



Evaluation of Clinical and Laboratory Findings in Pediatric Cases with Diagnosis of Tuberculosis Peritonitis

Tüberküloz Peritonit Tanısı Alan Pediyatrik Olgularda Klinik ve Laboratuvar Bulgularının Değerlendirilmesi

Uğur Deveci¹(ID), Yaşar Doğan¹(ID), Ahmet Kürşat Poyraz²(ID), İlknur Çalık³(ID), Ünal Bakal⁴(ID), Abdullah Murat Kayaokay¹(ID), Şükran Akgeyik¹(ID), Ferhat Karakoç¹(ID), Hatice Karaoglu Asrak⁵(ID), Mustafa Hayırlıdağ⁶(ID)

¹ Clinic of Pediatric Gastroenterology, Fırat University Faculty of Medicine, Elazığ, Türkiye

² Clinic of Radiology, Fırat University Faculty of Medicine, Elazığ, Türkiye

³ Clinic of Pathology, Fırat University Faculty of Medicine, Elazığ, Türkiye

⁴ Clinic of Pediatric Surgery, Fırat University Faculty of Medicine, Elazığ, Türkiye

⁵ Clinic of Pediatric Infectious Diseases, S.B.Ü. Gazi Yaşargil Training and Research Hospital, Diyarbakır, Türkiye

⁶ Department of Medical Ethics and History of Medicine, Fırat University Faculty of Medicine, Elazığ, Türkiye

Cite this article as: Deveci U, Doğan Y, Poyraz AK, Çalık İ, Bakal Ü, Kayaokay AM, et al. Evaluation of clinical and laboratory findings in pediatric cases with diagnosis of tuberculosis peritonitis. J Pediatr Inf 2026;20(1):e36-e42.

Abstract

Objective: Tuberculosis peritonitis is a rare clinical entity in children. There are still difficulties in diagnosis. Therefore, pediatric cases diagnosed with tuberculosis peritonitis by laparoscopic biopsy were evaluated in this study.

Material and Methods: Five pediatric cases diagnosed with tuberculosis peritonitis in our clinic between 2005 and 2024 were included in the study. Data regarding patients' demographic, clinical, laboratory findings, diagnostic tests, and post-discharge clinical follow-up were reviewed from hospital records.

Results: Three of the patients were female and two were male. Mean age was 12 ± 3 years. Median duration of complaints was 57 days (range: 15 and 90 days). No history of tuberculosis contact was detected in any case. The most common complaint was abdominal distension. Ascites was the most common finding on physical examination. Tuberculin skin test and interferon gamma release test were positive in only one case. The average adenosine deaminase level in the ascitic fluid was 65 U/L. In this case, tuberculosis bacilli were isolated in ascitic fluid and sputum culture. The serum/ascites albumin gradient was below 1.1 g/dL in all cases. There was ascites on abdominal ultrasonography, and peritoneal thickening with ascites on abdominal computed tomography in all patients. Laparoscopic examination revealed peritoneal thickening and

Öz

Giriş: Tüberküloz peritonit çocuklarda nadir görülen bir klinik durumdur. Tanıda halen zorluklar vardır. Bu nedenle, laparoskopik biyopsi ile tüberküloz peritonit tanısı konulan pediyatrik vakalar bu çalışmada değerlendirilmiştir.

Gereç ve Yöntemler: Çalışmaya 2005-2024 yılları arasında kliniğimizde tüberküloz peritonit tanısı konulan beş pediyatrik olgu dahil edildi. Hastaların demografik, klinik, laboratuvar bulguları, tanı testleri ve taburcu olduktan sonraki klinik takiplerine ilişkin veriler hastane kayıtlarından incelendi.

Bulgular: Hastaların üçü kız, ikisi erkekti. Ortalama yaş 12 ± 3 yıldır. Şikayetlerin ortanca süresi 57 gündü (aralık: 15 ve 90 gün). Hiçbir vakada tüberküloz teması öyküsü saptanmadı. En sık görülen şikayet karın şişkinliğiydi. Assit, fizik muayenede en sık görülen bulguydu. Tüberkülin deri testi ve interferon gama salınım testi yalnızca bir vakada pozitif. Assit sıvısındaki ortalama adenosin deaminaz düzeyi 65 U/L idi. Bu vakada, assit sıvısında ve balgam kültüründe tüberküloz basili izole edildi. Tüm olgularda serum/assit albümin gradiyenti 1.1 g/dL'nin altındaydı. Hastalara yapılan abdominal ultrasonografide assit ve abdominal bilgisayarlı tomografide assitle birlikte peritoneal kalınlaşma saptandı. Laparoskopik incelemede peritoneal kalınlaşma ve tüberoz yapılar görüldü.

