



# Tuberculosis Mimicking Disseminated Peritoneal Carcinomatosis of a Sigmoid Carcinoma

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## Abstract

**Background** A 76-year-old Moroccan patient with a medical history of sigmoid carcinoma suffered from weight loss of 15 kg and abdominal pain. Laparoscopy showed disseminated miliary peritoneal lesions, prima vista suspicious for disseminated peritoneal cancer spread.

**Methods** Patient's medical history was reprocessed and compared to recent literature via PubMed.

**Results** Pathological evaluation revealed granulomas and an infection with miliary intraabdominal tuberculosis (TB) was proven.

**Conclusion** Symptoms of TB may vary and findings can be misleading. An interdisciplinary approach is needed for diagnosis and treatment.

**Keywords** Tuberculosis · Miliary abdominal lesions · Granuloma · Peritoneal carcinomatosis · Sigmoid carcinoma

## Clinical Data

A 76-year-old Moroccan woman presented due to abdominal pain, weight loss of 15 kg and appetite arising in her home country. Symptoms aggravated for 6 months. She had been diagnosed with renal insufficiency, sarcoidosis and adenocarcinoma in the descending colon 2 years earlier. The tumor was completely resected endoscopically (R0). Physical examination showed impaired general condition, but no abdominal tenderness or palpable mass. Tumor markers CA 125 and CA 15-3 were slightly elevated while CEA and CA 19-9 were normal.

Computed tomography (CT) showed unspecific segmental thickening of the small intestine, ascites and

lymphadenopathy of the mesentery (Fig. 1). There was no sign of a primary tumor or metastasis. Thoracic CT scan excluded lung metastases, but showed hilar lymphadenopathy. Endoscopy revealed mucosal alterations neither in the upper nor in the lower gastrointestinal tract. Additional gynecological examination demonstrated regular findings. Therefore, we decided to explore the site laparoscopically and found miliary disseminated peritoneal nodules (Fig. 2). These alterations were suspected to be a peritoneal carcinomatosis regarding the colorectal cancer in patient's medical history. Multiple biopsies were taken. Surprisingly, pathological evaluation revealed a chronic inflammation with multiple granulomas but no malignant cells (Fig. 3). Suspecting either an infection with mycobacteria, e.g. *Mycobacterium tuberculosis* or a sarcoidosis, the tissue was additionally tested. Real-time polymerase chain reaction (PCR) should amplify IS6110, a specific region in *Mycobacterium tuberculosis* genome. In the blood samples, an interferon  $\gamma$  release assay detected the presence of TB complex-specific T4-/T8-lymphocytes. Therefore, an infection with *M. tuberculosis* was proven. Contradictorily, in peritoneal tissue, IS6110 could not be verified. Additional biopsies were taken from mediastinal lymph nodes, in which IS6110 could be amplified. Urine and sputum samples were incubated. In order to exclude the differential diagnosis of an active sarcoidosis, activity level was determined by specification of soluble

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Each author meets the ICMJE criteria.

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**Fig. 1** Abdominal CT scan showing unspecific ascites, intestinal wall thickening and lymphadenopathy of the mesentery

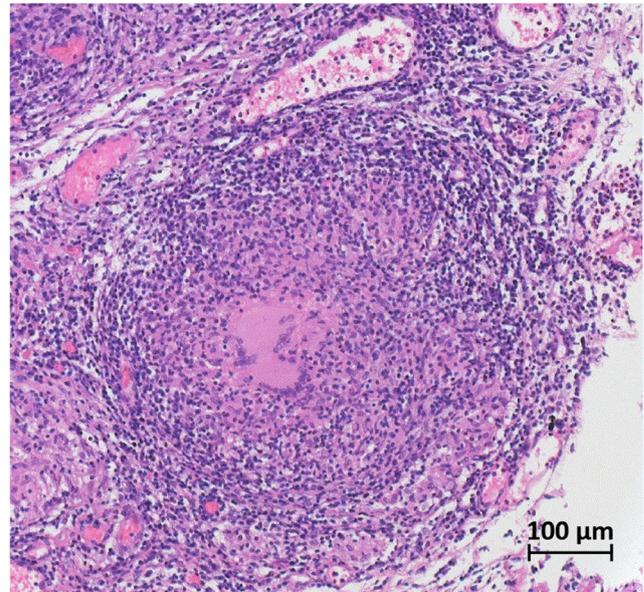


**Fig. 2** Disseminated peritoneal nodules detected during laparoscopy. Representative biopsies were taken

interleukin-2 receptor (sIL-2R) and angiotensin-converting enzyme (ACE). Only sIL-2R levels were elevated. Anti-tubercular treatment was initiated with isoniazid, rifampicin, pyrazinamide and ethambutol and will be continued for 6 months.

## Discussion

Tuberculosis (TB) causes high mortality and morbidity in developing countries and increases in Western world.<sup>1</sup> Gastrointestinal occurrence is found in less than 12% of



**Fig. 3** Histological examination revealed various granulomas. (Institute of Pathology, Ruhr-University Bochum, Bochum, Germany)

patients. Symptoms vary from acute (perforation, obstruction) to chronic (anorexia, weight loss, malabsorption) characteristics.<sup>2</sup> Initial findings can be misleading, especially in case of history of cancer and elevated tumor markers. Diagnosis can be carried out by histological examination, culture or PCR.<sup>3</sup> An interdisciplinary approach and treatment in this case were necessary. Patients with an open TB should be isolated. Outcome is promising following standard anti-tubercular regimes.

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