

Tense Ascites in a Young Man Aged 24 Years Due to TB Peritonitis: Case Report**Deo Sanjaya¹, Ihwan Arifianto², Andi Wijayanto³**

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Abstract

Tuberculous peritonitis is parietal or visceral peritoneal inflammation caused by Mycobacterium tuberculosis bacteria. Pathogenesis Tuberculous peritonitis is preceded by M. tuberculosis infection followed by spread to the peritoneum. This is a report from a young male patient with the main complaint of an increasingly enlarged stomach in 2 weeks and weight loss accompanied by other symptoms such as fever, nausea, vomiting, difficulty breathing. Investigation showed anemia, the results of Adenosine deaminase (ADA) ascitic fluid: 36.3 U/L. Radiological examination. Thorax photo showed Sinistra pleural effusion. Abdominal ultrasound found ascites. Then an ascitic puncture of approximately 2600 cc of greenish fluid was carried out. The diagnosis of tuberculous peritonitis is based on the Adenosine deaminase (ADA) test. Next, the patient received Fixed Drug Combination (FDC) therapy consisting of Rifampicin, Isoniazid, Pyrazinamide, and Ethambutol for 2 months, followed by a combination of Rifampicin and Isoniazid for 7-10 months. The prognosis of tuberculous peritonitis is fair if diagnosis is prompt and the patient is treated adequately.

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Email: deosanjaya1009@gmail.com**INTRODUCTION**

Tuberculous peritonitis is inflammation of the parietal or visceral peritoneum caused by Mycobacterium tuberculosis and also often affects the entire peritoneum, gastrointestinal system equipment, mesentery and external genital organs (Nugraha et al., 2020) . This disease rarely stands alone, but is usually a continuation of the tuberculosis process elsewhere, especially pulmonary tuberculosis (Rahmawati, Widayat, & Tjahjono, 2019) .

The prevalence of TB peritonitis itself accounts for around 3.5% of all tuberculosis cases and 31-58% of abdominal TB cases (Sembiring, 2019) . Cases of TB peritonitis are often found in individuals under 40 years of age, especially women under 40 years of age, with a ratio of women to men of 1.5:1 (Nuari & Widayati, 2017) .

Tuberculous peritonitis usually presents with anorexia and abdominal enlargement due to ascites. Fever, weight loss, chronic abdominal pain, and diarrhea are often found in patients with tuberculous peritonitis (Wibowo, 2023) . The physical examination of patients with tuberculous peritonitis depends on the type. There are three types of tuberculous peritonitis, namely:

- 1) Exudative type (wet type)
- 2) Adhesive type (dry type)
- 3) Fibrotic type of fixation

In the wet type, referred deafness is found which indicates ASI-test. In the dry type, a feeling like cake dough (doughy abdomen) is found. Meanwhile, in the fibrotic fixation type, a mass is found during abdominal palpation which originates from the union of several loops of intestine due to adhesions/fibrosis.

CASE

Mr T, 24 years old, Javanese, came to the Reksa Waluya Emergency Room (IGD) on March 30 2023 with the main complaint of an enlarged stomach 3 weeks before entering the hospital. Three weeks before entering Reksa Waluya, the patient felt that his stomach was getting bigger, he felt full quickly, he felt full, sometimes he felt pain throughout his stomach, but there was no nausea or vomiting. Apart from that, sufferers complain of feeling heavy breathing, no coughing, accompanied by a fever that is not too high, night sweats, decreased appetite. Urination is smooth, clear yellow color, not like tea (Stanghellini et al., 2016). Defecation is smooth, yellow brown in color. The patient's eyes and skin are not yellow. The sufferer's weight dropped approximately 4 kg during the illness because the sufferer had no appetite.

Physical examination revealed a general condition of weakness, compos mentis, GCS 4-5-6, blood pressure 120/70 mmHg (lying, prone), pulse 92x/minute, respiration 26x/minute, armpit temperature 37.6 °C, SpO₂ 98 %. Weight 53 kg, height 167 cm with BMI 19.78 .

On physical examination of the head and neck, there were no signs of anemia, jaundice or enlarged lymph nodes or thyroid enlargement. On examination of the thorax: Examination of the chest revealed symmetrical shape and movement of the chest wall, no chest retraction; percussion was dull on the left thorax, auscultation found decreased vesicular sounds in the left lung field (Zhao, Jiang, & Zeng, 2020). The first and second heart sounds are single, there are no murmurs, gallops, or extra systolic sounds (Ashcheulova, Kovalyova, & Honchar, 2016). On examination of the abdomen: distension, protruding umbilication, no abdominal wall venectation found, palpation: undulation (+) checkerboard phenomenon (-), liver and spleen not palpable, percussion: referred deafness (+), Auscultation: normal intestine. Acral extremities warm, no cyanosis, no palmar erythema.

