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Rectal cancer combined with abdominal tuberculosis: A case report

Liu PG *et al*. Rectal cancer combined with abdominal tuberculosis

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Abstract

BACKGROUND

It is very rare to suffer from colorectal adenocarcinoma and abdominal tuberculosis simultaneously. Even in a country such as China, where tuberculosis is still endemic, its diagnosis and treatment are challenging. This article describes in detail a case of rectal cancer complicated with abdominal tuberculosis and its pathological features.

CASE SUMMARY

We outline the case of a 71-year-old female who was admitted with intermittent blood in the stool over the past year. The patient was diagnosed with low rectal cancer and received neoadjuvant therapy. Then, the patient returned to the hospital for surgery, but diffusely distributed nodules were found during laparoscopic exploration. The diagnosis of rectal cancer with extensive metastasis was considered during the operation. There was no opportunity for radical surgery. Thus, nodules were taken for pathological examination, and the abdomen was closed. The histopathological diagnosis was tuberculous granuloma, and then the patient was treated with standardized anti-tuberculosis drugs in a specialized hospital. Later, the patient again came to our hospital and underwent abdominoperineal resection. She was discharged 10 d after the operation in good clinical condition.

CONCLUSION

We aim to emphasize the importance of preoperative and postoperative pathological examination in diagnosis and treatment.

Key Words: Abdominal tuberculosis; Rectal cancer; Extrapulmonary tuberculosis; Peritoneal nodules; Case report

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Core Tip: This case reports a relatively rare case of rectal adenocarcinoma combined with abdominal tuberculosis. The difficulty is that it is easily misdiagnosed as rectal cancer with extensive abdominal and pelvic metastasis, thus delaying treatment. Therefore, the perfect pathological examination of abdominal and pelvic nodules during and after operation is very important in diagnosis and treatment.

INTRODUCTION

Tuberculosis is a chronic infectious disease that is caused by mycobacterium tuberculosis invading the human body. According to the global tuberculosis report released by the World Health Organization in 2019, tuberculosis is the infectious disease with the highest mortality rate in the world, causing 1.5 million deaths in 2018. The incidence of tuberculosis in China ranks third in the world, and China is one of 22 countries with a high burden of tuberculosis[1,2]. Abdominal tuberculosis is a form of extrapulmonary tuberculosis, and it accounts for approximately 1%-5% of the total number of tuberculosis cases[3]. The clinical manifestations are mostly nonspecific symptoms[4]. The common diseased organs of abdominal tuberculosis are the colon, peritoneum and mesentery[5], and peritoneal biopsy is the gold standard for diagnosis. It is very rare to suffer from colorectal cancer and abdominal tuberculosis at the same time, and only 5 cases have been

reported in English literature published in the past 20 years[6-10]. We report a case of rectal adenocarcinoma combined with abdominal tuberculosis and emphasize the key role of a perfect pathological examination of abdominal and pelvic nodules on intraoperative and postoperative diagnosis and treatment.

CASE PRESENTATION

Chief complaints

A 71-year-old female patient reported changes in stool characteristics with intermittent blood in the stool over the past year without obvious cause.

History of present illness

The patient was diagnosed with low rectal cancer and received neoadjuvant therapy in our hospital several months ago. The long-course chemoradiotherapy was used with a total radiotherapy dose of 50.4 Gy and a daily dose of 1.8 Gy, combined with capecitabine [625-825 mg/m^2/time, PO, Bid, (day 1-day 7) × 5 wk].

History of past illness

The patient had no underlying disease and no history of living in foci of infection or endemic areas.

Personal and family history

She had no personal or family history of other disease.

Physical examination

Abdomen was soft without tenderness, rebound pain and abdominal mass. Through the digital rectal examination, a 3 cm × 2 cm tumor was touched on the anterior wall of the rectum 4 cm from the anal margin. She had a blood pressure of 113/54 mmHg with pulse rate of 94 beats per min.

Laboratory examinations

The CEA value of tumor-related biological indicators is 2.30 ng/mL, the CA199 value is 28.4 U/mL, which are all within the normal range. The value of CA242 is 35.20 U/mL, which is slightly higher.

Imaging examinations

Magnetic resonance imaging (MRI) examination showed that the lesion was located below the peritoneal reentry, about 0.7 cm from the dentate line and about 3.3 cm from the anal margin (Figure 1). Chest computed tomography (CT) showed no obvious abnormalities.

FINAL DIAGNOSIS

During the first operation, laparoscopic exploration revealed pelvic floor effusion, as well as diffuse gray-white nodules on the surface of abdominal pelvic cavity, greater omentum, and the intestinal wall. The largest nodule is about 0.3 cm in diameter (Figure 2). Histopathological examination showed that the nodule tissue submitted for examination was a granulomatous nodule, and Tb-polymerase chain reaction (PCR) (+) found a fragment of mycobacterium tuberculosis (Figure 3).