Correspondence Address/Yazışma Adresi

Uğur Deveci

Clinic of Pediatric Gastroenterology,
Fırat University Faculty of Medicine,
Elazığ, Türkiye

E-mail: udeveci@firat.edu.tr

Received: 11.04.2025 Accepted: 10.05.2025

Available Online Date: 17.03.2026

This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

Data Sharing Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

©Copyright 2026 by Pediatric Infectious Diseases and Immunization Society. Available online at www.cocunefeksiyon.org

tuberous structures. Peritoneal biopsies revealed caseating chronic granulomatous inflammatory lesions consistent with a diagnosis of peritoneal tuberculosis. Median time to diagnosis was 14 days.

Conclusion: Tuberculosis peritonitis should also be considered in the differential diagnosis in patients with ascites. Early diagnosis and treatment are possible thanks to laparoscopic biopsy together with laboratory and radiological examinations. Mortality and morbidity related to the disease can be prevented in this way.

Keywords: Tuberculosis peritonitis, child, laparoscopy, treatment

Introduction

Tuberculosis (TB) is an infectious disease as old as humanity (1). TB continues to be one of the most important causes of death from infectious diseases. The World Health Organization (WHO) reported that approximately 10 million people were diagnosed with TB in 2021, and 11% of these cases were children (2). Approximately 1 to 2 million people die from TB annually. TB primarily affects the lungs, with 16% being extrapulmonary TB (3). Abdominal TB is seen in 6-38% of untreated pulmonary TB cases and can frequently involve the gastrointestinal system, peritoneum and mesenteric lymph nodes (4,5). Abdominal TB most commonly affects the ileocecal region, but peritoneal involvement is also seen in 50-83% of patients (6,7). TB peritonitis is rare in children. Almost all patients with TB peritonitis have clinical or subclinical ascites that develop slowly and progressively, and the most common complaint at presentation is abdominal distension (6). The most common finding on physical examination is ascites. Ascites has been reported in 93% of cases, even in all with peritoneal TB (8).

In this study, five pediatric cases who presented with abdominal distension and were diagnosed with TB peritonitis by laparoscopic biopsy are presented.

Materials and Methods

This study was planned as a retrospective cohort study. The aim of this study was to examine and discuss the clinical and laboratory findings of children admitted to the pediatric gastroenterology, hepatology and nutrition clinic of a university hospital with the diagnosis of TB peritonitis between 2005 and 2024. The files of the cases were examined in detail, and the clinical and laboratory data obtained as a result of these examinations were recorded in the study forms.

Tuberculin skin test (TST) was evaluated 48-72 hours after intradermal injection of five units of tuberculin purified protein derivative. Induration of ≥ 15 mm was considered positive in previously vaccinated patients and ≥ 10 mm in unvaccinated patients (9).

Clinical and laboratory findings of pediatric cases diagnosed with TB peritonitis were evaluated, clinical features, treatments and outcomes were examined and discussed with the literature.

Peritoneal biyopsilerde peritoneal tüberküloz tanısıyla uyumlu kazeifiye kronik granülomatöz enflamatuvar lezyonlar görüldü. Ortanca tanı süresi 14 gündü.

Sonuç: Assitli hastaların ayırıcı tanısında tüberküloz peritonit de düşünülmalıdır. Erken tanı ve tedavi, laboratuvar ve radyolojik incelemelerle birlikte laparoskopik biyopsi sayesinde mümkündür. Bu şekilde hastalığa bağlı mortalite ve morbidite önenebilir.

Anahtar Kelimeler: Tüberküloz peritonit, çocuk, laparoskopi, tedavi

Statistical Analysis

Clinical and laboratory data obtained from the patients were first recorded in the forms given in the appendix. Descriptive statistical methods such as mean $\pm$ standard deviation, minimum maximum frequency and percentage were used in the statistical analysis of the study.

Results

Five cases diagnosed with TB peritonitis were examined. Three of the cases were female and two were male, and median age was 12 years (range: 7.5 to 16 years). All cases presented with complaints of abdominal distension. In addition, three cases had complaints of abdominal pain and weight loss. One case had respiratory distress. Two of the cases had cough, night sweats, and fever. Median duration of symptoms was 57 days (range: 15 to 90 days). Median time to diagnosis was 14 days (range: 12 to 15 days). None of the cases had a history of contact with TB. Demographic data and clinical findings of the cases are summarized in Table 1.

All cases had TST, but only two of the patients had a Bacillus Calmette-Guérin vaccination scar at the time of presentation. Induration >15 mm was observed in only one case; this case was using adalimumab (third generation tumor necrosis factor inhibitor) for uveitis due to juvenile rheumatoid arthritis. Abdominal ultrasonography revealed diffuse ascites in the abdomen in all cases (Figure 1). Abdominal computed tomography revealed heterogeneity, thickening and diffuse ascites in the omentum in all cases (Figure 2). Bilateral extensive pleural effusion due to lung involvement was detected in one case (Figure 3). Thoracic computed tomography of the patient revealed extensive pleural effusion in both hemithorax and air bronchogram adjacent to the major fissure in the upper lobe of the right lung (Figure 4). Bilateral chest tube was inserted to drain the pleural effusion in this case. Radiological findings of the cases are presented in Table 2.

