

# PARTICULARITIES OF PULMONARY TUBERCULOSIS IN ELDERLY PATIENTS

ADRIANA RĂDULESCU<sup>1</sup>

<sup>1</sup>Pneumophtisiology Hospital Sibiu

**Keywords:** pulmonary tuberculosis (TB), elderly patient, clinical and radiological peculiarities, Mycobacterium tuberculosis

**Abstract:** Tuberculosis remains a public health problem worldwide. Given the aging phenomenon of the population, there is an increased incidence of tuberculosis among older people, these ones being the main reservoir of infection with *Mycobacterium tuberculosis* in the developed countries. The aim of this study is to analyze the peculiarities of pulmonary tuberculosis in elderly patients. Materials and methods: this is a retrospective study performed on a group A made up of 104 patients aged over 65 years old, which was compared to group B consisting of 107 patients aged 18-55 years old; the patients were admitted to the Pneumophtisiology Hospital of Sibiu between 01.2010 - 01.2015. Results: there were found a predominance of TB in the male patients in both groups, a higher frequency in rural areas regardless of age and some clinical, anatomical and radiological peculiarities in the elderly patients.

## INTRODUCTION

Tuberculosis is one of the oldest diseases of mankind, but it remains a major public health problem worldwide, being considered in 2002 by the World Health Organization (WHO) an epidemiological emergency.(1)

In parallel, the aging global population phenomenon expands, also interesting the less economically developed countries.(2)

The number of older people with TB increases from year to year, now representing in our country more than 25% of all patients with TB.(3)

Geriatric population is the largest reservoir for *Mycobacterium tuberculosis* infection in industrialized countries, particularly.(4)

Incidence of TB cases in the elderly is maintained at high values in contrast with the regress registered in the other age groups.(5)

Along with the increasing prevalence of people with HIV/AIDS, infections, multidrug resistant tuberculosis, an important thing that negatively influences TB fight is the increasing number of older people who are more susceptible to infection with *Mycobacterium tuberculosis*, as well as to more severe and intensely contagious diseases.(6,7)

The diagnosis of TB should be considered at least as suspected in any patient with chronic pneumopathies of unknown etiology.

## PURPOSE

The purpose of this study is to evaluate pulmonary TB peculiarities in elderly patients compared to younger patients.

The main objectives were:

- to evaluate the distribution by gender and area of origin;
- to evaluate the clinical characteristics of patients with pulmonary TB and of the present comorbidities;
- to assess the anatomical, radiological characteristics of pulmonary tuberculosis in elderly patients.

## MATERIALS AND METHODS

The current study is a retrospective one conducted between 01.2010-01.2015 on a group A consisting of 104 patients aged over 65 years old compared to group B consisting of patients aged 18-55 years old, hospitalized in the above-mentioned period in the Pneumology Hospital of Sibiu. In these groups, there were studied the distribution by gender, origin (rural or urban), clinical features, comorbidities, pulmonary radiological appearance. Criteria for inclusion of patients in the study were: both genders, urban or rural area of origin, pulmonary radiological changes suggestive of TB, with or without bacteriological and/or histopathological confirmation. Exclusion criteria were: radiologic appearance of fibro-nodular pulmonary tuberculosis without bacteriological confirmation without tuberculosis treatment and the active-evolutive pulmonary tuberculosis invalidated cases.

## RESULTS AND DISCUSSIONS

By analysing group A patients according to gender, age and area of origin, there was found a predominance of male patients with a maximum incidence in the age group of 70-74 years old, as well as a prevalence of patients from rural areas.

Figure no. 1. Gender distribution of the patients in group A



<sup>1</sup>Corresponding author: Adriana Rădulescu, Str. Aleea Filozofilor, Nr. 3-5, Sibiu, România, E-mail: adrianaradulescu58@yahoo.com, Phone: +40733 499100

Article received on 05.02.2015 and accepted for publication on 29.05.2015  
ACTA MEDICA TRANSILVANICA June 2015;20(2):19-21

In group B patients, there was also a predominance of male subjects, the peak incidence being recorded in the age group of 35-45 years old, the patients were also coming more frequently from rural areas.

**Figure no. 2. Gender distribution of patients in group B**



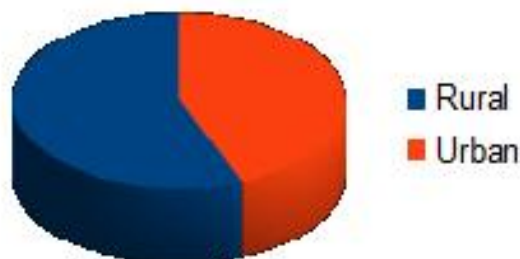
There was found a male predominance both in group A and group B, the explanation consisting in a more frequent association of chronic alcoholism, chronic hepatopathies, chronic protein-calorie malnutrition, disorganized lifestyle in men.

From the point of view of the area of origin, there was found in both groups, an increased frequency of rural patients, the explanation being the presence of a greater number of sources of infection (TB incidence was consistently higher in rural areas in recent decades), deficient medical assistance compared to urban areas, often precarious sanitary conditions and health education, low material income compared to the urban population.