TREATMENT

The patient received standardized anti-tuberculosis treatment (Isoniazid, rifampicin, ethambutol) for three months in the contagious hospital. And then, she returned to our hospital to performed the abdominoperineal resection.

OUTCOME AND FOLLOW-UP

During the operation, there was no obvious effusion and lymphadenectasis in the abdominal cavity. Postoperative pathology showed moderately differentiated rectal adenocarcinoma. A large number of peritoneal nodules were necrotic, and the surrounding tissues were granulomas. In addition, no cancer was found. After the

operation, the patient was in stable condition and was discharged from the hospital ten days later. The clinical condition has been good since then.

DISCUSSION

Tuberculosis is still a global health problem. It has caused high morbidity and mortality in developing countries and has shown an upwards trend each year in the western world[11]. The definition of abdominal tuberculosis refers to tuberculosis infection involving the abdomen, such as the peritoneum, mesentery, abdominal lymph nodes, gastrointestinal tract, liver and gallbladder and other substantial organs[12]. According to reports, the ileo-colic junction is the most common site of abdominal tuberculosis[13], and the peritoneum and abdominal lymph nodes are the most common sites of involvement in children[14]. Abdominal tuberculosis is a relatively rare type of tuberculosis. The clinical symptoms are nonspecific, ranging from acute symptoms, such as perforation and obstruction, to chronic symptoms, such as abdominal pain, bloating, fatigue, diarrhoea, and weight loss[15]. The initial symptoms can be confusing, especially in the context of a history of cancer or elevated tumour indicators. If the patient is not treated in time, the delay in the diagnosis of abdominal tuberculosis is associated with high morbidity and mortality[16,17]. Currently, there is no reliable tool to diagnose abdominal tuberculosis. Chest X-ray is a routine and simple imaging test, but it has been reported that only 15%-56% of patients with abdominal tuberculosis have chest X-ray evidence of pulmonary tuberculosis[18]. In the era of laparoscopy, the diagnosis rate of histopathological examination by peritoneal biopsy is 85%-100%[19]. In addition, PCR detection of tissue is also an effective tool that has a high degree of specificity and sensitivity[20].

This is a relatively rare case. The patient was diagnosed with rectal adenocarcinoma on admission to our hospital. The ulcerative mass was 4 cm from the anal margin. MRI showed that the tumour stage was cT3-4NxM0. Neoadjuvant were performed according to the treatment guidelines. However, during the first laparoscopic exploration, a small amount of yellow effusion was found in the pelvic cavity, and grey-white nodules were

diffusely distributed on the surface of the abdominal pelvic cavity, omentum, and intestinal wall. We hypothesized that the patient had rectal cancer with extensive abdominal and pelvic metastasis, and there was no chance of radical surgery. Therefore, the peritoneum, mesenteric and greater omentum nodules were taken and sent for paraffin pathology. Since the patient's rectal disease was not obstructed, colostomy was not performed temporarily. Moreover, the patient had no chest CT abnormalities, so the possibility of tuberculosis was not considered.

However, it is surprising that histopathological examination revealed granulomatous tissue nodules, suggesting tuberculosis. At this time, further inspection was needed to clarify its nature to formulate the next treatment plan. If it was determined to be rectal cancer with abdominal tuberculosis, it should be reviewed after regular anti-tuberculosis treatment, and then rectal cancer surgery should be performed according to the situation. If rectal cancer surgery can be completed, the patient's prognosis will be greatly improved. If it is suggested that it is a metastatic nodule, chemotherapy is recommended, but the prognosis is very poor. Fragments of mycobacterium tuberculosis were found by Tb-PCR. Therefore, the patient was clearly diagnosed with abdominal tuberculosis with rectal adenocarcinoma.

After three months of standardized anti-tuberculosis treatment in a specialist hospital, the patient was ready for surgery. Because the patient was in the locally advanced stage of low rectal cancer, was older, had poor cardiac function, and had tuberculosis, sphincter-preserving surgery was not performed. Instead, a radical resection of the abdominal perineum combined with rectal cancer excision was performed. The patient recovered well after the operation.

Histopathological examination is still the gold standard for the diagnosis of abdominal tuberculosis[21], but there are certain difficulties in obtaining suitable tissue materials in clinical practice, which brings certain difficulties to our comprehensive diagnosis. Clinically, the understanding of abdominal tuberculosis should be strengthened, and the awareness and ability of differential diagnosis should be enhanced.

The perfect pathological examination of abdominal and pelvic nodules during and after the operation is very important in the diagnosis and treatment of the disease.

CONCLUSION

The perfect pathological examination during and after operation is very important in diagnosis and treatment of complex diseases.

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