Paracentesis was performed in all cases. In all cases, ascitic fluid was observed to be yellow and cloudy (exudate). Serum-ascitic albumin gradient (SAAG) was detected as <1.1 gr/dL. Complete blood count, blood biochemistry and ascitic fluid laboratory findings of the cases are shown in Table 3. Median adenosine deaminase (ADA) level of ascitic fluids was 65 U/L (range: 18 to 118 U/L). Microscopic examination of ascitic fluids

Table 1. Demographic data and clinical findings of the cases

Case No	1	2	3	4	5
Age (years)	12	12	7.5	16	12
Sex	Girl	Girl	Boy	Boy	Girl
Duration of complaints (days)	60	30	15	90	60
Complaints					
Abdominal distension					
Weight loss	Yes	Yes	No	No	Yes
Abdominal pain	Yes	Yes	No	No	Yes
Cough	Yes	Yes	No	No	No
Night sweats	Yes	Yes	No	No	No
Respiratory distress	Yes	No	No	No	No
Fever	Yes	Yes	No	No	No
BCG scar	Yes	No	No	No	Yes
Tuberculin PPD test results	Negative	Positive (15 mm)	Negative	Negative	Negative
Time of diagnosis (days)	15 th	12 nd	13 rd	15 th	15 th

BCG: Bacillus Calmette-Guérin, PPD: Purified protein derivative.

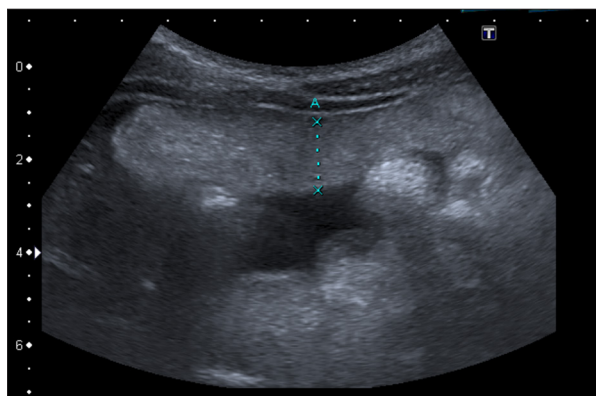


Figure 1. Abdominal ultrasound shows thickening of the greater omentum marked with clips. There is also anechoic free fluid between the small intestines.

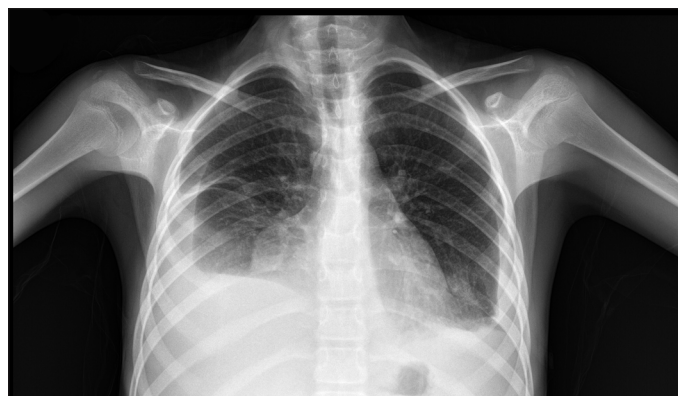


Figure 3. Chest radiograph shows pleural effusion in both hemithorax, more prominent on the right. The effusion extends into the major and minor fissures.

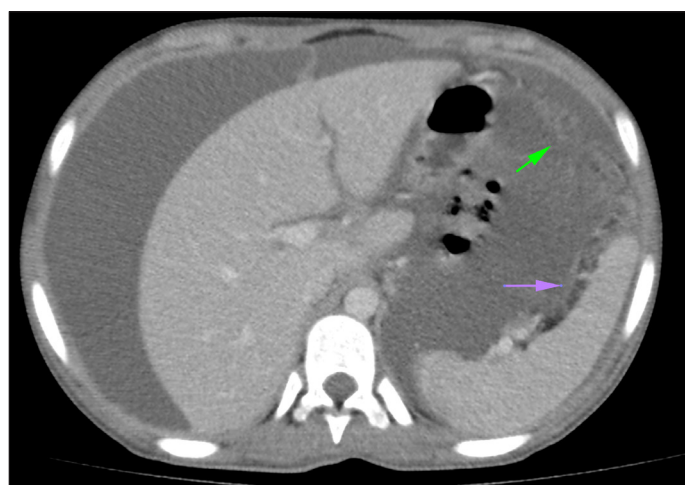


Figure 2. Cross-sectional contrast-enhanced abdominal computed tomography demonstrates omental thickening in the left upper quadrant of the abdomen, marked with arrows. There is also diffuse ascites in the abdomen.

