

A Case of Pediatric Tuberculosis Presenting with Pleurisy and Pyrazinamide Resistance

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Dear Editor,

Tuberculosis is an infectious disease caused by the Mycobacterium tuberculosis bacteria with high mortality and morbidity. Especially, delay in diagnosis and treatment of childhood tuberculosis causes an increase in adult tuberculosis. According to the World Health Organization, 11% of all tuberculosis cases in 2018 and 12% in 2019 were children under the age of 15. And in 1991, 450,000 out of 1.3 million children with tuberculosis (TB) aged <15 years in developing countries were lost.^[1] TB eradication can be achieved not only via the development and widespread use of anti-tuberculosis agents but also by determining the source individual, early diagnosis, and appropriate treatment.

A 15-year-old female patient had a fever, cough, and chest pain for about 1 week. On physical examination, breathing sounds were weak in the left lower lobe, and on chest radiography, there was consolidation and effusion in the left lobe. A Thorax CT scan demonstrated an enlarged mediastinal lymph node and a 4 cm pleural effusion in the left lobe of the lung (**Figure 1**). Approximately 200 ml of yellow pleural fluid was drained from the thoracostomy tube. Remarkable pleural fluid parameters: glucose: 5 mmol, pH: 6.9, LDH: 1200 U/L. When the patient's history was questioned again, it was learned that his father was treated for pulmonary tuberculosis approximately 1 year ago, and isoniazid prophylaxis was recommended to all family members at that time, but she did not use it. Pleural fluid was analyzed acid-resistant staining (ARB) was positive and mycobacter tuberculosis PCR was positive. Tuberculin skin

test: 18 mm, quantiferon was positive. Isoniazid, rifampicin, pyrazinamide, and ethambutol treatments were started for the patient. During the follow-up of the patient, the amount of pleural effusion gradually decreased and the thorax tube was removed. In the 2nd week of treatment, the patient's effusion disappeared completely, and respiratory distress subsided and discharged with the recommendation to continue taking anti-tuberculosis medications and close polyclinic control. All family members were directed to the tuberculosis dispensary.

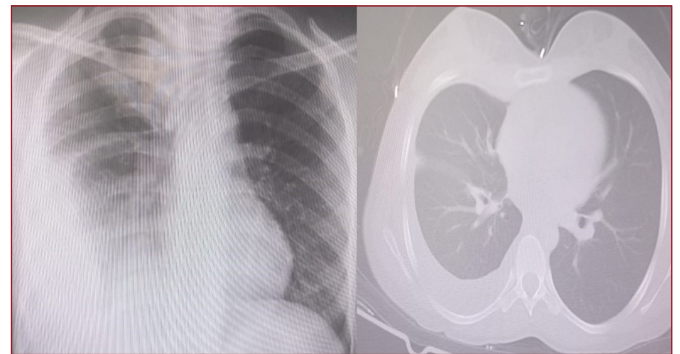


Figure 1. X-Ray and Tomography Image of the Case

Minimal effusion was detected on the chest x-ray of the patient, who presented with chest pain again in the 3rd month of treatment. The family was questioned again and it was learned that she did not use medications regularly. Directly supervised treatment was planned by contacting the tuberculosis dispensary. Drug resistance was studied



and pyrazinamide resistance was detected by BACTEC MGIT 960 kit from the mycobacterial culture isolates taken from the patient's pleural fluid at the time of diagnosis. According to the Ministry of Health's tuberculosis diagnosis and treatment guide, maintenance treatment was planned to be extended to 7 months.

Tuberculosis disease (TB) continues to be an important public health problem in the world and our country due to its high mortality and morbidity rate, despite advances in its treatment. Early recognition and treatment of childhood tuberculosis have an important place in the fight against adult tuberculosis.^[1] Screening close contact with a tuberculosis patient and including them in a prophylactic treatment program is one of the most important steps in the fight against tuberculosis.^[2] Drug resistance is an increasing problem in tuberculosis treatment. In patients who do not respond to treatment or who do not use treatment regularly, drug resistance should be kept in mind and the appropriate treatment regimen should be designed by working on drug resistance.^[2,3]

Keywords: Tuberculosis, pyrazinamide resistance, pediatric

ETHICAL DECLARATIONS

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

Author Contributions: All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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