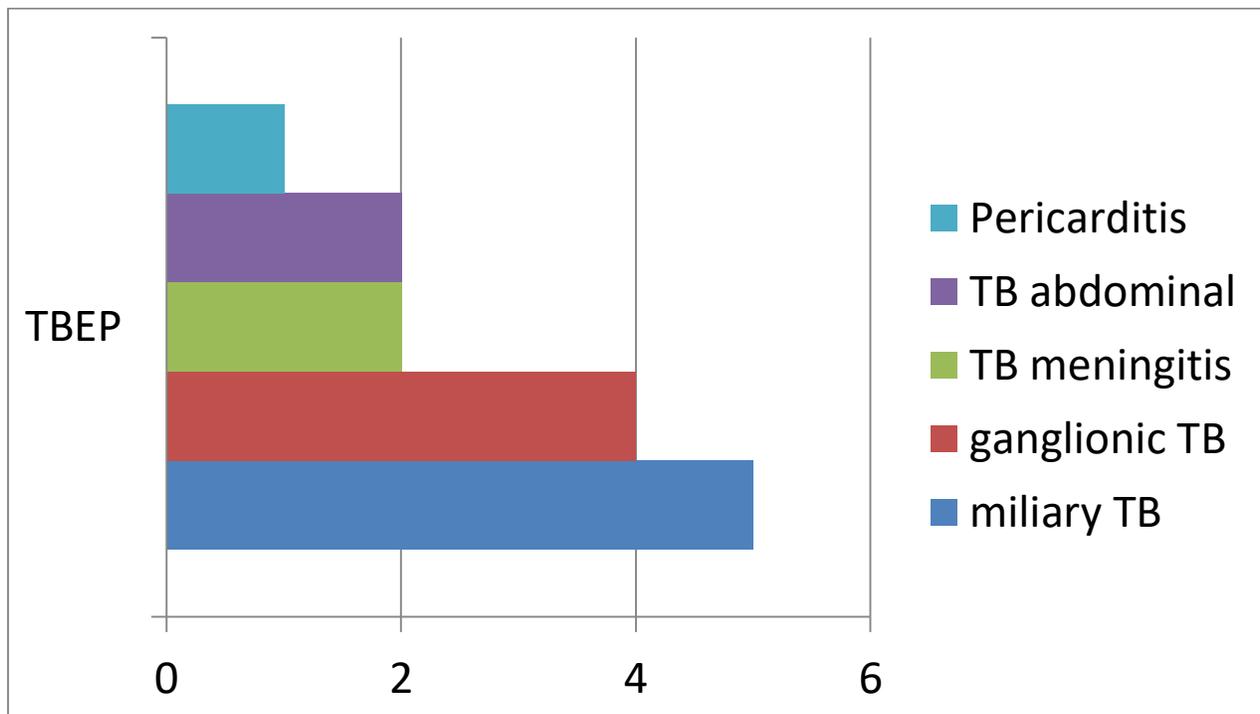


Fig. 4 Forms of TBEP, found in patients with HIV co-infection in the county of Arad.

Depending on the number of CD4 + T lymphocytes, a division of the cases could not be made due to the small number of cases and the CD4 value, in the

cases of pulmonary tuberculosis, varies from a value of 26 cel / mm<sup>3</sup> and 582 cel / mm<sup>3</sup>, at the time of tuberculosis disease diagnosis, but it was observed in cases of

extrapulmonary tuberculosis and miliary forms, a value of CD4 below 180 cel / mm<sup>3</sup>, at the time of diagnosis of tuberculosis.

In the case of relapses, there was a higher prevalence of relapses in the case of pulmonary tuberculosis, in this studied group, there were 4 relapses:

-3 pulmonary cases, of which 2 with finalised treatment, declared healed, one case undergoing treatment at the moment

- 1 case of extrapulmonary tuberculosis, resulting in death one month after initiation of treatment.

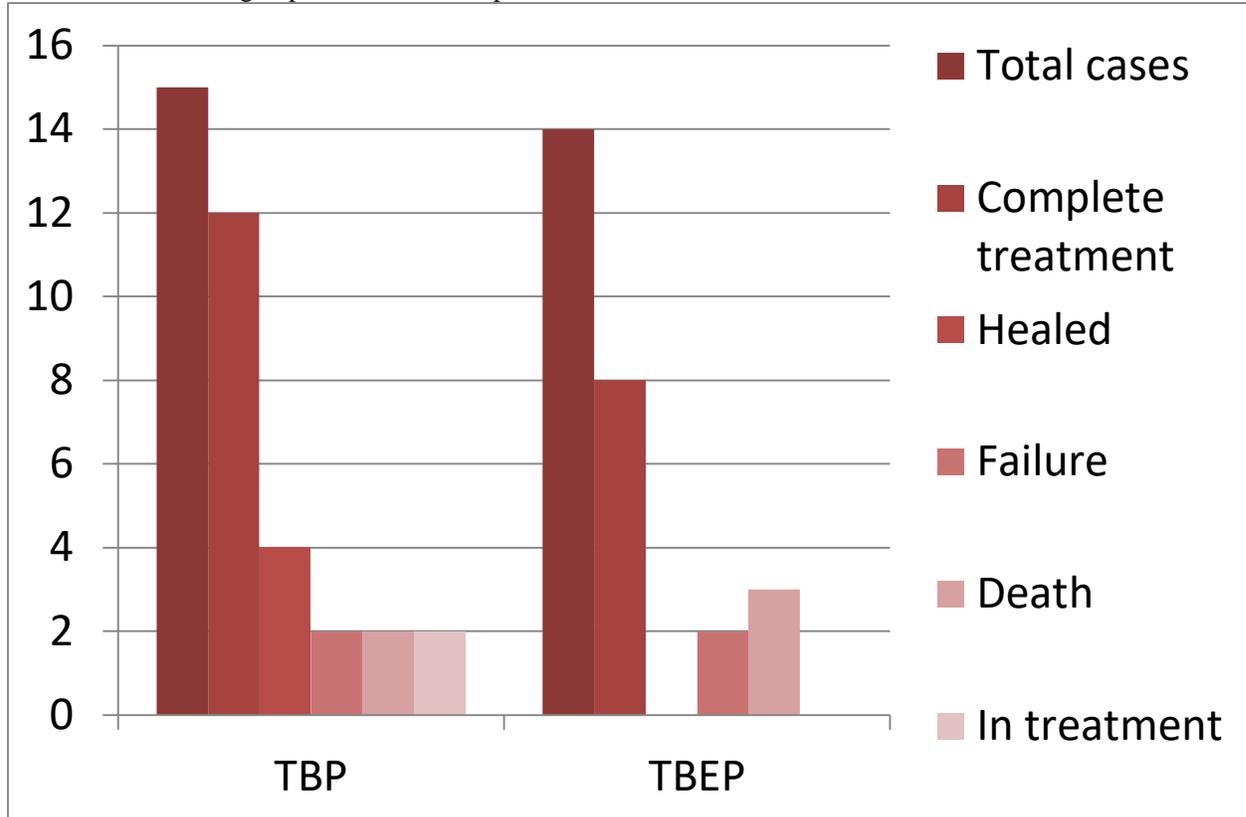


Fig. 5 Success rate of treatment

The international community recognizes the importance of combating TB and HIV / AIDS epidemics and recommends close collaboration between TB and HIV / AIDS control programs. A good collaboration of the two programs comes with benefits for the patients, as well as reaching the WHO objectives regarding the End-TB strategy.

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