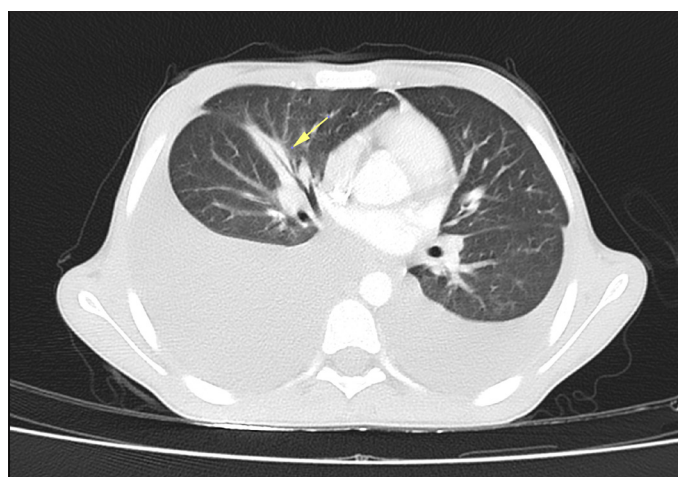


Figure 4. Axial section of contrast-enhanced thoracic abdominal computed tomography demonstrates extensive pleural effusion on the posterior aspect of both hemithorax. Consolidation with air bronchogram is also seen in the right upper lung lobe adjacent to the major fissure (arrow).

Table 2. Radiological, laparoscopic and peritoneal pathology findings of the cases

Case No	1	2	3	4	5
Chest radiograph	Normal	Pleural effusion in both hemithoraxes, prominent on the right	Normal	Normal	Normal
Abdominal ultrasonography	Diffuse free fluid in the peritoneal cavity	Diffuse free fluid in the peritoneal cavity	Diffuse free fluid in the peritoneal cavity	Diffuse free fluid in the peritoneal cavity	Diffuse free fluid in the peritoneal cavity and thickening of the greater omentum
Contrast-enhanced abdominal tomography	Thickening of the omentum and diffuse free fluid in the peritoneal cavity	Thickening of the omentum and diffuse free fluid in the peritoneal cavity	Thickening of the omentum and diffuse free fluid in the peritoneal cavity	Thickening of the omentum and diffuse free fluid in the peritoneal cavity	Thickening of the omentum and diffuse free fluid in the peritoneal cavity
Thoracic tomography	Cavitary lesion in the lungs	Extensive pleural effusion in both hemithoraxes and air bronchogram adjacent to the major fissure in the upper lobe of the right lung	Normal	Normal	Normal
Laparoscopic findings	Inflammation in the peritoneum and serosal membranes	Diffuse increased fragility of the peritoneum; and adhesions and granulomatous thickening between intestinal loops and peritoneum	Diffuse increased fragility of the peritoneum; and adhesions and granulomatous thickening between intestinal loops and peritoneum	Granulomatous thickening of the intestinal loops and omentum	Diffuse increased fragility and granulomatous thickening of the peritoneum
Peritoneal pathological examination	Non-necrotizing granulomatous peritonitis and sparsely located <i>bacilli</i> in AFB stain	Non-necrotizing granulomatous peritonitis	Non-necrotizing granulomatous peritonitis	Non-necrotizing granulomatous peritonitis	Non-necrotizing granulomatous peritonitis

AFB: Acid-fast *bacilli*.

Table 3. Laboratory findings of the cases

Parameter	Mean $\pm$ SD (range)
Hemoglobin (g/dL)	11.6 $\pm$ 1.6 (9.2-13.2)
White blood cell ($10^{12}/L$)	6.1 $\pm$ 1.9 (2.9-8.1)
Serum C-reactive protein (g/dL)	72.4 $\pm$ 45.9 (18-120)
Erythrocyte sedimentation rate (mm/h)	61.8 $\pm$ 33.1 (18-120)
Serum total protein (g/dL)	7.1 $\pm$ 1.5 (4.5-8.4)
Serum albumin (g/dL)	3.7 $\pm$ 0.8 (2.4-4.6)
Serum/ascites albumin gradient (g/dL)	0.7 $\pm$ 0.14 (0.5-0.9)
Ascites LDH (IU/L)	416 $\pm$ 178 (202-600)
Ascites total protein (g/dL)	5.5 $\pm$ 1.6 (2.9-7.0)
Ascites albumin (g/dL)	3.0 $\pm$ 0.78 (1.7-3.7)
Ascites glucose (mg/dL)	56.4 $\pm$ 18.3 (40-77)
Ascitic fluid polymorphic nuclear leukocyte count (mm^3)	452 $\pm$ 340 (50-960)
Ascitic fluid lymphocyte count (mm^3)	150 $\pm$ 196 (50-500)
Ascitic fluid ADA (IU/dL)	65 $\pm$ 35.8 (18-118)

SD: Standard deviation, LDH: Lactate dehydrogenase, ADA: Adenosine deaminase.