Laboratory results when treated in the ER at Reksa Waluya Hospital hemoglobin 9.6 g/dl, MCV 76.1 fL, MCH 24.1 pg, leukocytes 10860 /mm³, platelets 481,000/mm³ count leukocyte types B / E / St / Sg / L / M : 0 / 1 / 0 / 82 / 8 / 9), SGOT : 42 U/L, SGPT 16 U/L, GDA 105g/dl, albumin 3.9 g/dL, BUN 29 mg/dl, creatinine serum 0.96 mg/dl, sodium 129 mmol/L, potassium 4.3 mmol/L, chloride 110 mmol/L. Urine examination showed no abnormalities, anti-HIV was non-reactive, chest x-ray showed a sinus pleural effusion.

Laboratory results 10 days before being admitted to the hospital, complete peripheral blood examination showed Hb 10.4, leukocytes 9770, platelets 498,000, leukocyte count B / E / St / Sg / L / M : 0 / 1 / 0 / 63 / 34 / 2. Meanwhile other laboratory results are as follows: urea 8 mg/dL, creatinine 1 mg/dL, current blood glucose 104 mg/dL, Na-trium 139, Potassium 4.0, SGOT 22 U/ L, SGPT 20 U/L, albumin 3.58 gr/dL, total bili-rubin 0.26 mg/dL, direct bilirubin 0.07 mg/dL, PPT 11.1 (control 14.8), APTT 27.7 (control 28.3). HBsAg negative, Anti HCV negative.

Based on the history, physical examination and supporting examinations, a list of problems was established as follows: Observation of ascites ec suspected tuberculous peritonitis, observation of pleural effusion Sinistra ec Susp pulmonary tuberculosis, hyponatremia (Norbis et al., 2014). Examination plan: Abdominal ultrasound, ascites fluid analysis, Adenosine deaminase test. Therapy given: TKTP diet 1900 kcal/day, PZ infusion fluid 500 cc/24 hours, ondancentron inj 3x 4 mg, inj pantoprazole 1x 40 mg, inj furosemide 1x 40 mg, inj metamizol 1 ampl for abdominal pain, inj ceftriaxon 2x1 gram .

On the 2nd day of nursing: complaints of fever and abdominal pain were no longer there, breathing still felt heavy and appetite improved. BP: 110/70 mmHg, pulse 82 x/minute, respiration 24 x/minute, axillary temperature 36.3 °C, SpO₂ 98%, ultrasound results showed ascites, left pleural effusion, no visible abnormalities in the liver, vesica fellea, spleen, pancreas, bilateral kidneys and urinary bladder. And when the ascites puncture was carried out, approximately 1500 cc of greenish fluid was obtained. Analysis of the ascitic fluid, Adenosine deaminase, was carried out. Additional therapy was metronidazole drip 3x 500 mg (combination with ceftriaxon), other therapy was continued.

On the 3rd day of nursing : The stomach has shrunk, there is no pain or bloating, breathing still feels a little heavy. BP: 120/70 mmHg, pulse 87 x/minute, respiration 22

x/minute, armpit temperature 36.6 °C, SpO₂ 97%, Sinistra pleural puncture was performed, greenish fluid was obtained approximately 1100 cc, Adenosine examination was carried out deaminase (ADA) and chest x-ray evaluation.

On the 4th day of nursing: breathing was no longer heavy, the stomach was getting smaller, no pain and no longer feeling tired, no fever. BP: 120/80 mmHg, pulse 82 x/minute, respiration 19 x/minute, armpit temperature 36.4 °C, SpO₂ 98% Results Adenosine deaminase ascitic fluid: 36.3 U/L (<7.3), Analysis ascitic fluid: Glucose 109 mg/dl (70-110 mg/dl); protein 2.1 mg/dl (3.6-5.2 mg/dl); leukocyte cells: polynuclear 75%; mononuclear 25 %, PH 8.0; Rivalta: negative. Diagnosis: TB peritonitis ascites accompanied by left pleural effusion. Additional therapy Fixed Drug Combination (FDC) 1x 3 tabs other therapy is continued.

