

# Presentation of pulmonary tuberculosis in a pregnant patient in a remote rural community in Northern Guatemala

## Abstract

Tuberculosis is one of the leading infectious causes of death in adults worldwide. The human host acts as a natural reservoir for *Mycobacterium tuberculosis*. Pregnancy carries an increased risk for infections.

## Presentation

A 25-year-old female patient, who is in her second pregnancy, with a history of chest pain of 4 weeks of evolution associated with a non-productive cough, reports nocturnal fever not quantified by thermometer. The relatives refer to a weight loss of approximately 30 pounds in less than three weeks, since she weighed 135 pounds they indicate that no one else presents this symptomatology, they refer that the patient has never left her community. On evaluation, she was observed as a cachexic patient, with mobility difficulties, febrile with an axillary temperature of 39.1°, on pulmonary auscultation no pathological noises were found. An obstetric ultrasound was performed, reporting a 38-week pregnancy, with a fetal heart rate of 139 beats per minute and an amniotic fluid index in normal values. Chest x-rays were performed, evidencing smaller cavitary images in the right apical lobe and left medial lobe.

It was decided to resolve the pregnancy by obtaining a female newborn, with low birth weight and referred to neonatology for its corresponding study. Sputum AFB smear results for acid-fast bacilli and mycobacterial culture are obtained and positive. Treatment was started with an anti-tuberculous scheme based on Ethambutol, Rifampicin, Isoniazid and Pyrazinamide for two months, and then rifampicin and isoniazid for seven months. Patient with adequate evolution when completing 6 weeks with said scheme.

**Keywords:** tuberculosis, pregnancy, newborn, mycobacteria

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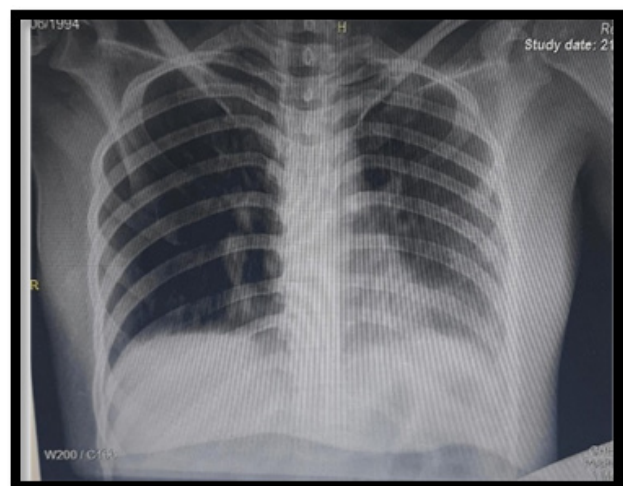
## Introduction

Tuberculosis is a disease caused by the bacterium *Mycobacterium tuberculosis*.<sup>1</sup> This bacterium usually affects the lungs but can spread to different organs. It is transmitted through the air and can occur during pregnancy; if it is not adequately treated, it can cause high maternal and neonatal morbidity and mortality.<sup>2</sup> There is a lack of reliable statistics, in addition to underreporting of the disease, especially in some regions of Guatemala, such as rural areas. Tuberculosis in Guatemala constitutes a serious health problem, since there are coverage problems, and little access of the rural population to medical care services. According to an analysis carried out, Guatemala is among the countries with a medium prevalence according to the incidence of patients and deaths reported in the country with an incidence of 27 per 100 inhabitants.<sup>3</sup>

## Case presentation

25-year-old female patient, who is in her second pregnancy. She is brought by relatives from a remote community in the department of Petén, Guatemala, located approximately 5 hours from the nearest health post, a patient with a language barrier, the data is provided by her sister. Upon questioning, a patient with no pathological history, she refers that 4 weeks ago she started with chest pain, associated with a non-productive cough, she refers nocturnal fever not quantified by thermometer. Family members report weight loss of approximately 30 pounds, they indicate that no one else presents this symptomatology, they report that the patient has never left her community. Upon evaluation, a cachexic patient is observed, with difficulty in

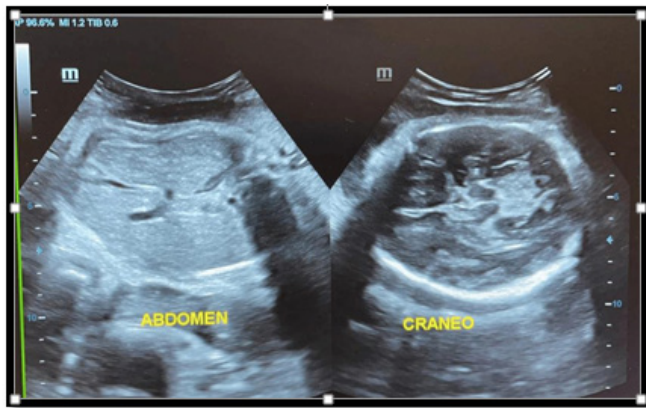
mobility, febrile with an axillary temperature of 39.1°, on pulmonary auscultation no pathological sounds were found (Figure 1).



**Figure 1** Anteroposterior chest X-ray visualizing smaller cavitary images in the right apical lobe and left medial lobe.

An obstetric ultrasound was performed, reporting a 38-week pregnancy, with a fetal heart rate of 139 beats per minute and an amniotic fluid index in normal values. Chest x-rays were performed, evidencing smaller cavitary images in the right apical lobe and left

medial lobe. It was decided to resolve the pregnancy by obtaining a female newborn, with low birth weight and referred to neonatology for its corresponding study. Sputum AFB smear results for acid-fast bacilli and mycobacterial culture are obtained and are positive. An HIV test was performed which is negative. Treatment was started with an anti-tuberculous scheme based on Ethambutol, Rifampicin, Isoniazid and Pyrazinamide for two months, and then rifampicin and isoniazid for seven months. Patient with adequate evolution when completing 6 weeks with said scheme (Figure 2).



**Figure 2** Obstetric ultrasound showing fetal skull and abdomen.

## Discussion

Tuberculosis is an endemic disease that affects any age range and regardless of social situation.<sup>4</sup> According to the study called Tuberculosis disease during pregnancy carried out at the Maternal-Infant University Hospital of the Canary Islands, Spain, the form of presentation of tuberculosis in pregnant women is similar to the rest of the patients, but the diagnosis is delayed due to the appearance of non-specific symptoms at the beginning, very frequent in normal pregnancy. There are several aspects to emphasize in this case, the first is the special situation of infection due to being a pregnant patient. Second, the patient probably did not receive any vaccinations during her childhood, and third, the fact that she is from a remote community does not exclude her from being a carrier of the disease.

It is noteworthy that no close relative was positive for tuberculosis, which is worrying since the route of infection is unknown.

As in this case, there are many more who do not go to the care centers, which increases the underreporting of this disease. It can be defined as a multidisciplinary case and managed appropriately since both the mother and the newborn evolved favorably. The newborn did not present symptoms and the tests carried out were negative for tuberculosis.

## Conclusions

An opportune diagnosis and an adequate, specialized and multidisciplinary management allows the adequate evolution of patients diagnosed with tuberculosis, regardless of the patient's social risk.

## Acknowledgments

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## Conflicts of interest

The author declares that the publication was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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