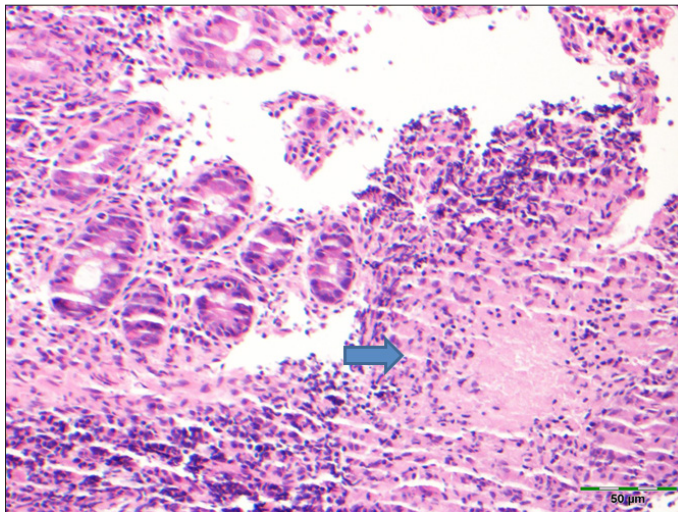


Figure 5. Granuloma structure with caseation necrosis adjacent to intestinal crypts (arrow).

revealed abundant lymphocytes in three cases and abundant polymorphnuclear leukocytes in two cases. TB bacilli grew in the ascitic fluid and sputum cultures of one case. In this case, sparsely located *bacilli* in acid-fast *bacilli* (AFB) stain were seen in the peritoneal biopsy. TB *bacilli* polymerase chain reaction (PCR) was negative in ascitic fluid in all cases.

A patient receiving adalimumab for uveitis due to juvenile rheumatoid arthritis had abdominal pain and diarrhea. This patient underwent colonoscopy after bowel preparation. Colonoscopy showed an edematous and hyperemic ileocecal valve. The terminal ileum could not be entered because of the risk of perforation. Histopathological examination of colon biopsies showed necrotizing granulomatous inflammation (intestinal TB) (Figure 5). Colonoscopy performed on this patient after treatment for TB showed complete resolution of the old lesions.

All patients underwent diagnostic laparoscopy. During laparoscopic examination, it was observed that there was free fluid in the abdomen and the peritoneum was thick and fragile. Visualization with optically inserted trocar revealed adhesions and granulomatous thickening between the intestinal rings and the peritoneum in the abdomen that did not allow imaging (Figure 6).

Histopathological examination of peritoneal biopsies revealed non-necrotizing granulomatous peritonitis (Figure 7).

All cases received quadruple anti-TB treatment for 12 months. Urticarial reactions were observed in two cases due to isoniazid. In these two cases, isoniazid was stopped for a certain period and then restarted. One case with lung involvement was given corticosteroid treatment for four weeks. The cases were observed to recover completely with treatment. No problems were observed in the one-year follow-up after completion of treatment.

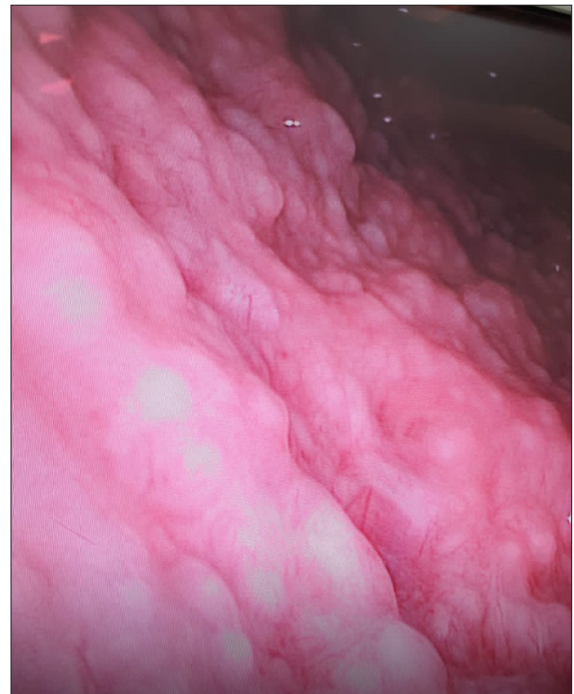


Figure 6. Optically visualization of the peritoneal cavity shows granulomatous thickening of the peritoneum.