On the 5th day of nursing: the patient was getting better and had no complaints. BP: 110/80 mmHg, pulse 78 x/minute, respiration 20 x/minute, armpit temperature 36.8 °C, SpO₂ 99% of patients are planned for KRS and LFT evaluation after 2 weeks of treatment. Diagnosis: TB peritonitis ascites accompanied by left pleural effusion. Oral therapy 4FDC 1x 3, Lanzoprazole 1x1, ondancetron 3x1 if nausea, cefixime 100 mg 2x1, Neurodex 1x1, furosemide 40 mg 1x1

On the 12th day after treatment: the patient had no complaints, the stomach was no longer enlarged, no tightness, nausea (-), vomiting (-), normal urination, cough (-), fever (-), increased appetite. BP: 120/70 mmHg, pulse 79 x/minute, respiration 20 x/minute, armpit temperature 36.7 °C, SpO₂ 99%. On physical examination, no abnormalities were found. Diagnosis of TB peritonitis. The patient received Fixed Drug Combination (FDC) 1x3 tab therapy consisting of Rifampicin, Isoniazid, Pyrazinamide, and Ethambutol for 2 months, followed by a combination of Rifampicin and Isoniazid for 7-10 months.

RESULTS AND DISCUSSION

This patient was admitted to the hospital with complaints that his stomach was getting bigger and bigger, accompanied by difficulty breathing. Abdominal enlargement in this case is usually caused by abdominal distension due to intestinal obstruction, congestive heart failure, ascites, liver cirrhosis, TB peritonitis and nephrotic syndrome (Putri, Junaidi, & Mustika, 2019). Therefore, it is necessary to carry out a careful history taking that explores further the accompanying symptoms of abdominal enlargement (Rostami et al., 2015). Careful physical examination in this case revealed distension, protruding umbilicus, and the presence of referred deafness on abdominal percussion which was suspected of ascites.

Causes of ascites include malignancy, congestive heart failure, hepatic cirrhosis, nephrotic syndrome, tuberculous peritonitis (Tasneem, Shahbaz, & Sherazi, 2015). In this patient, there were no signs and symptoms indicating right heart failure, such as: increased jugular venous pressure, hepatomegaly, edema in the extremities. Chronic liver stigmata, which include spider nevi, palmar erythema, caput medusa, splenomegaly, were also not found in this patient (Bergasa, 2022). The possibility of nephrotic syndrome is also small because the patient's urine is not cloudy and there is no edema on the eyelids or extremities, which usually occurs with ascites in nephrotic syndrome (Swiatecka-Urban, Woroniecki, & Kaskel, 2017). Thus, the possible causes of ascites in this patient are malignancy and tuberculous peritonitis.

Suspicion of tuberculosis as the cause of ascites in this patient was based on the presence of typical symptoms of tuberculosis (subfebrile fever, night sweats, decreased appetite, weight loss, stomach ache) accompanied by left pleural effusion (Bagherpour et al., 2023). So in this case, several examinations were carried out, namely an abdominal ultrasound which revealed ascites fluid, no abnormalities were seen in the liver, vesica fellea, spleen, pancreas, bilateral kidneys or urinary vesica and an analysis of ascites fluid and an ADA test to determine the cause of ascites. In this patient, the results of Adenosine deaminase of ascitic fluid were: 36.3 U/L (<7.3), Analysis of ascitic fluid: Glucose 109 mg/dl (70-110 mg/dl); protein 2.1 mg/dl (3.6-5.2 mg/dl); leukocyte cells: polynuclear 75%; mononuclear 25 %, PH 8.0 ; Rivalta: negative. Therefore, OAT therapy in this patient was

started immediately because the ADA test results showed a result of 36.3 U /L. This patient received Fixed Drug Combination (FDC) 1x3 tab therapy consisting of Rifampicin, Isoniazid, Pyrazinamide, and Ethambutol for 2 months, followed by a combination of Rifampicin and Isoniazid for 7-10 months.



CONCLUSION

Based on this research, the conclusion that can be drawn is that the patient was admitted to the hospital with complaints of stomach bloating that was getting bigger and making breathing difficult. Physical examination revealed abdominal distention, protruding umbilicus, and referred deafness on abdominal percussion, which was suspicious for ascites. Possible causes of ascites that are still possible are malignancy and tuberculous peritonitis. Suspicion of tuberculosis as the cause of ascites is based on the presence of typical symptoms of tuberculosis and the presence of left pleural effusion. Adenosine deaminase (ADA) examination results in ascites fluid showed high results, which supported the suspicion of tuberculosis. Therefore, anti-tuberculosis drug therapy (OAT) was initiated immediately in these patients. This conclusion is important to consider when treating patients, but remember that appropriate treatment must be discussed with a doctor or competent medical personnel based on each patient's condition.

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