**Figure no. 3. Distribution of patients in group A according to their area of origin**



**Figure no. 4. Distribution of patients in group B according to their area of origin**



Taking into account the age groups, there was found a maximum incidence of the population of 70-74 and 35-45 years old, the latter representing the active people from the social point of view, who are more exposed to the risk of infection.

In terms of clinical manifestations of TB, there was found that elderly patients in group A frequently presented unspecific symptoms of tuberculosis, being initially diagnosed

with other diseases, especially acute pneumonia, lung cancer, chronic bronchitis, pleurisy in cardiac decompensation.

The clinical onset is often insidious both in the elderly patients in group A and in the young ones in group B.

Regarding the symptoms in the elderly with TB, the following predominate: dyspnea, cough, asthenia, insomnia, memory impairment, irritability, intellectual fatigue. In the young patients in group B, the following were more common: hemoptysis, night sweats, loss of appetite, weight loss and feverish.

**Table no. 1. Clinical symptoms of pulmonary TB – group A compared to group B**

Symptom	Group A	Group B
Night sweats	48.2%	61.8%
Cough	94%	98.3%
Expectorations	73%	85.1%
Feverish	83.2%	98.3%
Hemoptysis	21.6%	46.3%
Dyspnea	73%	2.4%
Weight loss	52.4%	74.5%
Loss of appetite	62.2%	73.3%
Asthenia	29.7%	34.3%
Chest pain	40.5%	14.9%
Unspecific symptoms	62.2%	17.9%

Regarding the anatomical and radiological appearance, in group A of the elderly patients, atypical localizations predominate, such as at the inferior lobes, middle lobe as well as the bilaterally extended forms.

**Table no. 2. Localization of the radiological lesions of pulmonary TB – group A compared to group B**

Localization	Group A	Group B
Unilateral	50.90%	73.60%
Bilateral	49.10%	26.40%
Superior lobe	43.40%	77.40%
Middle lobe	5.70%	1.90%
Inferior lobe	20.80	5.70%

**Table no. 3. Anatomical, radiological forms of pulmonary TB – group A compared to group B**

Anatomical-radiological form	Group A	Group B
Fibro-nodular lesions	15.38%	12.64%
Infiltrative lesions	7.69%	6.60%
Fibrocaceous-ulcerated lesions	35.57%	28.30%
Fibrous-cavitary lesions	25%	27.35%
Bronhopneumonic appearance	3.84%	3.77%
Miliary appearance	4.80%	3.77%
Pleurisies	3.84%	11.32%
Pneumothorax	1.92%	5.66%
Fibrothorax	1.92%	0.94%

Pulmonary tuberculosis in the elderly patients, considered in the past as a typical representative of fibrous TB, may take any radiological aspect, as observed in the current study.

Elderly patients frequently present lesions extended across both lung and those with lesions at the level of the upper lobes also have lesions at the level of the inferior lobes.

The young patients present, in a higher frequency, lesions confined to the upper lobes, as well as unilateral lesions.

The presence of comorbidities increases the frequency of severe forms of TB in both age groups.

### CONCLUSIONS

- In terms of gender, there was found a predominance of TB in males, both in group A (52.88%) and in group B (68.22%); the explanation consists in the most common association of chronic alcoholism, smoking, disorganized lifestyle in men.
- Depending on the area of origin, it was found that pulmonary TB is more common in the patients in rural areas both in group A (59.61%) and in group B (56.07%), which is explained by the lower access to primary healthcare of the rural patients.
- The most common clinical symptoms (lack of appetite, weight loss, cough, dyspnea, asthenia and fatigue) equally characterize group A and group B with the exception that in group A, these symptoms are attributed to other causes (neoplasia, chronic diseases, physiological aging), therefore, seeing a doctor is delayed, in particular the pulmonologist.
- From the anatomical and radiological point of view, the atypical localizations at the level of the middle lobe, inferior lobes are more frequent in group A, leading to diagnosis confusions – unspecific pneumopathies.
- In group A, there was an increased frequency of ulcerated and cavitary forms with the highest potential of contagion.
- Due to the clinical course, often masked by associated chronic diseases and by the old age accompanying physiological phenomena, in many cases, there was found that elderly patients in group A were initially admitted to other medical wards, thus representing an epidemiological risk due to lack of isolation, both for the rest of the patients and for the medical staff, as well.

### REFERENCES

1. World Health Organization. Global Tuberculosis (TB) Report; 2014.
2. Maartens G, Wilkinson RJ. Tuberculosis. Lancet. 2007 Dec 15;370(9604):2030-43.
3. Zagaria MA. Tuberculosis, a preventable Cause of Death in the Elderly US Pharm. 2008;33(7):23.
4. Kaufman SH, Lange C, Rao M, et al. Progress in tuberculosis vaccine development and host-directed therapies-a state of the art review. Lancet Respir Med. 2014; Apr 2(4):301-320. doi: 10.1016/S2213-2600(14)70033-5. Epub 2014 Mar 24.
5. Tuberculosis; NICE Clinical Guideline Clinical diagnosis and management of tuberculosis, and measures for its prevention and control March; 2011.
6. Calligaro GL, Moodley L, Symons G, et al. The medical and surgical treatment of drug resistant tuberculosis. J Thorac Dis. 2014 Mar;6(3):186-195.
7. Tuberculosis (TB); Public Health England. Tuberculosis in the UK Report; 2014.