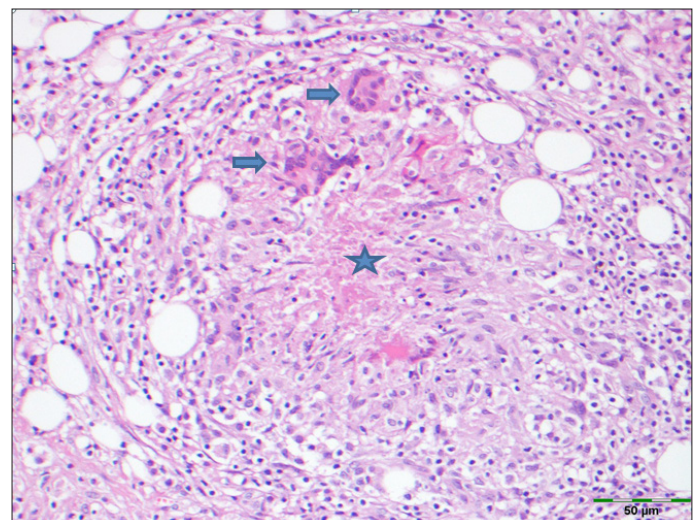


Figure 7. Granuloma structures in the omentum with caseation, necrosis (star) and multinuclear giant cells (arrow) in the middle.

Discussion

In the 2020 Türkiye Tuberculosis Control Report, it was reported that the total number of TB cases in our country was 11.786 and the incidence of TB was 14.1 per hundred thousand (10). TB peritonitis is reported in approximately 3.5% of patients with pulmonary TB and 31-58% of patients with abdominal TB. TB peritonitis can be seen in 1% of all patients with TB (5). Gürkan et al. published 11 cases of children with TB peritonitis in 1999 (11). After that, Dinler et al. reported nine cases of children with TB peritonitis from our country in 2009

(12). In the following years, pediatric cases diagnosed with TB peritonitis in our country were presented as case reports (13-17). These studies support the fact that TB peritonitis in children is rare in our country, as in the world. Peritoneal TB is usually seen in children with immune deficiency (8). In the present study, one patient was using adalimumab due to juvenile rheumatoid arthritis.

Studies have reported that the ages of children followed up for TB peritonitis ranged from 9 to 14 years (11-14). Mean age of the cases in the present study was 12, which is consistent with this article.

Patients with TB peritonitis most commonly present with complaints of abdominal distension, abdominal pain, and weight loss (12). In the present study, all children had abdominal distension and three had abdominal pain and weight loss. The data in the present study were consistent with the literature (8,12,17).

A history of contact with a TB case was reported in 66.6% of the cases with TB peritonitis (12). However, none of our cases had a history of contact. Among all cases in which TST was performed, only one case was found to have an induration >15 mm. It was thought that the negative TST determination in the other four cases might have been due to differences in the applied technique, solution used and interpretation (18).

In laboratory tests, no disease-specific findings were observed in complete blood count. White blood cell count is usually within normal range. In the present study, white blood cell count was found to be normal. Data in the present study were consistent with the literature (12). Erythrocyte sedimentation rate is usually increased (19). It was found to be significantly elevated in three of our cases.

Pulmonary involvement is reported in 12-55% of cases with TB peritonitis (12,15). In the present study, pulmonary involvement (pleural effusion) was observed in only one case, consistent with the literature. The bilateral chest tube inserted in this case was removed after the pleural effusion regressed with treatment.

Radiological imaging techniques such as abdominal ultrasonography and computed tomography provide very useful information in the diagnosis of TB peritonitis. The most common finding on abdominal ultrasonography is free fluid accumulation in the abdomen (20). All patients in the present study had ascites in their abdomen on abdominal ultrasonography. Abdominal computed tomography shows free fluid, omental thickening, and enlarged lymph nodes in the abdomen due to TB peritonitis (20-22). In this study, radiological findings were consistent with the literature.

Paracentesis was performed in all cases. The ascitic fluid was found to be exudative, rich in lymphocytes, and SAAG was below 1.1 g/dL. The data obtained in present study were

consistent with the literature (23). It is thought that these findings may be reliable parameters in the diagnosis of TB peritonitis.

The most reliable method for the diagnosis of TB is the culture of TB bacillus (*Mycobacterium tuberculosis*) from body fluids. On direct microscopic examination of ascitic fluid, AFB can be seen in less than 2% of cases (24). It is reported that TB bacillus growth in culture is between 0-83% (25). In our study, AFB was detected in the ascitic fluid of one case and *M. tuberculosis* grew in the ascitic fluid of the same case.

In noncirrhotic cases, measurement of ADA in ascitic fluid remains a highly reliable laboratory test for the diagnosis of TB peritonitis (26). In the present study, ADA levels were found to be elevated in 80% of cases, consistent with the literature.

In cases of TB peritonitis, low AFB positivity in ascitic fluid leads to a decrease in the sensitivity of the PCR test (27). In the present study, AFB PCR positivity was not detected in any case of ascitic fluid.

Laparoscopic examination is the most commonly used method for peritoneal imaging and peritoneal biopsy (28). It continues to be the most appropriate method for early and definitive diagnosis of the disease (12). The most common findings in laparoscopic examination are ascites, peritoneal thickening, adhesions, and millimetric tuberculous structures (27). In the present study, laparoscopic examination findings of our cases were consistent with the literature.

Pathological examination of chronic granulomatous inflammatory reaction with caseation is highly specific for TB peritonitis (29). Similar findings were observed in the pathological examination of peritoneal biopsy in our cases.

It has been reported that corticosteroid treatment reduces complications and mortality in cases of TB peritonitis (26). In the present study, it was observed that four weeks of corticosteroid treatment accelerated recovery in a case with bilateral pleural effusion.

TB continues to be an important health problem worldwide, especially in underdeveloped and developing countries. Although TB peritonitis is not common in children, it is a disease that should be considered in the differential diagnosis of children presenting with abdominal distension due to ascites. Mortality and morbidity can be prevented through early diagnosis and treatment with laparoscopic examination in addition to history, physical examination and laboratory tests.

Ethics Committee Approval: This study has been approved by the Non-Interventional Clinical Research Ethics Committee of Firat University (Decision no: 2024/13-24, Date: 10.10.2024).

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - UD, YD, AMK, ŞA, FK; Design - UD, YD, AMK, ŞA, FK; Supervision - UD, YD, AMK, ŞA, FK; Resource - UD, HKA, ÜB, MK; Data Collection and/or processing - UD, AKP, İÇ, HKA; Analysis and/or interpretation - UD, AKP, İÇ, HKA, ÜB; Literature search - AKP, İÇ, HKA, ÜB; Writing - UD, MH; Critical review - UD, MH.

Conflict of Interest: All authors declare that they have no conflict of interest.

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

References

1. Bayat AH. *Tıp Tarihi. İstanbul: Merkezefendi Geleneksel Tıp Derneği*; 2016.
2. World Health Organization. *Global tuberculosis report 2021*. January 15, 2022. Available from: <https://www.who.int/publications/i/item/9789240037021>
3. World Health Organization. *Global tuberculosis report 2020*. Available from: <https://www.who.int/publications/i/item/9789240013131> (Accessed date: May 2022).
4. Cruz AT, Starke JR. Clinical manifestations of tuberculosis in children. *Paediatr Respir Rev* 2007;8:107-17. <https://doi.org/10.1016/j.prrv.2007.04.008>
5. Sanai FM, Bzeizi KI. Systematic review: tuberculous peritonitis--presenting features, diagnostic strategies and treatment. *Aliment Pharmacol Ther* 2005;22:685-700. <https://doi.org/10.1111/j.1365-2036.2005.02645.x>
6. Wells AD, Northover JM, Howard ER. Abdominal tuberculosis: still a problem today. *J R Soc Med* 1986;79:149-53. <https://doi.org/10.1177/014107688607900307>
7. Jakubowski A, Elwood RK, Enarson DA. Clinical features of abdominal tuberculosis. *J Infect Dis* 1988;158:687-92. <https://doi.org/10.1093/infdis/158.4.687>
8. Chow KM, Chow VC, Hung LC, Wong SM, Szeto CC. Tuberculous peritonitis-associated mortality is high among patients waiting for the results of mycobacterial cultures of ascitic fluid samples. *Clin Infect Dis* 2002;35:409-13. <https://doi.org/10.1086/341898>
9. Yaşar Durmuş S, Tanır G, Ekşioğlu AS, Aydın Teke T, Taşçı Yıldız Y, Kaman A, et al. Abdominal tüberküloz tanılı çocuk hastaların retrospektif olarak değerlendirilmesi: tek merkez deneyimi. *Çocuk Enf Derg* 2020;4:224-30. <https://doi.org/10.5578/ced.69283>
10. Halk Sağlığı Genel Müdürlüğü. *Türkiye'de Verem Savaş 2020 Raporu*. Available from: https://hsgm.saglik.gov.tr/depo/birimler/tuberkuloz-db/Dokumanlar/Raporlar/Turkiyede_Verem_Savasi_2020_Raporu.pdf
11. Gürkan F, Ozateş M, Boşnak M, Dikici B, Boşnak V, Taş MA, et al. Tuberculous peritonitis in 11 children: clinical features and diagnostic approach. *Pediatr Int* 1999;41:510-3. <https://doi.org/10.1046/j.1442-200x.1999.01114.x>
12. Dinler G, Sensoy G, Helek D, Kalayci AG. Tuberculous peritonitis in children: report of nine patients and review of the literature. *World J Gastroenterol* 2008;14:7235-9. <https://doi.org/10.3748/wjg.14.7235>
13. Özmen Z, Aktaş F, Aktaş T, Şenel U, Tanrıverdi Hİ, Aslan K, et al. Radiological findings in a child with tuberculosis peritonitis. *Yeditepe Medical Journal* 2015;9:888-94. <https://doi.org/10.15659/yeditepemj.15.10.119>
14. Urgancı N, Gümüştekin R, Seçinti İP. Atipik prezentasyonlu tüberküloz peritoniti: Olgu sunumu. *Fırat Tıp Dergisi* 2020;25:101-4.
15. Maamatou W, Jabloun A, Daib A, Jarray L, Ben Abdallah R, Hellal Y, et al. Place of laparoscopy in peritoneal tuberculosis. *J Laparoendosc Adv Surg Tech* 2021;31:1480-4. <https://doi.org/10.1089/lap.2021.0374>
16. Sezer BT, Çelik Y, Çalışkan Y, Türkel T, Balkan ME, Kılıç N. An Important diagnosis of ascites and abdominal mass coexistence in a child: Peritoneal tuberculosis. *Turkish J Ped Surg* 2023;10:115-8. <https://doi.org/10.62114/JTAPS.2023.63702>
17. Kara M, Odacılar A.C, Hançerli Törün S, Sütçü M, Erginel B, Çalışkan E, et al. A case of tuberculosis peritonitis diagnosed by way of laparoscopy. *J Child* 2017;17:84-8.
18. Dinler G, Şensoy G. Çocukluk çağında tüberküloz peritonit. *Çocuk Enf Derg* 2009;3:182-6.
19. Manohar A, Simjee AE, Haffjee AA, Pettengell KE. Symptoms and investigative findings in 145 patients with tuberculous peritonitis diagnosed by peritoneoscopy and biopsy over a five year period. *Gut* 1990;31:1130-2. <https://doi.org/10.1136/gut.31.10.1130>
20. Zaslavsky J, Mulugeta-Gordon L, Vasko I, Presenza T, Scattergood E, Meislich D, et al. Tuberculous peritonitis in children: Two case reports highlighting the important role of imaging. *Radiol Case Rep* 2018;13:862-6. <https://doi.org/10.1016/j.radcr.2018.05.010>
21. Avcu G, Sensoy G, Karli A, Caltepe G, Sullu Y, Belet N, et al. A case of tuberculous peritonitis in childhood. *J Infect Public Health* 2015;8:369-72. <https://doi.org/10.1016/j.jiph.2015.03.004>
22. Guirat A, Koubaa M, Mzali R, Abid B, Ellouz S, Affes N, et al. Peritoneal tuberculosis. *Clin Res Hepatol Gastroenterol* 2011;35:60-9. <https://doi.org/10.1016/j.gcb.2010.07.023>
23. Rasheed S, Zinicola R, Watson D, Bajwa A, McDonald PJ. Intra-abdominal and gastrointestinal tuberculosis. *Colorectal Dis* 2007;9:773-83. <https://doi.org/10.1111/j.1463-1318.2007.01337.x>
24. Debi U, Ravisankar V, Prasad KK, Sinha SK, Sharma AK. Abdominal tuberculosis of the gastrointestinal tract: revisited. *World J Gastroenterol* 2014;20:14831-40. <https://doi.org/10.3748/wjg.v20.i40.14831>
25. Singh MM, Bhargava AN, Jain KP. Tuberculous peritonitis. An evaluation of pathogenetic mechanisms, diagnostic procedures and therapeutic measures. *N Engl J Med* 1969; 281:1091-4. <https://doi.org/10.1056/NEJM196911132812003>
26. Lewinsohn DM, Leonard MK, LoBue PA, Cohn DL, Daley CL, Desmond E, et al. Official American Thoracic Society/Infectious Diseases Society of America/Centers for Disease Control and Prevention Clinical Practice Guidelines: Diagnosis of tuberculosis in adults and children. *Clin Infect Dis* 2017;64:111-5. <https://doi.org/10.1093/cid/ciw778>
27. Uzunkoy A, Harma M, Harma M. Diagnosis of abdominal tuberculosis: experience from 11 cases and review of the literature. *World J Gastroenterol* 2004;10:3647-9. <https://doi.org/10.3748/wjg.v10.i24.3647>
28. Chahed J, Mekki M, Mansour A, Ben Brahim M, Maazoun K, Hidouri S, et al. Contribution of laparoscopy in the abdominal tuberculosis diagnosis: retrospective study of about 11 cases. *Pediatr Surg Int* 2010;26:413-8. <https://doi.org/10.1007/s00383-010-2555-z>
29. Bolognesi M, Bolognesi D. Complicated and delayed diagnosis of tuberculous peritonitis. *Am J Case Rep* 2013;14:109-12. <https://doi.org/10.12659/AJCR.883886>